



**RWSA BOARD OF DIRECTORS  
Minutes of Regular Meeting  
February 27, 2024**

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, February 27, 2024 at 2:15 p.m. in the Rivanna Administrative Building, (2nd Floor Conference Room), 695 Moores Creek Lane, Charlottesville, VA 22902.

**Board Members Present:** Mike Gaffney, Lauren Hildebrand, Gary O’Connell, Ann Mallek, Brian Pinkston, Samuel Sanders Jr.

**Board Members Absent:** Jeff Richardson

**Rivanna Staff Present:** Bill Mawyer, Lonnie Wood, Deborah Anama, Betsy Nemeth, David Tungate, Jacob Woodson, Jennifer Whitaker, Konrad Zeller, Wayne Barnes, Brad Puffenbarger, Cary Wingo, Joshua Bowen, Michelle Simpson

**Attorney(s) Present:** Valerie Long

**1. CALL TO ORDER**

Mr. Gaffney called the February 27, 2024, regular meeting of the Rivanna Water and Sewer Authority to order at 2:15 p.m.

**2. AGENDA APPROVAL**

**Ms. Mallek moved that the Board approve the agenda as presented. The motion was seconded by Mr. O’Connell and passed unanimously (6-0). (Mr. Richardson was absent.)**

**3. MINUTES OF PREVIOUS BOARD MEETING**

*a. Minutes of Regular Board Meeting on January 23, 2024*

**Ms. Mallek moved that the Board approve the minutes of the January 23, 2024 meeting. The motion was seconded by Mr. Pinkston and passed unanimously (6-0). (Mr. Richardson was absent.)**

**4. RECOGNITIONS**

*a. Resolution of Appreciation for Konrad Zeller*

Mr. Gaffney read the Resolution of Appreciation for Konrad Zeller.

**RIVANNA WATER AND SEWER AUTHORITY  
BOARD OF DIRECTORS**

**Resolution of Appreciation for Konrad Zeller**



93 improved teamwork. He stated that Maintenance responds promptly to work orders, unlike  
94 before when it could take a week or more. He commended Bill for streamlining operations. He  
95 stated that the workplace has evolved significantly since his initial employment, becoming safer  
96 and more efficient. He stated that he had remained there because the job was fun. He thanked the  
97 Board.

98  
99 *b. Resolution of Appreciation for Wayne Barnes*

100 Mr. Gaffney read the Resolution of Appreciation for Wayne Barnes.

101  
102 **RIVANNA WATER AND SEWER AUTHORITY**  
103 **BOARD OF DIRECTORS**

104  
105 **Resolution of Appreciation for Wayne Barnes**  
106

107  
108 *WHEREAS, Mr. Barnes has served in a number of positions in the Water Department*  
109 *since March 1979 for the Rivanna Water and Sewer Authority, most recently as the Assistant*  
110 *Manager of the Water Department; and*

111  
112 *WHEREAS, over the same period of 45 years, Mr. Barnes has demonstrated leadership*  
113 *in his field and has been a valuable resource to the Authority and its employees; and*

114  
115 *WHEREAS Mr. Barnes' knowledge and understanding of the Water Department's*  
116 *operation as well as his enduring dedication and loyalty have positively impacted the Authority;*  
117 *and*

118  
119 *WHEREAS, the Board of Directors is most grateful for the professional and personal*  
120 *contributions Mr. Barnes has provided to the Rivanna Water and Sewer Authority and to its*  
121 *customers and its employees; and*

122  
123 ***NOW, THEREFORE, BE IT RESOLVED*** *that the Rivanna Water and Sewer Authority*  
124 *Board of Directors recognizes, thanks, and commends Mr. Barnes for his distinguished service,*  
125 *efforts and achievements as a long-standing member of the Rivanna Water and Sewer Authority,*  
126 *and presents this Resolution as a token of esteem, with its best wishes in his retirement.*

127  
128 ***BE IT FURTHER RESOLVED*** *that this Resolution be entered upon the permanent*  
129 *Minutes of the Rivanna Water and Sewer Authority.*

130  
131 *Michael Gaffney, Chairman*  
132 *Lauren Hildebrand*  
133 *Ann Mallek*  
134 *Gary O'Connell*  
135 *Brian Pinkston*  
136 *Jeff Richardson*  
137 *Sam Sanders*

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**Mr. Sanders moved the Board to approve the Resolution of Appreciation for Wayne Barnes. The motion was seconded by Mr. O’Connell and passed unanimously (6-0). (Mr. Richardson was absent.)**

Wayne Barnes stated that he was grateful for this opportunity. He stated that fortunately, they had made significant progress over the years he had been there. He acknowledged that many of the things Konrad mentioned were accurate. He stated that it was indeed an esteemed workplace. He stated that they had a talented team and he was proud of their accomplishments. He stated that he was confident they would continue to excel. He thanked the Board.

**5. EXECUTIVE DIRECTOR’S REPORT**

Mr. Mawyer stated that their staffing and succession management program was working well as there was exceptional talent within the organization. He stated that with both Mr. Zeller and Mr. Barnes leaving, they had made significant efforts to ensure that those positions would be filled by equally capable individuals. He mentioned that they had promoted Bradley Puffenbarger, who had been promoted to take Mr. Barnes’ role as Water Department Assistant Manager.

Mr. Mawyer stated that they had promoted Cary Wingo to fill Mr. Puffenbarger’s former position as a Water Department Supervisor. He stated that Mr. Puffenbarger had been with the organization for 12 years and Ms. Wingo had been at the organization for three years. He stated that these promotions demonstrated their commitment to maintaining a strong team and moving forward in their succession management efforts.

Mr. Puffenbarger stated that he appreciated the opportunity and was excited to continue being a leader in the organization. He stated that his role involved bringing everyone together, which aligned with one of their core values: teamwork. He stated that he believed they had been moving in the right direction and looked forward to further improvements in the future.

Ms. Wingo stated that she was looking forward to carrying the torch that had been lit.

Mr. Mawyer stated that Ms. Wingo was a graduate of his alma mater, the University of Virginia, and they were thrilled to have her joining the management team. He stated that Mr. Puffenbarger was a graduate of Lynchburg College. He congratulated Mr. Barnes and Mr. Zeller and stated that they looked forward to the contributions of their successors.

Mr. Mawyer stated that next, he would introduce Joshua Bowen, who had recently been promoted to become their Construction Inspector Supervisor. He stated that this was a new position that the Board approved in July, and they had recently filled it. He stated that as such, Mr. Bowen would supervise their team of four inspectors and assist them in managing their construction projects, particularly as they embarked upon an extensive Capital Improvement Program that Ms. Whitaker would discuss in further detail shortly. He congratulated Mr. Bowen, who had been with them for five years.

185 Joshua Bowen stated that it had been a great five years, and he was very proud to be a part of this  
186 organization. He stated that he looked forward to coming to work every day, and the people he  
187 worked with in the Engineering Department and Water Department were some of the best he had  
188 ever had the privilege of working with. He stated that he looked forward to contributing to  
189 improvements in the inspection processes, focusing on a more proactive approach rather than  
190 reacting to issues. He stated that this may also lead to enhancing the quality of their  
191 infrastructure over time.

192  
193 Mr. Mawyer stated that they employed a number of engineers, and this week they celebrated  
194 National Engineers Week. He stated that they also celebrated with all staff during their first  
195 quarter team-building event in February, which featured a Super Bowl chili cook-off that was a  
196 successful event.

197  
198 Mr. Mawyer stated that Brenda Clifford was the top choice in the chili competition. He stated it  
199 was a fun event.

200  
201 He stated they did go to Sugar Hollow and meet with the community regarding the bladder  
202 deflation that took place in January and sent a rush of water down the Moormons River. He  
203 stated that they attended a night meeting at the Ruritan Club in White Hall and met with the  
204 group to discuss the concerns. He stated that a video was shown of the water rushing down the  
205 river that someone had taken.

206  
207 Mr. Mawyer stated that the meeting was productive, and they were working on solutions such as  
208 an alarm system that would alert people quickly in case of another bladder failure. He stated that  
209 they might consider using an audible alarm system or collaborating with the reverse E911 or  
210 other available systems. He stated that they would meet with the same group on March 14 to  
211 provide them with an update and continue discussing solutions for that issue.

212  
213 Mr. Mawyer stated that in November, he informed the Board about an unfortunate incident  
214 involving the release of lime slurry at the South Rivanna Water Treatment Plant. He stated that  
215 they subsequently received a notice of violation letter from the VDEQ last month, and traveled to  
216 Harrisonburg last week to meet with DEQ representatives regarding how they could address and  
217 rectify the situation, which had already been resolved within days of when it occurred.

