

## RWSA BOARD OF DIRECTORS

### Minutes of Regular Meeting July 23, 2019

A regular meeting of the Rivanna Water and Authority (RWSA) Board of Directors was held on Tuesday, July 23, 2019 at 2:16 p.m. in the 2<sup>nd</sup> floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia

**Board Members Present:** Lauren Hildebrand, Kathy Galvin, Dr. Tarron Richardson, Mike Gaffney, Jeff Richardson, Gary O'Connell

**Rivanna Staff Present:** Lonnie Wood, Jennifer Whitaker, Phil McKalips, Austin Marrs, Andrea Terry, David Tungate, Michelle Simpson, Dyon Vega, Victoria Fort, Steven Miller, Betsy Nemeth, Ava Divita, Abby Bryerton, Matt Rudisill, Caitlyn Homey, Bill Mawyer, Katie McIlwee

**Attorney(s) Present:** Kurt Krueger, RWSA counsel, members of the public and media representatives.

#### 1. **CALL TO ORDER**

Mr. Gaffney opened the July 23, 2019 meeting of the Rivanna Water and Sewer Authority Board at 2:16 p.m.

#### 2. **MINUTES OF PREVIOUS BOARD MEETINGS**

*a. Minutes of Regular Board Meeting on May 28, 2019*

*b. Minutes of Regular Board Meeting on June 25, 2019*

Mr. Krueger explained that there were not enough members are present to approve the minutes of the May 28 meeting.

Mr. Gaffney asked members if they had comments regarding the June 25 meeting.

There were no members who made comments.

**Ms. Galvin moved that the Board approve the minutes of the June 25, 2019 meeting. The motion was seconded by Ms. Hildebrand and passed unanimously (5-0). Mr. O'Connell and Dr. Palmer were absent from the meeting and the vote.**

Mr. Krueger asked Dr. Richardson if he was familiar with the closed meeting certification resolution for the June meeting. For the record he asked him if he would be willing to state that he agrees and consents to the resolution with respect to the portion of the closed meeting that he attended.

Dr. Richardson gave his agreement and consent.

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**3. RECOGNITION**

There were no recognitions.

**4. EXECUTIVE DIRECTOR'S REPORT**

Mr. Bill Mawyer, Executive Director, stated they have continued to communicate and collaborate internally and externally, as guided by the Strategic Plan, held meetings with Chamber of Commerce at the member Monday presentation series and with the Farm Bureau Committee, including Paul Haney and his group, to talk about the water supply plan, and had a tour with Piedmont Virginia Community College students

Mr. Mawyer reminded the Board that they talked about what to do with the Buck Mountain property at last month's meeting and stated they have issued an RFP and advertised for a planning professional to help formulate alternatives for what can be done with the property. He expects to present a report to the Board by late fall or spring. He stated they have sent a renewal contract to Larry Miller, who had expressed concern at last month's meeting about whether or not his Buck Mountain Property lease would be renewed. He stated that Jennifer Whitaker and her staff are getting ready to start on the next CIP, and preliminary engineering reports are getting underway. He stated these include demolition of two clarifier facilities and a lime silo at Moores Creek that are no longer used and renovation of a duty station building at Moores Creek that used to be used as a laboratory to convert it to office space.

He presented a photograph of the duty station and pointed out the building that will be renovated. He explained that there is an existing septage receiving facility which serves over 6,000 trucks/year bringing septage from residents without access to the public wastewater system and they are evaluating the possibility of moving the septage receiving facility back towards the front gate to get the trucks out of the middle of the plant for security purposes. The third project he mentioned was removal of the old concrete sand filter basins at an active pump station near Albemarle H.S. He presented a photograph taken by a drone of the two clarifiers and lime silo that are no longer used, pointed out that it was located next to Willow Tree, and noted that they will be listed as line items in next year's CIP. He pointed out the new covers on the clarifiers and biofilters they installed for odor control.

