



RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
April 28, 2026

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on April 28, 2026, at 3:00 p.m. at the Albemarle County Service Authority, 168 Spotnap Road, Charlottesville, VA 22911.

Board Members Present: Mike Gaffney, Jeff Richardson, Sam Sanders (arrived at 2:17 p.m.), Lauren Hildebrand, Quin Lunsford, Ann Mallek, Lloyd Snook.

Board Members Absent:

Rivanna Staff Present: Bill Mawyer, Dave Tungate, Lonnie Wood, Jennifer Whitaker, Leah Beard, Daniel Campbell, Jeff Southworth, Austin Marrs, Westley Kern, Jacob Woodson, LaToya Smith, Kyra Harris, Brian Haney, David White, Brad Puffenbarger, Steve Minnis, Sr., Bethany Houchens, Deborah Anama.

Attorney(s) Present Valerie Long

1. CALL TO ORDER

Mr. Gaffney convened the April 28, 2026, 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 adopt the agenda. Mr. Snook seconded the motion, which carried unanimously (6-0). (Sam Sanders was absent at the time of approval.)

3. MINUTES OF PREVIOUS BOARD MEETING ON MARCH 24, 2026

Ms. Mallek moved that the Board of Directors approve the minutes for the March 24, 2026, meeting. Mr. Snook seconded the motion, which carried unanimously (6-0). (Sam Sanders was absent at the time of the approval.)

4. ELECTION OF CHAIR, VICE CHAIR, & SECRETARY-TREASURER

Ms. Mallek moved that the Board of Directors elect Mr. Gaffney as Chair, Mr. Sanders as Vice Chair, and Mr. Richardson as Secretary-Treasurer. Mr. Snook seconded the motion, which carried unanimously (7-0) with roll call vote.

Mr. Mawyer noted that the newly elected positions would be effective on May 1.

5. RECOGNITION

There were none.

6. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer discussed the transformation of the Rivanna Water and Sewer Authority. He stated that they would be celebrating the retirement of Lab Manager, Patricia Defibaugh in June. He stated that they conducted a competitive recruitment process for a new Lab Manager position and had selected Madison Kelly, who holds a Bachelor of Science in Biology and is currently pursuing a Master of Natural Resources at Virginia Tech. Madison has been working with RWSA since 2024 as a Lab Chemist.

Mr. Mawyer stated that they had also replaced their Engineering Manager since Scott Schiller left to join a private firm. He stated that after a competitive process, Austin Marrs was selected to fill this role and would oversee their engineering team, which included six project managers, six inspectors, and a significant CIP program. He stated that this team also played a critical role in the private development review program including utility markings. He stated that Mr. Marrs held a Bachelor of Science degree in Engineering from James Madison University, and he had been with them since 2017; first starting as an intern and most recently as a Senior Civil Engineer.

Mr. Mawyer stated he also wanted to recognize other staff members who had improved their licenses. Tyler Powell and Michelle Derryberry earned their Class 1 Water Operator license. Additionally, Matt Walker, Assistant Maintenance Manager, passed the Backflow Prevention Device Worker license exam.

Mr. Mawyer stated that next week would be Drinking Water Week, and they would celebrate with the water professionals and thank them for the outstanding job they did 24/7/365 to serve the community. We are required to have a Class 1 Water Operator on-site at all times at the South Rivanna WTP.

Mr. Mawyer stated that for the past eight years, they had been hosting utility managers in their area as a networking effort, and attendance continued to grow as it was a very beneficial meeting. He stated that Utility Managers from the Roanoke area attended this year, along with Managers from eight other utilities. He stated they had a short discussion about each Utility and then took the group on a tour of the South Rivanna water treatment plant. Mr. Mawyer stated that this had provided numerous benefits for them and their network.

He stated they were a member of the Virginia Water and Waste Authorities Association, and he was the First Vice Chair of that organization. He stated the organization represented the interests solely of Authorities. Recently, they had given a tour of the Scottsville wastewater treatment plant to the Peabody School.