218  
219 Mr. Mawyer stated that while the situation had been mitigated, they anticipated receiving a fine.  
220 He stated that they had received legal assistance from Williams Mullen in this process and had  
221 been cooperating with DEQ. He stated that the meeting with DEQ had been highly cooperative.  
222 He stated that they also took advantage of this opportunity to discuss the Rivanna pump station  
223 and the sewer manhole overflows with DEQ.

224  
225 Mr. Mawyer stated that on a positive note, drought was no longer a concern for the moment. He  
226 stated that at present, all the reservoirs were full. He stated that displayed on the screen was a  
227 photograph of Ragged Mountain, showing that it was full. He explained that they transferred  
228 water from Sugar Hollow to Ragged and kept the pipe open for most of January and February  
229 until Ragged reached its full capacity on February 12. He mentioned that when they raised the  
230 water level by 12 feet, the peninsula visible in the image would likely be submerged.

231  
232 Mr. Mawyer stated that last fiscal year, they were several million dollars over their budget;  
233 however, through diligent efforts of Lonnie Wood and his staff, they had managed to control  
234 costs and maintain a surplus. He stated that this was contained in the Staff Report on Finance,  
235 Item 8a. He stated that as of December, they had excess funds totaling \$635,000 over their  
236 expenses, and expected to have approximately \$200,000 more than expenses through January.  
237 He acknowledged that the Rivanna Pump Station's costs may impact their budget in the future  
238 but appreciated the staff's efforts in managing costs and finding innovative ways to save money.  
239 He stated that their primary costs were fixed, such as the cost of chemicals and utilities to  
240 produce drinking water and treat wastewater.

241  
242 Mr. Gaffney stated that he wanted to say that they had completed six years of the strategic plan.  
243 He stated that one of the key aspects of the plan was workforce development from within, which  
244 was evident and impressive to see the results today.

245  
246 Mr. Mawyer stated that they were proud of the entire group when they worked together and  
247 achieved success. He stated that as they approached the budget presentations in the upcoming  
248 months, they would provide updates on the next phase of the Succession Management Plan.

249

## 250 **6. ITEMS FROM THE PUBLIC**

251

252 Dede Smith stated that she tuned in during the conclusion of the Sugar Hollow segment. She  
253 stated she was wondering about whether, after completing the pipeline between South Fork and  
254 Ragged Mountain, there were plans to remove the Sugar Hollow Dam. She stated that this was  
255 given its small percentage of total storage capacity, particularly after raising Ragged Mountain,  
256 its primary purpose was drought storage. She stated that its effectiveness in drought protection  
257 was limited due to water loss between Sugar Hollow and the Rivanna or Moormans River during  
258 droughts. She asked if there had been discussions regarding restoring the natural flow of the  
259 Moormans River.

260

## 261 **7. RESPONSES TO PUBLIC COMMENT**

262

263 Mr. Mawyer stated that part of their meeting with the Sugar Hollow folks was discussing  
264 whether they could eliminate the bladder atop the Sugar Hollow Dam, which holds  
265 approximately 60 million gallons back or adds five feet to the reservoir when inflated. He stated  
266 that it was contrary to their efforts to increase the community's water supply through the pipeline  
267 from Rivanna to Ragged, which would add 700 million gallons. He stated that the question  
268 would be if they could afford to give up 60 million gallons by removing the bladder while  
269 retaining the dam itself. He stated that Ms. Smith may have referred to the bladder rather than the  
270 dam. (thru communication with Ms. Smith after the meeting, she confirmed that she meant  
271 remove the dam).

272 Mr. Mawyer stated that residents also inquired about deflating the bladder during specific times  
273 of the year. He stated that this would minimize the risk of sudden deflation and potential  
274 property or personal damage from a surge of water. He stated that staff were exploring these  
275 options, including whether it was suitable for the bladder to remain deflated for months at a time.  
276 He stated that they would likely present these findings to the Board and ask for director on

277 whether they should keep the bladder and the 60 million gallons stored, or whether they afford to  
278 forgo that capacity when Ragged was expanded and the pipeline from Rivanna to Ragged was  
279 completed.

280  
281 Mr. Pinkston asked what the maximum height of the river was when the bladder was deflated.

282  
283 Ms. Whitaker stated that the bladder height was five feet. She stated that it took approximately  
284 45 minutes for the water to evacuate from behind it. She stated that the peak wave observed in  
285 the gauges was approximately three and a half to four feet in height.

286  
287 Mr. Pinkston asked if they were to eliminate the Sugar Hollow Dam, whether there would be an  
288 enormous environmental cleanup effort involved.

289  
290 Mr. Mawyer stated that there were numerous practical issues in that matter. He stated that one of  
291 the major concerns was the loss of approximately 400 million gallons of water from Sugar  
292 Hollow. He stated that the sediment and silt at the bottom of the reservoir would also pose  
293 significant challenges in terms of environmental mitigation and control. He stated that the  
294 process of draining the water and dealing with the debris that would be washed out would require  
295 significant effort.

296  
297 Ms. Mallek stated that they likely already considered this, but a compromise could involve  
298 increasing the frequency of daily releases. She stated that as they strove to balance various  
299 factors, referring back to 2012, when there were releases all the time, would help them safeguard  
300 both the river and the water supply.

301  
302 Mr. Mawyer clarified that Ms. Mallek was referring to releases from the existing outflow pipe.

303  
304 Ms. Mallek stated yes.

305  
306 **8. CONSENT AGENDA**

307  
308 *a. Staff Report on Finance*

309  
310 *b. Staff Report on Operations*

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312 *c. Staff Report on CIP Projects*

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314 *d. Staff Report on Administration and Communications*

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316 *e. Staff Report on Wholesale Metering*

317  
318 *f. Staff Report on Drought Monitoring*

319  
320 *g. Award Professional Engineering Services Agreement – Moores Creek Building Upfits*  
321 *and Gravity Thickener Improvements Project – Short Elliot Hendrickson Inc.*

322

323 h. *Approval of Term Contract for Professional Wastewater Treatment Plant Engineering*  
324 *Services – Hazen and Sawyer, Short Elliot Hendrickson, Wiley Wilson, and Whitman,*  
325 *Requardt & Associates*

326  
327 **Ms. Mallek moved that the Board approve the Consent Agenda. Ms. Hildebrand seconded**  
328 **the motion, which passed unanimously (6-0). (Mr. Richardson was absent.)**

329  
330 **9. OTHER BUSINESS**

331  
332 a. *Presentation: Rivanna Pump Station Update*

333 Mr. Mawyer stated that last month he provided an update regarding their progress. He stated that  
334 he was pleased to offer additional information, which was accurate as of yesterday. He stated  
335 that he would like to express his gratitude to the staff, contractors, and consultant engineers who  
336 demonstrated exceptional dedication over the past six to seven weeks. He stated that they had  
337 successfully planned and constructed not one, but two temporary pumping systems to ensure that  
338 most of the wastewater entering the pump station remained within our wastewater treatment  
339 system and was kept out of the streams within the community.

340  
341 Mr. Mawyer stated that this achievement required significant time, effort, and perseverance, as  
342 they worked around the clock in difficult cold and rainy weather conditions. He stated that he  
343 was truly appreciative of their hard work. He mentioned that Ms. Whitaker had been  
344 instrumental in leading this effort, while Mr. Tungate and Mr. Wood had also played crucial  
345 roles. He stated that this project had been a true team effort, with Faulconer Construction serving  
346 as a supportive partner alongside other contractors who had contributed significantly.

347  
348 Mr. Mawyer stated that when functioning correctly, wastewater entered the pump station from  
349 the north side (yellow-arrowed location) shown on the displayed map. He stated that it then  
350 passed through the pump station before being pumped under Moores Creek to the wastewater  
351 treatment facilities. He stated that from there, the wastewater either underwent further processing  
352 in the solid handling building before being transported to Waverly, Virginia, or it was cleaned  
353 and returned to Moores Creek. He stated that the pumping process was explained earlier, but to  
354 recap, they would briefly review some slides to refresh everyone's memory.

355  
356 Mr. Mawyer stated that the Rivanna Pump Station served the northern half of the City and  
357 County, which was indicated in yellow on the map. He stated that it was their largest pump  
358 station, handling approximately 60% of their wastewater. He stated that constructed in 2017 at a  
359 cost of \$31.5 million, this station had the capacity to pump 53 million gallons daily and elevate  
360 wastewater 110 feet vertically to reach the headworks. He stated that they had previously shown  
361 that wastewater enters the facility through what they called the wet well, an open pit represented  
362 by the indicated rectangle on the map.