Mr. Mawyer informed the Board that installation of the raw water pipeline at Birdwood has been successfully finished at a final cost of \$3.2M, compared to its original budget of \$4M, with savings to be reflected in next year's CIP. He stated they continue to work with all parties on easements for remaining portions of the South Rivanna to Ragged Mountain pipeline and have recently made several offers and are currently negotiating with the parties. He stated they are trying to get UVA back to the table regarding the Observatory plant lease contract. He pointed out that a contract to further security efforts by hiring an implementer for a card-controlled access key card system for the four major facilities (Crozet, South Rivanna, Observatory, and this plant) was on today's Consent Agenda, and recognized Austin Marrs for doing a great job managing this project. He recounted how at last month's Board of Supervisors' meeting he attended there was discussion about VDOT spraying herbicide on guard rail areas around reservoirs. He stated they have coordinated with VDOT and are evaluating if the product it uses

91 has any impact on the reservoir. He stated it was like Roundup but chlorination and the GAC  
92 system at the treatment plants remove this product from the water; should it get in the reservoirs.  
93  
94 Ms. Galvin asked if the GAC filters out the pesticide.  
95  
96 Mr. Mawyer replied that this was what the literature says. He added that chlorination also helps  
97 to dissipate it.  
98  
99 Mr. Mawyer asked the four summer interns that were present today to introduce themselves:  
100  
101 Matt Rudisill, a rising third year at the University of Virginia majoring in computer science,  
102 stated he was working on cybersecurity, setting up networks, password authentication, and  
103 setting up servers to manage computer updates.  
104  
105 Ava Divita, a rising sophomore at Virginia Tech studying Environmental Science, stated she was  
106 working at both the lab and the water department and has conducted water sampling and testing  
107 of the reservoir.  
108  
109 Abby Bryerton, a rising junior at Virginia Tech studying Environmental Resources Management,  
110 stated she was interning with the water department and collects water samples from the reservoir  
111 and from all over the County.  
112  
113 Caitlyn Homey, a rising senior at James Madison University studying General Engineering,  
114 stated she was interning in civil engineering. She stated she has her own project of going through  
115 the easements the Authority owns and has shadowed and worked alongside civil engineers on  
116 their projects.  
117  
118 Mr. Mawyer thanked Ms. Nemeth for coordinating the effort to hire the interns and keeping them  
119 busy.  
120  
121 Dr. Richardson asked what the process was for the hiring of interns.  
122  
123 Mr. Mawyer replied that they advertise between January – March on job boards at state schools  
124 and then interview and hire the applicants.  
125  
126 Mr. Gaffney asked how long they have had the internship program and how many interns have  
127 become employees.  
128  
129 Ms. Nemeth responded that they started the program in 2016 and have hired Bethany Hochens,  
130 the first intern, who is a Water Quality Specialist, and Austin Marrs in our Engineering group.  
131  
132 Mr. Gaffney asked where the two interns who are not present today are working.  
133  
134 Ms. Nemeth replied that one was on vacation and the other was Courtney, who worked for them  
135 last year and who works for the Authority part-time and also works at the lab at UVA.

137 Mr. Gaffney told the interns that he hopes to see some of them in the future.

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139 Mr. Mawyer told the interns they are doing a great job and thanked them.

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142 **5. ITEMS FROM THE PUBLIC**

143 Mr. Neil Williamson, Free Enterprise Forum, addressed the Board. He stated he admires the  
144 RWSA for taking a long view and looking at what things will cost and how they will pay for  
145 them over the long term. He stated they had an excellent presentation about Buck Mountain last  
146 month and noted that the surcharge was part of a four-party agreement dating back many years  
147 and from which they have collected almost \$4M since 1983, which was likely close to what it  
148 cost to acquire Buck Mountain and, if it has not yet covered this cost, the Authority can project  
149 when it will have done so. He urged that the Authority end the surcharge once the costs to  
150 acquire Buck Mountain have been recovered and that, since it will take some time for the parties  
151 to review the agreement, they start having discussions soon.

152  
153 As no one else came forward to address the Board Mr. Gaffney closed the Items from the Public  
154 portion of the meeting.

155  
156 **6. RESPONSES TO PUBLIC COMMENTS**

157 In response to Mr. Williams' comments, Mr. Mawyer stated he agrees and informed him that  
158 they are working with attorneys from the City, County, and Service Authority to prepare a  
159 resolution to terminate the surcharge.

160 Mr. Gaffney remarked that they also agree as to the purpose of collecting the surcharge.

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163 **7. CONSENT AGENDA**

164 *a. Staff Report on Finance*

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166 *b. Staff Report on Ongoing Projects*

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168 *c. Staff Report on Operations*

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170 *d. Construction Contract Award and CIP Amendment– Buck's Elbow Ground Storage Tank*  
171 *Chlorination System Improvements – Littleton and Associates, Inc.*

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173 *e. Construction Contract Award and CIP Amendment – Glenmore Secondary Clarifier*  
174 *Coating – Nostos SS Contractors*

175  
176 *f. Contract Award – Security Enhancements, Access Control Implementer – Security 101*

177  
178 Mr. Gaffney asked the Board members if there were any items they would like to pull for  
179 comments or questions. Mr. Gaffney asked for confirmation that the security enhancements will  
180 include the installation of card readers on all the buildings but they will not limit anyone from  
181 coming on the properties.