Mr. Mawyer stated that in a year or two ago, they had asked the Board if they wanted to join a class action lawsuit against PFAS manufacturers. They had elected to join the lawsuit instead of litigating independently. They had recently received another check for approximately \$216,000, and they had collected a total of \$1.2 million over the term of the litigation from these companies. He stated the companies used a formula to determine compensation based on the amount of PFAS and water produced. Overall, their experience had been relatively positive, with

minimal expenses. They did contribute to the attorneys representing the class action group, but otherwise, they had no individual expenses.

Mr. Mawyer stated that the Environmental Stewardship goal team had organized an Earth Month Bingo Challenge to raise awareness about the environment and sustainability.

He had mentioned that in February he presented an evaluation of our infrastructure to the Board as compared to an assessment of infrastructure systems in the country. At that time, he discussed the ongoing Potomac Interceptor sewer overflow which had released approximately 250 million gallons of untreated wastewater into the Potomac River. He stated the EPA and Department of Justice had since sued the DC Water Authority for failure to maintain critical sewer infrastructure. This highlighted the potential consequences of neglecting infrastructure maintenance and allowing it to deteriorate, leading to environmental impacts.

Mr. Mawyer stated they recently celebrated the topping-out ceremony for the Administration building addition. He stated attendees signed the last structural steel beam, which was then installed. He stated that the addition was approximately 22,000 square feet, and it would allow them to relocate staff currently in the Engineering trailers into the Administration building and provide an improved and secure space for staff.

Mr. Richardson asked if there was a projected move-in date.

Mr. Mawyer stated it would be about 18 months, completed between June and December 2027.

Mr. Mawyer stated that they continued with the Central Water Line project. He stated that they had identified two concerns related to this project: a noise issue on Montpelier Avenue and cracks in a resident's house on Piedmont Avenue. He stated that they were working with the affected residents to address these concerns.

He stated that the South Rivanna to Ragged Mountain Pipeline project was also underway, with the installation of new piping and pumping stations. He stated that the Ragged to Observatory Pipeline and Pump Station Project was well underway, with a large pump station facility being built on the property acquired from the University Foundation.

Ms. Mallek asked if they had home assessments to document the properties before the construction-related damage was reported.

Mr. Mawyer stated that they did not conduct a survey, nor was there any blasting involved. He stated that the primary disturbance was equipment-related vibrations and noise. He stated that an engineer visited the individual's property on Piedmont Ave to assess the impact and provided a report. He stated they were coordinating with the property owner.

Ms. Mallek encouraged staff to focus on public education early and all the time in relation to drought conditions. Changes can happen quickly and it's slow to catch up.

7. ITEMS FROM THE PUBLIC

There were none.

108 **8. RESPONSES TO PUBLIC COMMENTS**

109 There were no items from the public, so there were no responses.

110 **9. CONSENT AGENDA**

111 *a. Staff Report on Administration and Communications*

112 *b. Staff Report on CIP Projects*

113 *c. Staff Report on Finance*

114 *d. Staff Report on Information Technology*

115 *e. Staff Report on Maintenance*

116 *f. Staff Report on Operations*

117 *g. Staff Report on Drought Monitoring*

118 *h. Staff Report on Wholesale Metering*

119 *i. Approval of Term Contract for On-Call Electrical Services (RFP 25-08) - U.S. Electrical*
120 *Testing, Carter Machinery*

121 *j. Approval of Term Contract for On-Call Construction Services (RFP 25-09) – Digs, Inc.*

122 *k. Approval of Term Agreement for Professional Surveying Services (RFP 25-10) – McKim*
123 *& Creed, Inc.*

124 *l. Approval of Term Agreement for Legal Services (RFP 26-02) – Williams Mullen*

125 **Ms. Mallek moved that the Board of Directors adopt the Consent Agenda. Mr. Sanders**
126 **seconded the motion, which carried unanimously (7-0).**