363  
364 Mr. Mawyer stated that the wet well's depth varied from seven feet under the covers in the  
365 shallow end to 17 feet in the deep end, similar to a swimming pool layout with a deep diving  
366 well. He stated that there were two pump rooms, one on each side under the roof. He stated that  
367 pipes from these pumps extended into the deep end of the wet well, where they extracted water



368 and pumped it through an underground force main pipe to the headworks. He stated that this pipe  
369 was called a force main because it operated under pressure, lifting wastewater 110 feet up and  
370 over to the headworks.

371  
372 Mr. Mawyer stated that on the slide was an image of what the gates and aluminum covers looked  
373 like. He stated that they were seven feet above the bottom of the well at the shallow end of the  
374 wet well. He stated that on the next slide were the pumps they built on the dry sides in the two  
375 pump rooms. He stated that the pumps conveyed wastewater upwards thru the vertical piping.

376  
377 Mr. Mawyer stated that four of the pumps, two in each room, had a capacity of 13 million  
378 gallons per day (MGD), while one pump in each room had a 7 MGD pumping capacity. He  
379 stated that the pumps did not all operate at the same time or rate. The controls determined how  
380 many pumps were needed and at what speed they should run. He stated that the variable  
381 frequency drives allowed the pumps to operate at different speeds. He stated that unfortunately,  
382 on January 10, the pump rooms were submerged with wastewater, and the wet well was filled to  
383 the top of the stems on the gates.

384  
385 Mr. Pinkston asked if the gates were essentially valves. He asked if they were to turn on or off  
386 the wastewater supply.

387  
388 Mr. Mawyer stated yes, they acted like a valve in the system, controlling the flow of the  
389 wastewater by closing the channels within the shallow end. He stated that there were three  
390 channels in the shallow end, each equipped with multiple gates that could be opened or closed.  
391 He stated that this additional level of control allowed for more precise flow management into the  
392 deeper part of the wet well. He stated that there was a main influent gate located on the wall of  
393 the wet well that controlled all incoming flow to the wet well.

394  
395 Mr. Mawyer stated that during this process, workers had to use a boat to install temporary  
396 pumping in the wet well. He stated that it also required digging a large hole next to the building  
397 to expose the existing force main piping as it exited the pump station en route to the headworks.  
398 He stated that the team then removed the elbow from the piping and installed a new setup that  
399 connected to the other side.

400  
401 Mr. Mawyer stated that the temporary pumps in the wet well pumped wastewater around the  
402 outside of the pump station to a piping manifold before it was directed vertically back into the  
403 permanent pipe and sent to the headworks as usual. He stated that this bypass concept involved  
404 routing piping around the building. He stated that once the wet well was sufficiently drained, the  
405 aluminum covers and gates were visible. He stated that there were three gates in total, with the  
406 main gate located on the wall of the wet well.

407  
408 Mr. Mawyer stated that as seen in the photograph on the slide, they had installed one pump with  
409 its piping emerging vertically from the wet well and connecting to the manifold on the opposite  
410 side of the building. He stated that this allowed them to pump wastewater into the treatment  
411 process. He stated that the covers in the wet well were removed for this installation. He stated  
412 that they had a crew clean the wet well using steam. He stated that in the next picture, they had  
413 placed four pumps below the wet well covers, which were part of the 10-MGD system.

414  
415 Mr. Mawyer stated that they installed four cross beams in the wet well for structural support  
416 when they added larger and heavier 50-MGD piping and pumps. He stated that this required  
417 additional structural work. He stated that one of the temporary 13-MGD pumps was shown in the  
418 image provided. He stated that they had installed seven of these pumps, which varied in size, and  
419 the largest pump was featured in the image. He stated that they needed to remove covers and  
420 place pumps in the deep section of the wet well to pump wastewater out of the station.

421  
422 Mr. Mawyer stated that the next slide showed a large pipe that was a part of the 50-MGD system.  
423 He stated that wastewater was directed from the wet well to the manifold, and on its way to the  
424 headworks and treatment process. He stated that to achieve the 53 MGD capacity, they had  
425 removed the orange manifold capable of 10 MGD, replaced the riser piping, and installed a  
426 larger manifold at ground level. He stated that workers completed this task at night to ensure  
427 timely completion before potential rainfall. He stated that the new manifold and piping had been  
428 assembled successfully.

429  
430 Mr. Mawyer stated that wastewater flowed through these pipes before descending into the  
431 existing force main that led to the headworks treatment process. He stated that by February 14,  
432 they had installed seven pipes and seven pumps in the wet well. He stated that the wet well now  
433 housed these pipes, which were supported by the steel beams they had installed. He stated that  
434 this extensive, expensive, and time-consuming project required heavy equipment, piping, and  
435 significant effort from their team to complete successfully.

436  
437 Mr. O'Connell asked if there was a pump at the end of each of those pipes.

438  
439 Mr. Mawyer stated yes, there was a pump at the bottom that connected to the manifold before  
440 connecting to the main pipe. He stated that this was the concept of the bypass. They installed a  
441 new series of piping around the building, transferring all wastewater to the same existing  
442 headworks.

443  
444 Ms. Mallek asked what the black pipes were made from.

445  
446 Mr. Mawyer stated that it was high-density polyethylene (HDPE).

447  
448 Mr. Pinkston asked if they made all those connections locally. Ms. Whitaker said the  
449 connections were made on site by our staff and contractors.

450  
451 Mr. Mawyer stated that the main influent gate was installed at the wet well entrance where the  
452 60-inch pipe connects to the wet well. He stated that the slide showed the wastewater flowing  
453 below the gate and into the wet well. He stated that the stem extending up the wall was part of  
454 the actuator mechanism that raised and lowered the gate. He stated that at the top of the wet well,  
455 there was an electric actuator that rotated to control the gate's position. He stated that on January  
456 9 during the incident, the gate would not fully close; instead, it remained half-closed.

457  
458 Mr. O'Connell asked if all the wastewater from the tunnel was processed through that system.

459

460 Mr. Mawyer stated yes, the 60-inch pipe was located behind that gate.

461

462 Mr. Gaffney asked if they had determined why it did not close completely.

463

464 Mr. Mawyer stated no. He stated that they had not determined the causes, but were conducting a  
465 thorough investigation into various aspects, including this one. He stated that another issue they  
466 discovered was that there was a stairwell from the ground level of the pump station adjacent to  
467 the wet well. He stated that this stairwell led to the wet well's cover level, and water damage had  
468 affected the door. He stated that the water damaged the door and filled the stairwell. He stated  
469 that they believed most of the water entered through a wall penetration in the stairwell, which  
470 was part of the heating, ventilating, and cooling system. He stated that the water then flowed into  
471 pump room number two before moving through a corridor into pump room number one.

472

473 Mr. Mawyer stated that they had not yet identified all the causes of water entry but these were  
474 some of the current hypotheses. He stated that they believed that these factors contributed to the  
475 water getting into the dry areas of the pump station.

476

477 Mr. O'Connell asked if they could keep the bypass going for an extended period of time.

478

479 Mr. Mawyer stated that as long as the pumps were powered and functioning, they would  
480 continue to operate properly.

481

482 Mr. Sanders asked if they had determined which portion of the bypass system they would  
483 maintain in operation after everything had been repaired.

484

485 Mr. Mawyer stated that the temporary piping and pumps were rented and would be removed. He  
486 stated that they would maintain the permanent manifold connection in this location which could  
487 be connected to another bypass system if necessary in the future.

488

489 Mr. Gaffney asked if the main gate was functioning properly now.

490

491 Mr. Mawyer stated no, not yet.

492

493 Mr. O'Connell asked what the grey boxes were in the slide.

494

495 Mr. Mawyer stated those were the emergency power generators.

496

497 Mr. O'Connell asked if they had an additional electricity bill for this project.

498

499 Mr. Mawyer stated that they did not have any significant additional electricity expenses, but  
500 would have an additional diesel fuel expense for the temporary generators. He stated that as of  
501 yesterday, they connected the building's electrical system to power the temporary pumps instead  
502 of relying on the generators and using diesel fuel. He stated that although electricity was not free,  
503 it was more cost-effective than diesel fuel. He stated that staff did an excellent job in  
504 implementing this solution. He stated that their crew devised an innovative solution at the ground  
505 level of the pump station. He stated that fortunately, water never reached above ground level,

506 where their motor control and electrical equipment were located. He stated that to power the  
507 temporary pumps, they removed a door and constructed a makeshift conduit system for wires  
508 and conduits from the pumps to their permanent circuit breakers. He stated that this change was  
509 completed yesterday.