182  
93 Mr. Mawyer confirmed this. He stated the gates are open from 6:00 a.m. – 6:00 p.m. after which  
184 people cannot get in. He emphasized that the cards are only for staff or contractors, as needed.  
185

186 **Ms. Galvin moved that the Board approve the Consent Agenda. The motion was seconded**  
187 **by Ms. Hildebrand and passed unanimously (5-0). Mr. O’Connell and Dr. Palmer were**  
188 **absent from the meeting and the vote.**

189  
190 **8. OTHER BUSINESS**

191 *a. Presentation: Cyber Security; Steven Miller, I.S. Administrator*

192 Mr. Miller stated that they have been very serious about cybersecurity for many years and he will  
193 provide a background on the subject. He defined cybersecurity as the practice of defending  
194 computers, servers, mobile devices, and other electronic systems or networks from malicious  
195 attack or interference, such as viruses, malware, fishing emails, social engineering, simple theft,  
196 and communications interception. He explained that viruses self-replicate and spread themselves,  
197 malware attacks something specific, and fishing email misleads a person to click and follow a  
198 link to fix a password in order to obtain a password. He continued that an example of social  
199 engineering was when one receives a phone call requesting a password to fix a locked computer,  
200 simple theft was when someone obtains a password from a user, and communications  
201 interception was conducted with sophisticated equipment. He stated that Department of  
202 Homeland Security has identified cyberattack as the number one threat to water infrastructure.  
203

204 Mr. Miller remarked that the Authority can make it very difficult to gain access to the system,  
205 though not impossible. He explained that the preferred method recommended by AWWA and the  
206 Water Sector Coordinating Council’s Cybersecurity Working Group and the one that Rivanna  
207 uses was known as Defense In Depth, which uses a layered approach consisting of a variety of  
208 methods, with each layer being progressively harder, making it less likely that an attempt will be  
209 made. He explained that a security breach could affect water treatment, damage valves, set off  
210 alarms, disable pumps, deface the website, or breach the email system, which was the most  
211 common breach, the easiest to fix, and the most difficult to defend against. He stated that  
212 ransomware was a malicious program and the most popular threat in the media at the moment as  
213 it could be devastating to companies that are not prepared. He explained that Rivanna identifies  
214 seven layers and combines this with a very robust backup scheme that stores information in  
215 many different ways and places.  
216

217 Mr. Miller reviewed the seven layers. He stated the first was the Next Generation Firewall,  
218 which was adaptive and located directly in routers at every site. He stated that routers control  
219 communication to the outside world and between sites. He stated the second was Anti-Virus  
220 Software, which was located in the router and inspects the data package for patterns and  
221 sequences that are similar to the ones it knows. He reviewed the third layer, Encryption, which  
222 involves the use of an encrypted tunnel from one router to the next. He explained that the fourth  
223 layer represents anti-virus software installed by the vendor on the specific devices, with RSWA  
224 utilizing SOPHOS commercial-only software. He stated the fifth layer was Access Restriction,  
225 which represents a requirement to use a user ID and password, while the sixth layer represents  
26 Password Protection at the software level. He stated the final and most vulnerable layer was

227 represented by Users. He stated they educate users not to write passwords down and how to  
228 recognize a fishing attack and report it.

229  
230 Though not a layer, he stated disaster recovery was how they deal with a ransomware attack  
231 through the use of several off-site locations, which can recreate a system from before the  
232 ransomware hit. He stated they conduct periodic drills to make sure that everything was working  
233 as well as take backups and restore them to random machines and put them on hard drives off-  
234 site so they are not on any network and critical information can be recreated on new hardware.  
235 He stated they conduct monitoring through the use of an appliance device that talks to all the  
236 routers and obtains information on the national origin, most visited websites, and patterns, and  
237 provides alerts on unusual activity. He continued that monitoring was also conducted through  
238 email communications with Department of Homeland Security, FBI, various associations, and  
239 the manufacturers of the anti-virus and router.