127 **10. OTHER BUSINESS**

128 *a. Presentation and Vote to Consider CIP Amendment and Award of Construction Contract*
129 *for Permit Modifications, Scottsville Water Resource Recovery Facility (IFB # 438) – Orders*
130 *Construction Company, Inc*

131 David White III, Project Engineer, presented the staff report. He stated that the Scottsville
132 Wastewater pump station outfall ultimately discharged into a ditch, which would flow to a creek
133 and then to the James River. Additionally, they had a lagoon that would store excess wastewater
134 during high flow events when we had storms. He stated the genesis of this project began when
135 DEQ evaluated the plant and changed the discharge requirements. As a result, this led to the
136 requirement for a new chemical application system for enhanced wastewater treatment. He stated
137 they also identified equipment that had reached the end of its service life and needed to be

replaced. As a result, they were upgrading the system with a new motorized influent slide gate, a grit removal system, bypassing pumping connections, site piping, and electrical infrastructure.

Mr. White stated the new aerated grit system at the headworks would remove larger solids, and the motorized slide gate would enable operators to manage flow during high wet weather events without having to manually operate the weir. Currently, operators had to travel from Moores Creek to Scottsville to adjust the gate, and travel could take 40 minutes to an hour. The motorized slide gate would alleviate this issue because it could be operated via the SCADA system. He stated they received two bids, with the apparent low bidder being Orders Construction Company. However, the bid came in slightly higher than their anticipated construction budget. To mitigate this, they conducted value engineering efforts, reducing the cost to \$726,930 from \$730,430. He recommended awarding the construction bid to Orders Construction Company and amending the CIP budget to increase the allocation from \$827,000 to \$1,015,000. He noted that the construction period was expected to be from June 2026 to June 2027.

Ms. Mallek asked if because the discharge was not directly into the river where there is more volume, then is more treatment required? She asked if the outfall ditch was covered in riprap.

Mr. White stated that he would have to follow up with that information.

Mr. Richardson moved that the Board of Directors amend the FY 27 - 31 CIP for the Scottsville WRRF Permit Modification Project to increase the budget by \$188,000. This amendment will bring the total CIP budget for this project to \$1,015,000. Mr. Sanders seconded the motion, which carried unanimously (7-0).

Mr. Richardson moved that the Board of Directors authorize the Executive Director to award a construction contract for IFB#438 to Orders Construction Company, Inc. for a total amount of \$726,930 and to approve any change orders to the construction contract necessary for the completion of the work not to exceed 10% of the original contract award. Ms. Mallek seconded the motion, which carried unanimously (7-0).

b. Presentation: Drought and Water Supply Update, 2002 vs. 2026

Bethany Houchens, Water Resource Coordinator, noted that Mr. Snook had requested information about how the 2002 drought compared to current conditions. She stated that DEQ updated the drought stage declaration on April 14 of this year which put the middle James River into a drought warning stage.

Ms. Houchens stated that currently, they were 14% below the annual average of 41.61 inches of precipitation, whereas in the 2002 drought, they were only 13% below. She stated she would contextualize these numbers with more information about how DEQ determined the drought stages. She highlighted that during the 2002 drought, the Charlottesville reservoirs had the potential to dry up in 88 days, and they were at 54% reservoir capacity. However, when they looked at flow rates, the conditions were very different. She stated that in 2002, the Mechums River gage was at 25 MGD, and currently, it was at 67 MGD. The Rivanna River was only 144 MGD in 2002, while it is currently 487 MGD.

177 Ms. Houchens stated that in 2002 rainfall was below average for four prior years, and wintertime
178 precipitation was below average for three prior years, which meant they did not have much
179 groundwater recharge. August 2002 was a very dry and hot summer, with record-low stream
180 flow and zero flow in some streams. She stated the County was also under a drought disaster
181 status at the time. She noted that short-term rainfall did not correct long-term drought, and this
182 was largely due to the recharging of the groundwater.