510  
511 He stated that after lowering the water level in the pump rooms around February 8, contractors  
512 conducted inspections of the pumps, piping, and assessed potential damage. He stated that they  
513 had now completed their assessments and did not find any obvious damage.

514  
515 Mr. Mawyer stated that they estimated a cost of approximately \$6 million for the temporary  
516 bypass system to operate through December. He stated that they estimated that replacing the  
517 equipment, wiring, pumps, devices, and controllers, along with design and engineering support  
518 services would cost about \$16.5 million for a total project cost between \$20 million and \$25  
519 million. He stated that to fund this project, they planned to discuss coverage options with their  
520 property insurance company, Virginia Risk Sharing Association (VRSA).

521  
522 Mr. Mawyer stated that they had “boiler and equipment” coverage through VRSA, but their 313-  
523 page policy had numerous exclusions, making it difficult to determine what was covered. He  
524 stated that before they could determine coverage, they must complete a causation investigation to  
525 determine what caused the issue at the pump station. He stated that the independent engineer was  
526 conducting this evaluation, while the engineer of record and VRSA representative were also  
527 reviewing the situation at the site.

528  
529 Mr. Mawyer stated that once they identified the cause of the issue, they would refer back to the  
530 policy for coverage details, including amounts and deductibles. He stated that it would be  
531 difficult to determine whether they were fully covered for the Rivanna Pump Station repair costs  
532 until they had determined what caused the issue. He stated that in the meantime, they had been  
533 using their operating budget to pay the bills, amounting to approximately \$744,000 so far. He  
534 stated that they currently had \$11 million in the urban wastewater reserve account and \$27  
535 million in total reserves, including the \$11 million.

536  
537 Mr. Mawyer stated that these reserves could cover the charges for a short period. He stated that  
538 the payments made would not affect this year's charges for City Utilities or the Service  
539 Authority. He stated that Ms. Whitaker would present their proposed Capital Improvement  
540 Program that day, while Mr. Woods would present their proposed budget next month. He stated  
541 that they planned to include a calculation for a \$20 million capital project in next year's CIP. He  
542 stated that after recalculating the debt service to support this project, they would include it in the  
543 budget proposal next month.

544  
545 Mr. Mawyer stated that in June, they planned to return to the Board with more information about  
546 actual costs and insurance coverage, and request authorization for a capital project between \$5  
547 and \$20 million. He stated that at that time, they would also propose an amendment to next year's  
548 CIP and reimburse this year's operating budget with capital funds. He stated that this year's  
549 budget would be based solely on anticipated operating expenses, not burdened by the Rivanna  
550 Pump Station repair costs, which would be transferred into the CIP project for repayment  
551 through 20-year bonds.

552  
553 Mr. Mawyer stated that the debt service charges would be allocated to City Utilities and the  
554 Service Authority accordingly. He stated that they had developed two options for funding and  
555 payment regarding this matter. He mentioned that the proposed Capital Improvement Plan for the  
556 next five years amounted to approximately \$370 million. He stated that adding another project,  
557 such as a \$20 million pump station repair, would increase charges for City Utilities in FY 25 by  
558 0.69%. He stated that the Service Authority's charge would increase by 0.59%. He concluded by  
559 saying that this was how the project could affect charges from Rivanna to City Utilities and the  
560 Service Authority over the next five years.

561  
562 Ms. Mallek asked if these were annual years rather than cumulative, meaning that each one was  
563 independent of each other.

564  
565 Mr. Mawyer stated yes. He stated that the FY charge increase served as the basis when entering  
566 FY 25. He stated that there was a second option to not increase the \$370 million CIP for 2025-  
567 2029; however, this would require delaying several projects equivalent to the project's increase  
568 amount. He stated that if they added \$20 million, they must delay \$20 million in other project  
569 costs. He stated that consequently they had compiled a list primarily consisting of sewer projects  
570 that would need to be postponed beyond 2029 to offset the increase from the Rivanna Pump  
571 Station project. He stated that this was not limited to wastewater projects; for instance, the  
572 Ragged Mtn Reservoir hypolimnetic oxygenation system was a water project which could be  
573 delayed.

574  
575 Mr. Mawyer stated that a project which could be deferred was providing a sanitary sewer  
576 connection to the South Rivanna Water Treatment Plant. This delay would require collecting  
577 filter backwash at the plant and transporting it by truck to the wastewater treatment facility  
578 instead of using the new sewer system connection. He stated that this project would enable them  
579 to pipe the backwash directly into the sewer system rather than transporting it by truck. He stated  
580 that among other sewer-related projects at Moores Creek were piping, blower builder, ventilation  
581 system construction, and determining the future of the sphere and the methane-to-electric  
582 generator project.

583  
584 Mr. Mawyer stated that they also had a significant structural and concrete renovation project  
585 which could be deferred, even though these projects were important. He stated that these projects  
586 were developed as alternatives that they could offset the cost of the Rivanna pump station by  
587 eliminating or postponing other projects. He stated that they did not consider the three water  
588 supply projects: Rivanna to Ragged, Ragged to Observatory, and Observatory to Central Water  
589 Line as projects to delay. They had worked hard to implement these projects, and he would be  
590 disappointed to see them delayed.

591  
592 Mr. Mawyer stated that after they completed the causation analysis and reached a consensus,  
593 they would be able to quantify the extent of insurance support for the damage. He stated that they  
594 now had a contractor sanitizing the spaces so that they could enter without wearing protective  
595 suits in normal conditions. He stated they continued to estimate the cost of restoring the pump  
596 station using permanent equipment.

597

598 Mr. Pinkston asked if, regarding the options presented relative to the CIP projects being delayed  
599 or continuing, if Mr. Mawyer wanted a decision today or wanted to hear back from insurance  
600 first.

601  
602 Mr. Mawyer stated that they would prefer to wait until there was more information about  
603 reimbursement from the insurance company. He stated that the summary detailed that seven  
604 pumps and pipes were installed by February 14 to complete the 53 MGD bypass. He stated that  
605 the pump rooms had been drained of water, some equipment had been tested, and engineers had  
606 been working on independent causation studies. He stated that Belfor was sanitizing the space;  
607 they had completed the pump rooms and stairs, and would conduct a closed-circuit TV  
608 inspection of the ductwork to assess damage or accumulated debris before disinfecting them.

609  
610 Mr. Mawyer stated that coordination with the insurance company's engineer continued, and there  
611 had been no wastewater discharge or overflow since January 19, when purposeful discharges  
612 emptied the pump station. He stated that the estimated restoration cost was between \$20 million  
613 and \$25 million, and a CIP project proposal for June aimed to fund this project and reimburse  
614 operating expenses.

615  
616 Mr. Pinkston asked if these slides could be pulled from the packet and provided separately. He  
617 explained that he wished to share them with his colleagues on the council.

618  
619 Mr. Gaffney asked if there were, in essence, three parties that had to agree on causation.

620  
621 Mr. Mawyer stated that there was RWSA and VRSA.

622  
623 Mr. Gaffney asked if it also pertained to the engineer who designed the system.

624  
625 Mr. Mawyer stated that they were doing their own assessment.

626  
627 Mr. Gaffney stated that would be a third party. He asked if their insurance might be involved in  
628 paying for it as well.

629  
630 Mr. Mawyer stated that he was uncertain about that detail; however, it appeared to be a  
631 possibility.

632  
633 Mr. Mawyer stated that they had heard of statutes of limitations and whether there would be any  
634 applicable to the original design engineer or construction contractor. He stated that he was  
635 uncertain about this matter, as it involved legal and insurance aspects.

636  
637 Mr. Gaffney asked if Mr. Wood was the only one looking at the insurance contract, or if they had  
638 legal staff as well.

639  
640 Mr. Mawyer stated that they forwarded the policy to legal for review.

641  
642 Mr. Gaffney asked if there were any comments on the policy yet.

643

644 Ms. Long stated that there were none that were appropriate at this time. She stated that the most  
645 important thing was identifying the cause first, and anything else would be premature.

646  
647 Mr. Mawyer stated that while there had been discussions, they had not formed any conclusive  
648 thoughts on the matter.

649  
650 Mr. Gaffney asked if causation referred to who agreed.

651  
652 Mr. Mawyer stated that it would be who agreed on what the cause was.

653  
654 Mr. O'Connell asked what the timeframe was on determining this.