240  
241 Mr. Miller next presented an overview of his IT Administration Department, which consists of  
242 an administrator, assistant administrator, IT Administrator supervisor, IT Administrator  
243 technician, GIS coordinator, and software analyst. He stated that in addition to cybersecurity they  
244 are responsible for control software systems, historical data collection retrieval and reporting,  
245 maintenance and updates of over 70 workstations, the servers, and administrative functions of  
246 email, software distribution, internal and external GIS system, work order management,  
247 document storage, help desk, and the maintenance of mobile devices such as tablets and cell  
248 phones. He invited questions and comments.

249  
250 Mr. Gaffney asked how often they conduct a backup.

251  
252 Mr. Miller replied that they do real-time backups, in which they duplicate important data to off  
253 campus sites and between buildings, as well as nightly on a four-week cycle and weekly  
254 backups, with quarterly, semi-annual, and yearly copies stored for a much longer term.

255  
256 Mr. Mawyer thanked Mr. Miller for the presentation. He remarked that everything they do,  
257 especially water treatment technology, was computer based and the six employees of the  
258 department manage a large workload.

259  
260 Mr. Richardson expressed appreciation for their impressive and hard work.

261  
262 *b. Presentation: Emerging Drinking Water and Wastewater Regulations; Dave Tungate,*  
263 *Director of Operations*

264  
265 Mr. Tungate noted that the issue of per- and polyfluoroalkyl substances, which consist of 3,000  
266 man-made chemicals found in items such as firefighting foam, non-stick food packaging, non-  
267 stick cookware, stain and water-resistant coatings, Oral B dental floss, and cosmetics, has been in  
268 the media lately. He stated that pharmaceutical byproducts found in source water have been a  
269 concern and emphasized that RWSA does not have any intake downstream of any wastewater  
270 treatment plant discharge, which was the main source of pharmaceutical byproducts. He stated  
271 that GAC was the best available technology for removal of these substances.

272

273 Ms. Galvin remarked that they still get questions as to why the water rates are going up as well  
274 as about additives in the water. She stated this was the best safeguard and expressed support for  
275 more public relations to make the public aware of GAC.  
276

277 Mr. Mawyer replied that they will work on some ways to do that and that whenever he speaks to  
278 other bodies he remarks on the benefits of the GAC.  
279

280 Mr. Tungate continued that there are some proposed wastewater regulatory changes to the total  
281 maximum daily load watershed implementation plan that would reduce the maximum nitrogen  
282 and phosphorous concentration allowed at the Moores Creek plant, and reduce Ammonia  
283 concentrations discharges allowed at the three wastewater plants. He stated the 1969 Cuyahoga  
284 river fire near Cleveland, OH was the catalyst for this environmental movement, as this had been  
285 the 13<sup>th</sup> fire on the river in 100 years, after which President Nixon established the Environmental  
286 Protection Agency, which was followed by the Clean Water Act in 1972 and the Safe Drinking  
287 Water Act in 1974, which establishes many of the standards for safe drinking water. He stated  
288 the Clean Water Act established the basic structure for regulating pollutant discharges, gave EPA  
289 the authority to implement pollution control programs, and funded the construction of sewage  
290 treatment plants through a grants program.  
291

292 He stated the Safe Drinking Water Act established national standards to protect against naturally  
293 occurring and man-made contaminants for public water systems that serve at least 15 service  
294 connections or 25 people for at least 60 days/year and there are now 150,000 public water  
295 systems in the country serving over 300 million people. He continued that there 87 maximum  
296 contaminant levels (MCLs) for chemical contaminants that can adversely affect public health and  
297 noted that EPA has delegated enforcement of the Safe Drinking Water Act to Virginia  
298 Department of Health, of which has one inspector, Steve Kvech, who reviews RWSA monthly  
299 and compliance reports and conducts yearly facility inspections of all six treatment plants.  
300

301 Mr. Tungate stated they conduct 150 water samples each month in the distribution system for  
302 coliform bacteria and have continuous monitoring of treatment plants through the use of online  
303 instruments that monitor free chlorine, fluoride, turbidity from filters, pH levels and conduct the  
304 majority of analyses in the laboratory, with a \$100K line item budgeted for outside laboratory  
305 analysis of copper, some organic sampling, algae counts, and algae byproducts. He stated that  
306 laboratory technology was quickly improving and that water treatment technology needs to keep  
307 up and so now minimum recording levels are as low as parts-per-trillion (ppt) and their ability to  
308 detect substances was much greater than it was 25 – 30 years ago. He pointed out that the  
309 minimum detection level of per- and polyfluoroalkyl substances in 2014 was 90 ppt while in  
310 2018 it was 2 ppt, though RWSA has no detection of these substances in our reservoirs.  
311