183 Ms. Houchens stated this brought them to the community water supply plan completed in 2012,
184 which was sparked by the 18-month long 2002 drought and had been a decade-long process to
185 develop a strategy to increase the urban water supply. The historic drought in central Virginia
186 had led to a planning process to increase the community's water supply, and the community had
187 evaluated over 30 alternatives, including taking water from the James River. Instead, they had
188 decided to focus on local sources and stay within their own watershed. This had led to the
189 development of the community water supply plan, which was supported by the Board of
190 Supervisors, City Council and ACSA in 2012.

191 Ms. Houchens stated that the plan's key components included the expanded Ragged Mountain
192 Reservoir, which was completed in 2014 and initially filled by 2016. She stated that the full
193 reservoir expansion was currently under construction. She noted that a new pipeline was being
194 constructed from the South Rivanna Reservoir to the Ragged Mountain Reservoir to provide
195 redundancy in water availability. She stated that the urban water treatment plants, South Rivanna
196 and Observatory, were also renovated.

197 Ms. Houchens stated that the local drought management plan was developed in 2004 by the
198 County, ACSA and Rivanna, establishing the Rivanna Regional Drought Response Committee.
199 She stated the plan was updated in 2024. She stated that the plan included three drought stages
200 with trigger levels for voluntary conservation, mandatory measures, and water restrictions. She
201 stated that they monitored drought conditions based on multiple factors, including weather
202 predictions, reservoir and stream flow data, and the OASIS model. She stated that the Regional
203 Drought Committee and the DEQ Drought Monitoring Task Force also played a role in their
204 drought management.

205 Ms. Houchens stated the current conditions differed from those in 2002 due to the infrastructure
206 they had put in place. She stated that they had resiliency and redundancy through the CIP
207 projects that the Authority approved over the past several years. She stated that precipitation was
208 broken into periodic wet months, which contributed to groundwater levels. She stated that
209 although they declared a drought watch in 2024, they had an above-average wet spring that year,
210 and they also experienced snowfall in the winter, including this past winter. She stated that these
211 factors contributed to the groundwater level.

212 Ms. Houchens stated that they continued to have good base flow contributions and good stream
213 flows compared to 2002. She stated that the reservoirs are now operated differently, with an
214 operational strategy to best utilize the Rivanna and Ragged Mtn reservoirs. She stated that they
215 had also improved modeling and forecasting, and changed their trigger levels for implementation
216 of drought measures to be more conservative. She stated this allowed them to get ahead of
217 potential droughts. She stated that the expansion of the Ragged Mountain Reservoir had also
218 increased the capacity of the three urban reservoirs 900 million gallons from 1.7 billion gallons

219 in 2002 to 2.6 billion gallons today. Projects which are in construction today will increase the
220 storage capacity of Ragged Mtn Reservoir by 700 million gallons to reach a total storage
221 capacity of 3.3 billion gallons in the three urban reservoirs which will be connected.

222 Ms. Mallek asked if there were other gages in the system besides the Mechums River gage which
223 they could use to compare data.

224 Ms. Houchens stated there were other gages. She stated that there was the South Rivanna gage,
225 but it was a newer gage installed after the drought. She stated that the Moormans gage was
226 installed prior to the 2002 drought, but it was not providing data for about six years during that
227 time. She explained that the new Urban permit required them to do a feasibility study to install a
228 gage at the Sugar Hollow Moormans River site. She stated they were in the siting stage for the
229 gage. She stated that they were limited in where they could locate the gage due to
230 communication infrastructure limitations.

231 Ms. Hildebrand asked if they planned to run a hydrological model or if they had run one
232 recently.

233 Ms. Houchens stated they had recently discussed moving forward with a hydrological model,
234 and they had decided to run the OASIS model. She stated she would share the results with the
235 regional drought committee and with the Board at the next meeting.

236 Ms. Mallek asked if the model had been updated to account for climate change.

237 Mr. Mawyer stated he was not sure, and he would have to follow up with that information.

238 Mr. Lunsford asked if the reservoir capacity increase from 900 million gallons to 2.63 billion
239 gallons was related to the dam raising.