655  
656 Mr. Mawyer stated that they expected to receive the independent assessment by the end of  
657 March. He stated that after receiving it, they would proceed into the review and negotiation  
658 process with the involved parties to determine if they agreed with the insurance company's  
659 evaluation based on their independent engineer's findings. He stated that this process was likely  
660 to take several months, possibly concluding by June. He stated that at that time, they hoped to  
661 have more accurate information to decide whether they needed to fund a \$20 million project, a  
662 \$5 million project, or would have no project costs. He stated that they anticipated that they would  
663 need to allocate some funds during this period.

664  
665 Mr. O'Connell asked if there had been a discussion about potentially making some design  
666 improvements.

667  
668 Mr. Mawyer stated that they would consider the findings of the causation analysis to identify  
669 what went wrong. He stated that once they determined the issues, they would make design  
670 changes to prevent recurrence. He stated for instance, they recently installed plates over  
671 ductwork penetrations in stairwell walls to avoid future problems. He stated that they must  
672 address the HVAC system's placement in stairwells. He stated that if not properly installed,  
673 stairwells become confined spaces requiring protective gear for anyone to enter those spaces. He  
674 stated that HVAC connections in stairwells served safety purposes. He stated that they could  
675 consider raising the HVAC system higher and implementing other overflow-proof design  
676 elements.

677  
678 Mr. Mawyer also stated that their current pumps were not submersible; they may need alternative  
679 pumps capable of operating when submerged in case of future incidents. He stated that they had  
680 many decisions to make based on these considerations. He stated that they were not discussing  
681 remodeling or demolishing any portions of the building. He stated that they were considering  
682 altering the devices within the structure and if they could replace those devices or arrange them  
683 in a different configuration.

684  
685 Mr. Pinkston stated that he was assuming that the causation analysis would involve a thorough  
686 examination of the control system.

687  
688 Mr. Mawyer stated that they had SCADA data, which was the control data that was being  
689 reviewed to determine how the pumps were operating throughout the process and what the

690 controls were communicating with the pumps. He stated that this information was part of the  
691 evaluation and was highly valuable and relevant.

692  
693 Mr. Pinkston stated that he found the situation difficult and challenging; however, he was  
694 impressed by the way everyone had stepped up and implemented the temporary solution. He  
695 stated that in the past, when he worked in the process industry, he understood the significance of  
696 addressing issues related to pumps and pipes, as this was no small matter. He stated that he  
697 wanted to express his extreme gratitude for everyone's hard work and dedication.

698

699 *b. Presentation: Organizational Agreements of the RWSA*

700 Mr. Mawyer stated that during the budgeting process each year, he reviewed various agreements  
701 and documents to provide guidance and direction for allocating costs for their projects. He stated  
702 that their foundation documents began with the Articles of Incorporation in 1972 when the City  
703 and County established the Rivanna Water and Sewer Authority. He stated that at that time, there  
704 were five board members: two from the city, two from the County, and one appointed member.  
705 He stated that in 2022, they successfully obtained a concurrent resolution to reauthorize the  
706 RWSA at their 50-year anniversary, as required by the Virginia Water and Sewer Authority Act.

707

708 Mr. Mawyer mentioned that the four-party agreement outlined their requirements for allocating  
709 facilities and costs, reflecting their role as the sole water and sewer provider in the community.  
710 He stated that bylaws were created in 1973 and had been amended several times since then. He  
711 stated that in 2009, the Articles were amended to increase the Board size from five to seven  
712 members and added two elected officials. He stated that the City reorganized and created a  
713 Department of Utilities in 2017, allocating the director position to the RWSA board, and the  
714 Public Works Director to the Solid Waste Board.

715

716 Mr. Mawyer added that the bylaws had been revised multiple times, including a change in  
717 meeting schedules from the third Monday to the fourth Monday. He stated that in 2014, the  
718 Board allowed remote participation for its members. He stated that since his arrival in 2016, they  
719 had increased contract authorization for the Executive Director. He stated that in 2022, they  
720 adopted a remote participation policy that enabled virtual meetings and remote participation by  
721 board members. He acknowledged that the challenge with amending the bylaws was that every  
722 member must be present to make changes, and the same was true for the Solid Waste Board.

723

724 Mr. Mawyer explained that when constructing infrastructure, they created working agreements  
725 that outlined who would pay for the project between City Utilities and the Service Authority. He  
726 stated that over the years, several such agreements had been established, including a Joint  
727 Resolution in 1983 which purchased the Buck Mountain property; the Southern Loop Agreement  
728 in 1987 which facilitated construction of the western branch of a major piping system and  
729 planned for the southern loop of what was now known as the Central Waterline Project; and the  
730 Southern Rivanna Water Treatment Plant expansion in 2003, which involved negotiations over  
731 who would pay for the project and who would benefit from its increased capacity.

732

733 Mr. Mawyer stated that the most frequently discussed agreement was the Ragged Mountain Dam  
734 Agreement from 2012, which was crucial to the community water supply plan. He stated that this  
735 plan called for expanding the Ragged Mountain Reservoir by building a new dam and installing



736 a new pipe from the Rivanna Reservoir to Ragged to fill the larger reservoir, as the pipes from  
737 Sugar Hollow were aging.

738  
739 Mr. Mawyer explained that the water cost allocation was the financial aspect of the Ragged  
740 Mountain agreement where it was agreed that the Service Authority would pay 85% of the dam  
741 costs, while the City Utilities would pay 15%. He stated that additionally, the Service Authority  
742 would cover 80% of the pipeline costs, with the City Utilities contributing 20%. He stated that in  
743 2019, a Joint Agreement led to the termination of the Buck Mountain surcharge when it became  
744 evident that the Buck Mountain Reservoir would not be constructed.

745  
746 Mr. Mawyer stated that in 2020, the observatory water plant upgrade, including the raw water  
747 piping allocation agreement, was finalized, committing all parties to the Central Waterline  
748 Project. He mentioned that after several years of negotiation, the observatory water treatment  
749 plant ground lease renewal with the university was achieved, securing a 49-year lease at  
750 \$175,000 per year, replacing the previous \$30,000 annual fee. He stated that this lease featured  
751 an indexed payment system that increased annually but was reassessed every 10 years.

752  
753 Mr. Mawyer stated that the Northern Area Drinking Water Projects Agreement was also  
754 completed in 2020, stipulating that for all Rivanna facilities north of the South Rivanna River,  
755 the Service Authority would be responsible for 100% of their costs. He stated that most recently,  
756 the first amendment to the Ragged Mountain Dam Project Agreement was approved, allowing  
757 for an increase in community water supply by adding approximately 700 million gallons earlier  
758 than initially specified when the agreement was made in 2012. He stated that over the past 51  
759 years, these foundational documents have provided guidance and direction for the organization,  
760 and Mr. Wood and his staff have effectively allocated and managed these agreements to ensure  
761 that budgets are appropriately distributed.

762  
763 Mr. O'Connell asked if there were any expected upcoming agreements. He stated that he was  
764 unaware of any, but there had been a lot to consider.

765  
766 Mr. Mawyer stated no. He stated that in 2012, the four-party agreement expired; however, it  
767 remained legally active due to the caveat that the City and County must pay their share of the  
768 bonds if they wished to withdraw from the authority. He stated that this agreement was based on  
769 the assumption that the City could only contract for 40 years. He noted that recent information  
770 suggested that longer agreements may be possible with Rivanna and the City as examples.

771  
772 Mr. O'Connell asked if it was perpetual in essence because of the bonds issued.

773  
774 Mr. Gaffney stated that anyone who wished to leave must pay their share of the bonds.

775  
776 Mr. Pinkston asked what parties were involved.

777  
778 Mr. Mawyer stated that it was the City, Rivanna, the Service Authority, and the County.

779  
780 Mr. Pinkston asked if there was any wisdom in updating it.

781

782 Mr. Gaffney stated that the main question was whether there was a need for any changes.

783

784 Mr. O’Connell stated that updating the agreement and anything that it referenced could create a  
785 lot of work.

786

787 Ms. Long stated that it referenced the 1972 agreement as amended because it had been amended  
788 several times. She stated that it may be something worth looking at only because most of, if not  
789 all of the actions contemplated by the original agreement, had since occurred. She stated that  
790 many of the written actions had already been done and they finished some of those last items  
791 recently. She stated that it might make sense.

792

793 Ms. Long stated that it might make it more user-friendly for citizens. She stated that it was hard  
794 to read and following along in the terminology was challenging, as she experienced herself when  
795 she read it the first time. She stated that it was a different way of doing business then.