312 Mr. O'Connell remarked that the beauty of the community's source water was that it is not  
313 downstream of any other communities, noting that some communities in North Carolina are  
314 struggling with this. He stated it was important for customers to understand that the quality of the  
315 water supply was as good as anywhere in the country as a result of both good source water and  
316 GAC treatment.  
317

318 Mr. Mawyer added that the improved measuring ability was driving the regulations to look for  
319 smaller and smaller quantities of pollutants in drinking water.

320  
321 Mr. Tungate presented a list of contaminants the EPA asks utilities to look for as part of its  
322 Contaminant Candidate List as, though they are not yet regulated, there was concern that there  
323 could be health effects related to these chemicals.

324  
325 Mr. O'Connell asked if the EPA requests a testing regimen in anticipation.

326  
327 Mr. Tungate explained that the chemical Contaminant Candidate List was parsed and becomes  
328 Unregulated Contaminant Monitoring Rule, which was a multi-year sampling protocol.

329  
330 Mr. Mawyer added that they are required to conduct the testing and do not have the option not to  
331 do it because they are a large utility (over 100,000 customers).

332  
333 Mr. Tungate stated the current limits under the Chesapeake Bay regulations for their permit for  
334 Moores Creek was 6.0 mg/liter for Nitrogen and 0.5 mg/liter for Phosphorous, the proposed  
335 limits are 4.0 mg/liter and 0.3 mg/liter, while their average daily loads are 3.7 mg/liter and  
336 0.8mg/liter. He stated the investment they made in the ENR project has kept them in compliance.  
337 He next reviewed freshwater ammonia criteria, which varies by season, with 2.2 mg/liter as the  
338 average and the maximum of 2.7 mg/liter from May – November and 7.0 mg/liter and 8.6  
339 mg/liter from December – April at Moores Creek, while the proposed limit was 1.9 mg/liter. He  
340 stated that Glenmore and Scottsville are not currently regulated due to their size, though this  
341 could change, in which case they are below the limits for ammonia concentration.

342  
343 Ms. Galvin remarked that this was very important information for the general public.

344  
345 Mr. Mawyer emphasized that it was not a static situation as items could be added to the list and  
346 at lower and lower levels.

347  
348 *c. Presentation and Work Authorization Approval: Additional GAC Facilities, Observatory*  
349 *Water Treatment Plant – Jennifer Whitaker, Director of Engineering and Maintenance*

350  
351 Ms. Whitaker stated she will talk about the potential to expand Granular Activated Carbon  
352 (GAC) at the Observatory water treatment plant, which was constructed in the early 1900s and  
353 the first treatment facility for UVA and Charlottesville, and has Ragged Mountain Reservoir  
354 water transferred from Sugar Hollow Reservoir as its source. She stated that modern water  
355 treatment at the facility, which includes testing and chemical treatment, started in the 1940s and  
356 50s and significant improvements were made from 2015 – 2018. She presented photographs of  
357 the facility and pointed out the chemical feed building, GAC building, chlorine contact tank,  
358 pump station, and filter building with sediment basins.

359  
360 Mr. O'Connell asked for confirmation that the new GAC will go next to the filter building.

361  
362 Ms. Whitaker replied that there was room behind the building and adjacent to the GAC building  
363 where they have sufficient space requirements.



364

365 Ms. Whitaker stated the current upgrade project would update all processes, as they have reached  
366 the end of useful life for most equipment and need to take it to another 50-year lifecycle, and  
367 increase capacity of the plant to 10 MGD, with construction anticipated to begin between 2020 –  
368 2023 and design completion by the end of this year. She stated the total estimated project cost  
369 was \$19.7M and that the benefit of the upgrade will be to provide greater redundancy in the  
370 system as they would have two plants able to produce a larger percentage of needed water for the  
371 urban area and the ability for them to tap into available water sources. She stated this would help  
372 to alleviate some of the disconnect between treatment capacity location and source water and  
373 noted that the facility will be designed for a future connection with South Fork Rivanna with the  
374 ability to move water in either direction.