240 Ms. Houchens explained the capacity represented the cumulative total of the three reservoirs.
241 She stated that the change was associated with the expansion of the Ragged Mountain Reservoir.

242 Mr. Snook asked what the currently capacity was.

243 Ms. Houchens stated that as of this morning, they were at 98.4% capacity of the urban reservoirs.

244 Mr. Snook asked if the 2.63 gallon capacity represented the maximum capacity in development,
245 or if there was room for more capacity.

246 Ms. Houchens stated that currently, the community water supply plan was to expand Ragged
247 Mountain and continue to source water locally. She stated that they had also retained the Buck
248 Mountain property, which was acquired in the 1980s, as a potential site for an additional
249 reservoir. She stated that in the event of drought or other emergencies, they had backup water
250 supplies that could be drawn upon to supplement their existing resources. She stated that the
251 2.63-billion-gallon capacity did not include the most recent 700-million-gallon expansion at
252 Ragged Mountain.

253 Mr. Snook stated that there had been studies indicating that the average household water
254 consumption had been declining. He stated that he would like to know if there was any data
255 available on whether this trend was continuing.

256 Ms. Houchens stated that the demand projection had decreased, and the trend was likely to
257 continue for another five years.

258 Mr. Mawyer stated that per capita, they had gone from about 100 gallons per person to
259 approximately 60 gallons over the last several decades. He stated that the introduction of water-
260 efficient appliances, such as washers and toilets, had contributed to this reduction. He stated that
261 UVA projected to hit a low-point in demand by 2035, at which point usage was expected to
262 increase.

263 *c. Presentation: Wastewater Treatment, Facilities, and Staffing Overview*

264 Brian Haney, Wastewater Department Manager, provided the presentation. He stated they had
265 four water resource recovery facilities. He stated that Moores Creek was the largest facility, with
266 a process design capacity of 15 million gallons per day, while Stone Robinson had a capacity of
267 approximately 7,000 gallons per day. He stated there were two lift stations at Moores Creek with
268 an average flow of 3.5 million gallons per day at Moores Creek Pump Station. He stated that the
269 Rivanna pump station averaged about 6.5 million gallons per day. He stated that service areas
270 extended from Hollymead, served by the Rivanna pump station, to Crozet, served by the Moores
271 Creek pump station. He stated that Crozet had four lift stations to convey wastewater to Moores
272 Creek.

273 Mr. Haney stated that they had two band screens which removed debris from wastewater to
274 protect equipment and preserve downstream capacity. He stated that the materials removed were
275 ground up, compacted, and transferred to a landfill. He stated that the grit removal system
276 removed finer material. He stated that the primary treatment stage collected solids in primary
277 clarifiers and pumped them to digesters for removal. Flows leaving the primary clarifier
278 proceeded to the aeration basins, where the biological process occurred, converting ammonia to
279 nitrogen and removing phosphorus. The second stage of solids separation was where solids were
280 captured and returned to the aeration process to maintain the valuable microbes necessary for
281 nitrification and denitrification.

282 Mr. Haney stated that the wastewater effluent building included a well for storage. He stated the
283 effluent was reused in the processing. He stated that on average, they reused about 500,000
284 gallons per day. The wastewater then passes through sand filters, serving as an additional
285 polishing mechanism to capture any remaining solids. The final stage of disinfection included
286 utilizing four Ultraviolet Light channels to inactivate organisms, rendering them unable to
287 reproduce downstream.

288 Mr. Haney stated that on the solids side of processing, primary sludge and additional activated
289 sludge were pumped to one of the three primary digesters, where mechanical mixing and heating
290 facilitate digestion. He stated that as a byproduct, they were producing methane, which was
291 captured in the secondary digester and subsequently pumped to the methane storage sphere,
292 serving as a fuel source for the boiler.

293 Mr. Haney stated that the digestion process ultimately resulted in sludge, which was dewatered
294 using two centrifuges, typically running for 12 to 16 hours per day. He stated that last year, they
295 generated 14,500 tons of biosolids, which were discharged into the trailer and ultimately sent to
296 McGill, a composting facility in Waverly, Virginia, where it was turned into compost and sold.