796

797 Mr. O’Connell stated that he believed there would be no additional cost allocation. He stated that  
798 the capacity issue had been resolved—whether it was capacity or non-capacity related. He stated  
799 that they had reached a settled and resolved decision.

800

801 Mr. Mawyer stated that the general guideline stated that if it was a non-capacity project, it did  
802 not increase infrastructure capacity; instead, it renewed existing infrastructure. He stated that the  
803 Service Authority and City Utilities currently had a 52 % - 48% allocation, but for capacity  
804 projects, when someone wanted to expand such as requiring a larger water storage tank or water  
805 line, they determined the appropriate cost allocation for City Utilities versus the Service  
806 Authority. He stated that over the past six to seven years, they had been successful in addressing  
807 these needs.

808

809 Ms. Mallek stated that the 50-year water supply plan had been established, so they should  
810 maintain their current allocation for its implementation.

811

812 Mr. Mawyer stated this presentation was to prepare the Board for what would be proposed in the  
813 budget and capital projects.

814

815 *c. Presentation: Introduction of FY 25–29 CIP*

816 Ms. Whitaker stated that she was pleased to introduce the FY25 - 29 Capital Improvement  
817 Program to the Board. She stated that several board members had seen parts of this program up  
818 until now. She stated that this was a culmination of a process that they started in July of each  
819 year and had been working on for almost nine months, involving staff from engineering,  
820 maintenance, operations, and finance. She stated that this was an authority-wide program and  
821 document.

822

823 Ms. Whitaker stated that six key goals had been kept in mind while building the CIP. She stated  
824 that one was to ensure that their water and wastewater infrastructure remained reliable and that  
825 they could comply with regulatory requirements - this was fundamental to who they were and  
826 what they did. She stated that many of the projects here contributed to this goal. She stated the  
827 second was to focus on the community water supply plan and build it out in anticipation of

828 climate change impacts seen throughout the United States. She stated that they were looking at  
829 the reliability and resilience of the water supply program on both the drinking water side and the  
830 treatment and convenience side.

831  
832 Ms. Whitaker stated the third goal was to address critical infrastructure by tying together  
833 previously unconnected elements. She stated that for example, they were looking at the Central  
834 Waterline and connections up to the northern part of the County to provide water to the urban  
835 system. She stated that the fourth goal was to continue enhancing their abilities to address  
836 emerging contaminants. She stated that on both the water and wastewater side, contaminants and  
837 emerging contaminants continued to be a significant issue that they must address going forward.  
838 She stated that there were a few grant-funded contaminant projects, and this would likely remain  
839 on their list for many years.

840  
841 Ms. Whitaker stated that the fifth item involved leveraging partnerships with the City, utilities,  
842 UVA, VDOT, and the County in some cases. She stated that this entailed taking advantage of  
843 opportunities such as roadway projects, to avoid duplicating work and minimizing disruption to  
844 citizens in their community while constructing these projects. She stated that the last item on the  
845 list represented their overarching values from their strategic plan: completing projects in an  
846 environmentally protected manner and in a financially responsible manner. She stated that this  
847 theme was central to their CIP for that year.

848  
849 Ms. Whitaker stated that the CIP included 64 projects totaling \$371 million; 60% of these  
850 projects were urban water projects, 21% were urban wastewater projects, while non-urban  
851 projects and shared-use projects accounted for \$71 million or 19% of the total. She stated that  
852 later she would discuss funding and finance in more detail but for now, she would provide an  
853 overview of how the \$371 million was broken down in comparison to existing debt proceeds,  
854 cash reserves, available grants, and anticipated new debt requirements.

855  
856 Ms. Whitaker stated that last year's CIP totaled \$326 million; they completed \$43.9 million  
857 worth of projects, which were removed from their records. She stated that they added \$47.3  
858 million worth of new projects into FY29, including seven new projects totaling \$2.6 million. She  
859 stated that they accelerated one project, the South Rivanna to Ragged Mountain pipeline pump  
860 station and intake. She stated that they accounted for inflation and scope additions, which  
861 amounted to \$25 million, resulting in the total CIP amount of \$371 million.

862  
863 Ms. Whitaker stated that there were various methods that could be employed to analyze these  
864 projects. She stated that they sometimes presented them based on urban water or urban  
865 wastewater, while other times they categorized them in other ways. She stated that they grouped  
866 projects by categories they deemed significant. She stated that these included \$18 million for  
867 water treatment plant projects, \$122 million for capacity projects addressing specific and system-  
868 wide needs, and \$63 million for operation and maintenance including safety enhancements.

869  
870 Ms. Whitaker stated that regulatory projects totaled \$50 million, encompassing dam upgrades  
871 and the North Rivanna water treatment plant decommissioning. She stated that reliability and  
872 redundancy projects amounted to \$117 million. She stated that while many projects could fit into  
873 multiple categories, they placed them where their primary need was most apparent. She stated

874 that they consistently emphasized their capital improvement program in their community water  
875 supply plan discussions. She stated that each of the six main projects listed their expected  
876 construction dates, associated dollar values, and City utilities/ACSA allocations.

877  
878 Ms. Whitaker stated that over the past 10 years, they had significantly improved their capital  
879 improvement planning process. She stated that when she joined the authority 20 years ago, there  
880 was no such process in place. She stated that projects were accomplished individually. She stated  
881 that now, they had attempted to get into a programmatic method, and they planned for a 20-year  
882 horizon. She stated that the five-year CIP was \$371 million, the ten-year was \$104 million, and  
883 the fifteen-year was \$107 million, totaling \$582 million. She

884  
885 Ms. Whitaker stated that this figure did account for \$20 million in grants but did not include  
886 larger grant programs, such as the \$50 million for the South Rivanna to Ragged Pipeline project  
887 that was currently pending. She stated that the presented data aimed to clarify future rate  
888 discussions and rate increases. She stated that the graph illustrated the past five years' capital  
889 expenditures from various perspectives and showed an increase in projects. She stated that the  
890 next five-year chunk, or FY 25 - 29, represented a significant spike in projects within the five-  
891 year CIP.

892  
893 Ms. Whitaker stated that the spike was driven primarily by community water supply projects.  
894 She stated that at the 20-year mark, there was a surge in projects due to upgrades for the Moores  
895 Creek wastewater treatment plant. She stated that current predictions suggested that CIP numbers  
896 may not drop as dramatically in the 10- and 15-year window, and unforeseen regulatory issues  
897 and other factors might necessitate adjustments. She stated that the lower predictions in CIP  
898 numbers could absorb some of these changes without requiring drastic rate increases in the next  
899 five years.

900  
901 Ms. Whitaker stated that charge increases for rates included grants and reimbursement for some  
902 of the central waterline projects. She stated that it included increases to operating expenses and a  
903 1% flow shift from ACSA to City utilities. She stated that these rates were based on flow-  
904 dependent factors, which would be further discussed next month. She stated that the flow-based  
905 nature of these rates meant that changes in the flow of each entity could significantly impact the  
906 final calculations.

907  
908 Mr. Gaffney asked what was meant by the shift from ACSA to city utilities.

909  
910 Ms. Whitaker stated that every year, the calculated total was determined, and this year, 1% of  
911 water and wastewater had been allocated to the City. She stated that the increase was more than  
912 what was anticipated but rather an increase from last year's figures.

913  
914 Ms. Whitaker stated that out of 64 projects, she would cover 14. She stated that the first project  
915 was the Airport Road water pump station and piping system, which was currently under  
916 construction and connected the urban pressure zone to the Piney Mountain area, just north of  
917 Coles. She stated that it replaced the temporary Coles pump station visible along Route 29. She  
918 stated that this permanent solution would enhance capacity and service while providing a backup  
919 generator for increased reliability, with completion anticipated by year's end.

920  
921 Ms. Whitaker stated that the Moores Creek 5kV electrical system upgrade had been discussed  
922 multiple times. She stated that their plant utilized a 5-kilovolt electrical system throughout its  
923 operations, which was the backbone of what kept everything powered. She stated that the red  
924 stars visible in all the pictures represented key locations where they had replaced not only wires  
925 but also the switchgear associated with those wires in order to revitalize the electrical system at  
926 this plant.

927  
928 Ms. Whitaker stated that this project had been most significantly impacted by supply chain  
929 issues, particularly obtaining electrical equipment. She stated that gear was now starting to  
930 arrive, and they anticipated construction activity to pick up again in the coming months. She  
931 stated that the project's cost was split 48-52%, and they expected completion by the end of the  
932 year.

933  
934 Ms. Whitaker stated that the next project was the Red Hill Water Treatment Plant upgrade. She  
935 stated that they had submitted bids for this project just two months ago but had to inform that the  
936 bids came in significantly over budget. She stated that they were working with the contractor to  
937 reduce some of the costs and planned to present the contract award proposal next month. She  
938 stated that the project would receive grant funding from the County, which was part of the  
939 ARPA program. She stated that the funding would cover the addition of GAC, as well as a  
940 substantial upgrade of chemical treatment processes and employee work lab space.

941  
942 Ms. Whitaker stated that they were on the verge of securing two of the three easements required  
943 for the South Rivanna River Crossing project. She stated one was with the County, and one was  
944 with Dominion Power. She stated that unfortunately, they were currently 90% designed for this  
945 project, and they had one easement that was currently in limbo between VDOT and Hunter  
946 Wood. She stated that as soon as they could obtain that easement, they would immediately  
947 proceed with bidding and construction. She stated that this project was entirely funded by ACSA.

948  
949 Mr. Gaffney asked if the ACSA was involved in negotiations for the last easement.

950  
951 Ms. Whitaker stated that they had been acting as facilitators in this situation. She stated that they  
952 had gone to VDOT and stated that this issue had become crucial for them. She stated both parties  
953 had been working diligently to address the problem. She stated that VDOT could not grant them  
954 a land use permit, and Hunter could not grant them an easement while negotiations were  
955 ongoing. She stated that they found themselves in a precarious position, and the situation was  
956 delaying the project.

957  
958 Ms. Whitaker stated that their next project was the Crozet Water Treatment Plant GAC  
959 Expansion Phase One. She stated that this project was primarily funded by the VDH grant, which  
960 they had received to tackle emerging contaminant issues. She stated that they would be  
961 increasing their granular activated carbon capacity in Crozet to treat various contaminants,  
962 including DBPs (disinfection byproducts). She stated that as new emerging contaminants became  
963 regulated, these facilities would also be used to address them, such as PFAS. She stated they  
964 anticipated completing this project between 2025 and 2026 at a cost of \$6.6 million. She stated  
965 that this was a 100% Authority project.

966  
967 Ms. Whitaker stated that their next project involved renovating Moores Creek and constructing  
968 an administrative building. She stated that they planned to begin construction within a year. She  
969 stated that they were currently working with an educational exhibit designer to develop both the  
970 architectural and educational components of an educational center that would be incorporated  
971 into the building. She stated that \$20 million was currently allocated for this project in the CIP.  
972

973 Ms. Whitaker stated that the Ragged Mountain Observatory Pump Station Waterline Project had  
974 been discussed extensively. She stated the project replaced two waterlines: one 70 years old and  
975 another 110 years old. She stated it also replaced the two pump stations serving those lines. She  
976 stated that the new system would have uniform control over the pipe and pump stations.  
977

978 Ms. Whitaker stated the pump station served two purposes: pumping water from Ragged  
979 Mountain to the Observatory Hill treatment plant and boosting water from South Rivanna to  
980 Ragged Mountain when constructed. She stated that interlocking operating points allowed for  
981 these functions within one building. She stated that the map showed the approximate location of  
982 the existing mains, while the isometric diagram on the right illustrated the interior and exterior of  
983 the new pump station located at Fox Haven Farm.  
984

985 Ms. Whitaker stated that the project's budget was \$46 million, with separate costs listed for  
986 piping and pumping. She stated that value engineering work had been conducted in collaboration  
987 with UVA Foundation, which provided the property. She stated the design was currently at 90%  
988 completion, and the project would go to bid this spring. She stated that in early April, a  
989 contractor's breakfast would be held for this project and the Central Waterline, aiming to  
990 generate interest from contractors along the East Coast for better pricing on the work.  
991

992 Mr. O'Connell asked for clarification about the pipeline.  
993

994 Ms. Whitaker stated that the layout of the pump station would allow for the addition of two more  
995 pumps within the building. She stated that the interconnecting pipeline was already constructed.  
996 She stated they would connect the pipe from the South Rivanna Reservoir to Ivy Road 250 head  
997 of Birdwood Golf Course. She stated that upon completion of this tie-in, they would be fully  
998 connected to both Observatory and Ragged Mountain.  
999

1000 Mr. Gaffney asked if the same pipe transported water from Ragged to the pump station and from  
1001 South Fork to the pump station. He asked if there were different pumps.  
1002

1003 Ms. Whitaker stated that where they could perform both functions, there were two pipes;  
1004 however, at all other sites, there was only one single pipe.  
1005

1006 Ms. Whitaker stated that the pump station would involve a complex control scenario allowing  
1007 them to open and close different valves, controlling flow to various locations based on specific  
1008 requirements.  
1009

1010 Ms. Whitaker stated that the central waterline project originated from the UVA campus. She  
1011 stated that the pipeline came through town along Cherry Avenue before reaching Rosie Brown.

1012 She stated that an additional piece would be constructed in the future, connecting to West Main  
1013 Street and eventually leading to Free Bridge. She stated that the pipeline aimed to interconnect  
1014 the distribution systems between the South Fork Treatment Plant and the Observatory Treatment  
1015 Plant, allowing them to transfer treated water from each facility to other parts of the City or  
1016 County. She stated that this improved their ability to move water efficiently and increased their  
1017 resilience in times of drought or high demand.

1018  
1019 Ms. Whitaker stated that currently, there were limitations in place that restricted their capacity to  
1020 move water effectively within the system. She stated that these limitations impacted drought  
1021 management, production levels, and operating hours across the entire system. She stated the  
1022 pipeline project was currently 60% complete, with 90% design drawings recently received. She  
1023 stated they anticipated bidding for the project in late spring or summer, aiming to complete it by  
1024 the end of the year. She stated the budget for this project was \$47 million, with \$4 million  
1025 allocated to City utility-specific projects being carried out concurrently.

1026  
1027 Ms. Whitaker stated the Emmet Street water line was a collaborative effort between various  
1028 stakeholders, including VDOT, UVA, and the City. She stated their goal was to take advantage  
1029 of ongoing work in the area to upgrade the water main infrastructure efficiently. She stated that  
1030 they had multiple phases in their project, which would be implemented over several years. She  
1031 stated that the portion directly related to UVA had already been completed, and the next phase  
1032 involved improvements along Route 29 Emmett Street, from just north of Ivy Road to Arlington  
1033 Boulevard.

1034  
1035 Ms. Whitaker stated that the next project focused on the Moores Creek Building upfits and  
1036 gravity thickener improvements. She stated that their wastewater operations department initially  
1037 had fewer than five or six employees when the operating facilities were built. She stated that the  
1038 maintenance facilities were designed for a staff of five or six people, but they now had 16 to 20  
1039 people in each group, exceeding the capacity of their current facilities. She stated that they  
1040 needed significant renovations and upgrades for these buildings that housed their staff, along  
1041 with improvements in showers, plumbing, electrical systems, and energy efficiency.

1042  
1043 Ms. Whitaker stated that process improvements such as chemical feed and sludge line cleanouts  
1044 at their gravity thickeners would be implemented. She stated that they had completed a PER,  
1045 which placed them at 25-30% design completion. She stated that after the meeting, they would  
1046 proceed with full-blown design work.

1047  
1048 Ms. Whitaker stated that regarding Beaver Creek Dam Modifications, in their previous  
1049 discussions, they had considered making changes to the Beaver Creek Dam, pump station, and  
1050 piping systems. She stated that they anticipated replacing the Beaver Creek spillway with an  
1051 elaborate spillway, also known as an accordion spillway. She stated that they planned to replace  
1052 the Beaver Creek pump station, which was located at the toe of the dam. She stated that due to  
1053 the installation of the spillway, they must relocate the pump station to shore. She stated the new  
1054 pump station would be situated on the south side of the dam, just south of the existing structure.

1055  
1056 Ms. Whitaker stated that they had been collaborating with Albemarle County Parks to secure  
1057 necessary permissions for this project. She stated the NRCS funded project was currently in the

1058 design phase. She stated that the NRCS had provided funding for pre-work and design, and they  
1059 expected to receive up to \$17 million from the federal government for construction once they  
1060 proceeded with that stage. She stated that the total estimated cost for this project was  
1061 approximately \$49 million.

1062  
1063 Ms. Whitaker stated that regarding Moores Creek Structural and Concrete Rehabilitation, it was  
1064 currently on the cutting board for the Rivanna Pump Station. She stated that the concrete  
1065 structures at this plant ranged from 40 to 50 years old. She stated that they planned to address  
1066 joint rehabilitation and concrete spalling in the original basins located at the rear of the plant.