297 Mr. Haney stated the septage receiving station was a critical component of the overall
298 wastewater management system. He stated that last year, it processed approximately 8.5 million
299 gallons, serving the County and surrounding areas. He stated that to effectively address biosolids
300 and septic issues, they needed a comprehensive approach. He stated that Moores Creek featured
301 two odor scrubbers: a biological scrubber and a chemical scrubber to combat sulfides. He stated
302 that they also had odor control measures in place at the Crozet pumping stations. Specifically,
303 Crozet pump station #4 utilized chemical odor control. He stated that the flow equalization tank
304 provided an extra million gallons of storage of flow from Crozet, helping to mitigate high flow
305 events and minimize downstream loading.

306 Mr. Haney stated they always had a minimum of two Operators on-site at the Moores Creek
307 facility. He stated that at Glenmore in Scottsville, an Operator was on-site for at least four hours
308 per day. He stated that the Stone Robinson facility had one Operator on site for approximately an
309 hour per day. He stated that approximately half of the Operators held a Class One certification,
310 the highest level of wastewater treatment licensed by VDPOR.

311 Mr. Haney stated that the industrial waste pre-treatment program covered all four of the
312 treatment facilities and served as a tool to mitigate wastewater loading and ensure compliance
313 with our permitted discharge limits. He stated that the program was mandated, and they were
314 required to monitor for fats, oil, grease, metals, nutrients, and pH levels. He stated that
315 specifically, they were looking to maintain a pH range between 6 and 9, as specified in their
316 discharge permit.

317 Mr. Haney stated there were categories of industrial users (IUs). He stated that categorical
318 industrial users were typically metal or product manufacturers. He stated that they were users
319 with a high potential to discharge high concentrations of toxic loads. He stated that was one non-
320 categorical significant industrial users (SIUs) in our system, which was a user that discharged
321 over 25,000 gallons per day. He stated that they had four IUs in the pretreatment program, and
322 the permits expired in 2028. He stated that twice a year, IUs were required to submit monitoring
323 reports and proof of discharge analysis.

324 Mr. Snook asked if the regulations were federal, state, or local ordinance based.

325 Mr. Mawyer stated that the state issued the discharge permits, and those permits followed federal
326 regulations.

327 Ms. Mallek asked who audited the monitoring reports.

328 Mr. Mawyer stated that the Authority did. He stated that this was likely a growing aspect of our
329 program as the number of IUs increased in our system. Future compliance requirements may
330 include conducting inspections and requiring installation of a manhole from which samples could
331 be taken so we can conduct analysis.

332 Mr. Haney stated that the discharge permit for Moores Creek included daily measurements for
333 dissolved oxygen and pH levels. He stated that samples were collected and analyzed in-house.
334 He stated that each month, based on their lab results, they calculated how many pounds of
335 nutrients they were discharging to the system. He stated the annual allocation for nitrogen was
336 282,000 pounds, and for phosphorus, it was over 18,000 pounds. He stated that by the end of the
337 first quarter, they had used about 12% of the nitrogen allocation and 3% of the phosphorus
338 allocation.

339 Mr. Mawyer stated that being part of Virginia's Nutrient Exchange was a voluntary commitment
340 to help minimize nutrient loading in the Chesapeake Bay. He stated that based on our treatment
341 efficiency and volume, Utilities could create nutrient credits available for sale to the Exchange.
342 Mr. Haney stated that for 2025, they utilized only 17% of the phosphorus allocation and 35% of
343 the total nitrogen allocation. He stated that this resulted in credits of about \$90,000.

344 Ms. Mallek asked if there was a time limit to utilize the credits.

345 Mr. Mawyer stated the credits were received and sold by the Nutrient Exchange on an annual
346 basis.

347 Mr. Haney stated that the FY 27 budget for the Wastewater Department was \$29.9 million. He
348 stated that the reason they required this budget support was that last year, they had treated over
349 3.4 billion gallons of wastewater. He stated that wastewater treatment volumes included: Moores
350 Creek over 3.3 billion gallons, Glenmore over 50 million, Scottsville over 20 million, and Stone
351 Robinson over 640,000 gallons.

352 *d. Presentation: Water Treatment, Facilities, and Staffing Overview*

353 Brad Puffenbarger, Water Department Manager, provided the presentation. He stated they had
354 six water treatment plants. He stated that the South Rivanna, Observatory, and North Rivanna
355 plants served the Urban area of Albemarle County and the City of Charlottesville. Crozet and
356 Scottsville served their small local communities, and Red Hill was the sole groundwater system
357 that supplied water to a small community and elementary school south of Charlottesville.

358 Mr. Puffenbarger stated that the 2025 average daily production was just over 10 million gallons
359 per day across all six facilities. He stated that the South Rivanna plant was the largest water
360 treatment plant, producing an average of about 8.4 million gallons per day in 2025, accounting
361 for over 80% of total urban production in 2025.

362 Mr. Puffenbarger stated that starting at the source water, drinking water went through
363 coagulation, flocculation, sedimentation, filtration, granular activated carbon absorption, and
364 finally disinfection. Behind each stage of treatment, they used treatment chemicals that served a
365 specific purpose. For coagulation, they used aluminum sulfate to initiate the particle removal
366 process. They used liquid lime or calcium hydroxide for pH control and stability. Free chlorine
367 was used for disinfection, orthophosphate for corrosion control, and fluoride for dental health.

368 Mr. Puffenbarger stated that the South Rivanna plant sourced water from the South Rivanna
369 Reservoir. Water was pumped from the raw water pump station, where they had four pumps,
370 each with different capacities. Conventional surface water treatment began with coagulation. The

371 water then moved through flocculation, which slowly mixed the water to create larger clumps of
372 particles. Next, the water passed through sedimentation basins, where the floc particles settled to
373 the bottom of those basins. The water was then filtered through gravity filters. They treated the
374 water with granular activated carbon contact to remove organic carbon and then disinfected it
375 with free chlorine. Finally, the water was pumped out to the distribution system.

376 Mr. Puffenbarger stated they used a jar test machine to determine the best dosage of coagulant
377 and pH to remove turbidity and sediment from the water. He noted that removed solids were
378 pumped to the filter press building, dewatered, and hauled to the Waverly composting facility.
379 He stated they utilized dual-media filters which used anthracite, coal, and sand to remove finer
380 particles. He stated they acted as a critical barrier against microorganisms and pathogens.
381 Turbidity removal and filtration were essential, and they monitored turbidity using online
382 instrumentation, including filter turbidimeters, which provided continuous feedback via SCADA.
383 They used a benchtop turbidimeter to double-check the online instrumentation.

384 Mr. Puffenbarger stated that after filtration, granular activated carbon adsorption, and
385 disinfection, the treated water was pumped out to the distribution system using four finished
386 water pumps at South Rivanna, each rated at different capacities. They closely monitored the
387 chlorine residuals throughout the distribution system at sampling sites. This was a critical step to
388 ensure proper disinfection was maintained throughout the drinking water system. They used a
389 general administrative procedure that they had created years ago to guide decisions on when to
390 adjust finished chlorine residues leaving the water treatment plant. In the summer months, they
391 increased chlorine residuals because chlorine decayed more quickly in warmer temperatures.
392 They monitored water temperature and distribution, as well as chlorine residuals, on a weekly
393 basis.

394 Mr. Puffenbarger stated that an improvement coming was a sewer line connection from the
395 clarifiers at the South Rivanna WTP, which would allow them to continuously process and
396 manage sludge and solids residuals. This project was scheduled to start in FY 27 and finish by
397 FY 29. He stated they used two types of activated carbon: powdered and granular. Powdered
398 activated carbon was used at the beginning of the treatment process to remove taste and odor
399 compounds and enhance coagulation. He stated that it was single-use product, and then granular
400 activated carbon was used primarily for total organic carbon removal.