1067  
1068 Ms. Whitaker stated that they intended to conduct concrete repair work in the EQ basins situated  
1069 outside the plant. She stated that they were also anticipating installing a crane for pulling  
1070 purposes. She stated that currently, they needed to bring in a mobile crane every time they  
1071 removed a recirculating pump, and they would like to implement a lifting system that eliminated  
1072 this requirement. She stated that this project included some interim repairs to their digestive  
1073 complex.

1074  
1075 Ms. Whitaker stated that the Crozet Pump Station Rehabilitation Project involved four pump  
1076 stations. She stated that wastewater ultimately daylighted into the gravity system, flowing around  
1077 the west side of Charlottesville and all the way around to the Moores Creek Wastewater Facility.  
1078 She stated the pumps were designed in succession and not all to be of the same size. She stated  
1079 the project aimed not only to rehabilitate the pump stations but also to ensure that all four pump  
1080 stations could pump the same capacity and provide consistent flow into the community.

1081  
1082 Ms. Whitaker stated that these facilities were built in the early 1980s, and components such as  
1083 roofs, pumps, and valves had started to show signs of aging and cause problems after 40 years of  
1084 use. She stated that this was a comprehensive upgrade of these facilities, and they were currently  
1085 at about 30% design stage, with construction set to begin in 2025 at an estimated cost of  
1086 approximately \$11 million.

1087  
1088 Ms. Whitaker stated that they had made significant progress on the South Fork to Ragged  
1089 Mountain Pipeline and Intake Project recently, which was worth mentioning. She stated that they  
1090 had obtained all easements except for those belonging to UVA at O'Hill. She stated that they  
1091 were currently in the final stages of negotiation with UVA and expected to receive documents by  
1092 the 15th of March, if not sooner.

1093  
1094 Ms. Whitaker stated that they had also had several extended conversations with them regarding  
1095 the requirements in those documents. She stated that the project was almost fully permitted  
1096 regarding land rights. She stated that they did not anticipate many trails being lost due to this rise  
1097 in water level at Ragged Mountain; however, some trails that had formed over time near the  
1098 water's edge may be affected.

1099  
1100 Ms. Whitaker stated that the project encompassed several tasks, including raising the pool at  
1101 Ragged Mountain, involving clearing around the reservoir and altering the intake tower. She  
1102 stated that it included constructing a pipeline from the South Rivanna Treatment Plant to Ivy  
1103 Road, and developing a large intake and pump station at the South Rivanna Treatment Plant boat



1104 ramp area. She stated that the total budget for these tasks was approximately \$85 million, with a  
1105 split between City and County funds.

1106  
1107 Ms. Whitaker stated the next six tables she would present were in the Board's materials. She  
1108 stated that one table presented project costs, funding in place, and last year's CIP compared to the  
1109 presented CIP. She stated that the second table displayed the entire CIP broken down by major  
1110 systems, identifying funding in place for those systems, new debt requirements, grants, and  
1111 percent allocations for each. She stated that the third table focused on CIP adjustments for urban  
1112 water, urban wastewater, and non-urban systems, detailing anticipated additional funding for  
1113 years 6 through 10 and 11 through 15. She stated that tables 4, 5, and 6 provided similar  
1114 information for ACSA, city utilities, and RWSA, respectively.

1115  
1116 Ms. Whitaker stated that the CIP included 64 projects totaling \$371 million, prioritized based on  
1117 six tenets: reliability, community water supply program, infrastructure improvements,  
1118 environmental stewardship, economic development, and fiscal responsibility.

1119  
1120 Mr. Pinkston stated that in a few years' time, they were discussing having close to half a billion  
1121 dollars in bonds. He asked if there was some sort of metric or benchmark they could use for  
1122 comparison in terms of other localities.

1123  
1124 Mr. Wood stated that last year they conducted a metric comparison of AAA bond ratings against  
1125 AA ratings and compared their performance to other double A and triple A ratings in Virginia.  
1126 He stated that although he did not have the exact figures at hand, one of the key metrics  
1127 considered was the debt service ratio. He stated that this ratio represented the excess revenue  
1128 remaining after covering operating expenses.

1129  
1130 Mr. Wood stated that in their case, the required ratio was 1.0, meaning they must have \$1 of  
1131 excess for every \$1 of debt payment. He stated that traditionally, their debt service ratio had been  
1132 around 1.2. He stated that in contrast, AAA ratings typically had debt service ratios of 2.5. He  
1133 stated that this metric was crucial for evaluating revenue bond issues in the industry.

1134  
1135 Mr. Wood stated that they considered liquidity when examining their financial position. He  
1136 stated that when looking at their balance sheet, one observed their excess reserves available for  
1137 situations like pump station emergencies. He stated that liquidity was another crucial metric,  
1138 distinct from limited debt, which varied among localities.

1139  
1140 Mr. Pinkston asked if the 1.2 ration was current or projected for 2029.

1141  
1142 Mr. Wood stated that last year they measured their data for the 2023 or 2024 audit. He stated that  
1143 during that time, their measurement was 1.2. He stated that it had been as high as 1.6 and 1.7.

1144  
1145 Mr. Pinkston asked if there were concerns about maintaining the ratio.

1146  
1147 Mr. Wood stated that they were committed to increasing their revenue to meet the required ratio  
1148 charge. He stated that they would examine this further next month, at which time he would  
1149 demonstrate their debt service charge calculation process.

1150

1151 Mr. Pinkston stated that in previous projects, there were significant percentage increases before  
1152 reaching this point. He stated that although he appreciated the proposed projects and believed  
1153 they were necessary, but this growth in rates was still substantial.

1154

1155 Mr. Wood stated that they had accelerated these projects significantly over the last two years,  
1156 particularly the pipeline project. He stated that this was since they originally planned these  
1157 projects when there would be an anticipated drop in existing debt around 2031, which was  
1158 estimated at approximately \$20-\$30 million.

1159

1160 Mr. Pinkston stated that investments in their water supply were necessary, particularly given the  
1161 changing climate.

1162

1163 Mr. O'Connell stated that it raised a question about consumer rates and what was affordable. He  
1164 stated that the cost of these projects would create an 84 % increase in retail costs over the next  
1165 five to six years, but all for much needed projects.

1166

1167 Ms. Mallek stated that for the past 20 years, they had delayed projects because of potential rate  
1168 increases. She stated that the anticipated doubling of the pipeline's cost shocked her when she  
1169 read through her packet, as this postponement had created significant cost increases. She stated  
1170 that she was grateful that they were accelerating projects now.

1171

1172 Mr. Pinkston stated that was a really good point about the increase in costs from delaying  
1173 projects, since he did not have the same historical knowledge about these utility projects.

1174

1175 Mr. Sanders said the City was facing the same cost increase issues with their infrastructure and  
1176 schools from delaying projects in the past.

1177

1178 Mr. Pinkston agreed that delays had created funding issues with Jails, schools and sidewalks in  
1179 the City.

1180

1181 Mr. Wood stated that the Southern Loop Project was originally conceptualized in the 1980s, and  
1182 since then, it had been postponed.

1183

1184 Mr. Gaffney stated that when Ms. Whitaker started her presentation about 64 projects in the CIP,  
1185 she said in 2002 or 2003 they had one capital project that they completed. He stated that they had  
1186 to rebuild the entire wastewater system since then because they were under a consent order from  
1187 the DEQ. He stated that since that time, they had been playing catch-up for 25 years and still  
1188 were.

1189

1190 Ms. Whitaker stated that the initial Ragged Mountain Pump Station and Ragged to Observatory  
1191 Pipeline project were included in the 2006 CIP. She stated that they had intended to construct  
1192 them; however, they received a consent order concerning their wastewater system. She stated  
1193 that as a result, the project was removed from the CIP, and it remained uncompleted at that time.  
1194 She stated that the construction was yet to begin.

1195

1196 **10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

1197 There were none.

1198

1199 **11. CLOSED MEETING**

1200 There was no reason for a closed meeting.

1201

1202 **12. ADJOURNMENT**

1203 **At 4:04 p.m., Mr. Pinkston moved to adjourn the meeting of the Rivanna Water and Sewer**  
1204 **Authority. Ms. Mallek seconded the motion, which passed unanimously (6-0). (Mr.**  
1205 **Richardson was absent.)**

1206

1207 Respectfully submitted,

1208

1209

1210

1211



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Mr. Jeff Richardson  
Secretary - Treasurer