401 Mr. Puffenbarger stated that granular activated carbon was renewable and could be thermally
402 reactivated and reused. He stated that GAC could also be effective in treating PFAS and
403 emerging contaminants, which was an important consideration for the future. He stated that
404 sampling ports on the side of the contactors allowed them to collect samples from the top,
405 middle, and bottom to monitor total organic carbon removal and concentrations at different
406 levels in the GAC filters.

407 Mr. Puffenbarger stated that currently, they had two upgrade construction projects underway at
408 Crozet and Red Hill WTPs. He stated they were adding additional GAC contactors to increase
409 GAC treatment capacity at Crozet and adding a 1000-pound GAC contactor at Red Hill to ensure
410 that plant was equal to the others in terms of treatment even though it was a ground water
411 system.

412 Each month, they submitted reports to the DEQ, which included detailed data on daily water
413 treatment and production, chemical usage and dosages, filter performance, finish chlorine
414 residuals, and total coliform samples.

415 Mr. Puffenbarger stated the Water Department budget for FY 27 was \$40.9 million, highlighting
416 the investments in personnel, chemicals, utilities, and infrastructure required to treat over 3.7
417 billion gallons of water annually. He stated they had 26 staff members, with four dedicated to
418 water management. Staff included one water quality specialist, and three Relief Operators who
419 filled in at plants when needed. He stated the South Rivanna plant operated 24/7/365 with most
420 of the Operators working there. The North Rivanna plant had one Operator on-site twice a week.
421 He stated that the other five days, the Airport Road pump station was used to convey water from
422 the South Rivanna pressure zone to the northern pressure zone of the County, filling the Piney
423 Mountain tank. He stated that as of April, they had 14 Class 1 operators, one Class 2, and the rest
424 were trainees.

425 Mr. Gaffney asked what the savings would be when they installed the sewer main to the water
426 treatment plant since they would no longer have to truck the sewage.

427 Mr. Puffenbarger stated it was about \$20,000 per year.

428 Mr. Snook asked how AstraZeneca was anticipated to impact operations.

429 Mr. Mawyer stated that was currently being evaluated, but preliminary information indicates the
430 average day demand increase will be one to two million gallons per day.

431 Mr. Snook asked how they were equipped to handle that.

432 Mr. Mawyer stated that they were building an additional water supply infrastructure and they had
433 several projects planned to accommodate the capacity needed for the northern area, including
434 AstraZeneca. He stated that specifically, they would be adding a water storage tank at the Airport
435 Road pump station and additional pumps in that pumping station. He stated that additionally,
436 they planned to install a second pipe crossing under the North Rivanna River to improve
437 redundancy along with additional piping in that area.

438 Mr. Mawyer stated that they conducted a supply and demand study every 10 years, which
439 examined the long-term demand of the community and whether they had sufficient water to
440 serve it. He stated that because it took them a long time to build infrastructure, they must look
441 decades ahead and anticipate demand increases. He stated that the anticipated utility demands of
442 AstraZeneca had significantly impacted their projections.

443 ***11. OTHER ITEMS FROM THE BOARD/STAFF NOT ON THE AGENDA***

444 There were none.

445 ***12. CLOSED MEETING***

446 There was no reason for a closed meeting.

447 **13. ADJOURNMENT**

448 **Ms. Mallek moved that the Board of Directors adjourn. Mr. Sanders seconded the motion,**
449 **which carried unanimously (7-0).**

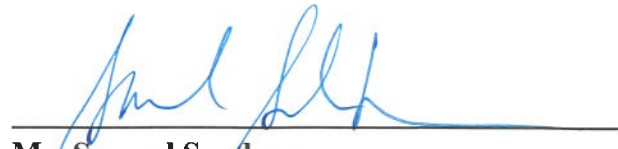
450 Respectfully submitted,

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Mr. Samuel Sanders
Secretary-Treasurer