375

376 Ms. Galvin asked what the capacity was before the upgrade.

377

378 Ms. Whitaker replied that the current capacity they can get out of the facility from treatment,  
379 storage, and distribution was 4.5MGD, though the facility can treat up to 7.7MGD; limitations  
380 are in the distribution. She stated they typically treat 1.5MGD – 2MGD on any given day. She  
381 emphasized that everything that will connect to the facility from the raw and treatment side will  
382 be able to transport 10MGD from the reservoir and to the distribution system.

383

384 Mr. Mawyer added that South Rivanna has a capacity of 12MGD and the upgrade will make  
385 both facilities more similar.

386

387 Ms. Whitaker explained that it will give the operations staff flexibility to shift production back  
388 and forth based on conditions.

389

390 Mr. O'Connell asked Mr. Whitaker to explain the limitations of the system.

391

392 Ms. Whitaker replied that on the raw water side they have two vintage 1920 18-inch raw water  
393 mains that come from Ragged Mountain and the pump stations that go with them to bring water  
394 in and they believe they can get 7.5MGD of raw water in with all the infrastructure, which was  
395 about what the treatment plant can handle. She stated the entire facility was designed to run by  
396 gravity, does not have pumps, and was set at a certain elevation on the side of the mountain  
397 above the City, though with higher demand and velocity it becomes harder to push the water in  
398 without larger piping and/or a pump station or combination thereof. She stated they believe the  
399 piping coming out of the plant into the distribution system was undersized.

400

401 Mr. O'Connell asked if the project will include pumps.

402

403 Ms. Whitaker replied that they are considering either pumps and smaller pipes or larger pipes,  
404 though they are leaning towards larger pipes rather than pumps on the finished water side.

405

406 Ms. Whitaker emphasized that the \$19.7M upgrade did not envision the installation of addition  
407 GAC contactors for several reasons. She stated they anticipated using more powdered activated  
408 carbon to supplement the facility. Additionally, because when GAC was just coming on line they  
409 didn't have all the data they have now to understand its ancillary benefits. She stated the South

410 Rivanna plant has eight contactors, which are big tank vessels that can each treat 1M gallons.  
411 With a total plant capacity of 12M gallons, this represents 66% of the maximum capacity. She  
412 continued that the North Rivanna treatment plant has one contactor that can process 1MGD and a  
413 plant capacity of 1.5MGD, which represents 65% of the facility's capacity. She stated  
414 Observatory as originally planned will have two contactors and a 10MGD plant capacity once  
415 the upgrades have been made, leaving them with a 20% GAC treatment ratio, which was  
416 significantly lower than that of the other facilities. She stated there have been discussions as to  
417 possible benefits arise with the potential expansion of GAC in this project. It was clear that there  
418 was a dramatic reduction in disinfection byproducts, taste and odor improvements throughout the  
419 system, better chlorine residuals in the distribution system, and treatment of emerging  
420 contaminants.

421  
422 She stated the staff recommends the inclusion of four additional GAC contactors to take the total  
423 treatment capacity of Observatory up to 6 MGD, which would give RWSA a similar treatment  
424 ratios at all three urban treatment plants. The design costs are \$291K resulting in a CIP budget  
425 increase of \$5.8M once construction was added. She anticipates having bids in by the end of the  
426 year, at which time staff will have a better feel for the construction market and would then bring  
427 a CIP budget amendment forward. She stated this would raise City and Service Authority rates  
428 by about ¼% peryear for approximately four years. She concluded and invited questions.

429  
430 Mr. Gaffney asked for confirmation that they have a 66% GAC ratio at South Rivanna from  
431 eight contactors and will go to 80%.

432  
433 Ms. Whitaker replied that they are not planning to add contactors at South Rivanna but proposing  
434 to add four at Observatory for a total of six.

435  
436 Mr. Mawyer emphasized that the additional contactors would be installed at Observatory.

437  
438 Ms. Whitaker demonstrated the location where the piping for GAC vessels can be installed at the  
439 Observatory plant, noting that space was reserved in the Master Plan to add vessels into this  
440 location.

441  
442 Ms. Galvin asked if everything gets blended together in the water distribution system so that  
443 customers receive the same quality of water and that if they weren't to make the GAC upgrade it  
444 would not affect specific geographic areas but everyone.

445  
446 Ms. Whitaker replied that the water combines in the distribution system across the board, though  
447 it does not necessarily combine evenly as it depends on what they are treating each day.

448  
449 Ms. Galvin asked for confirmation that should they not do the GAC upgrade at Observatory the  
450 overall system's GAC ratio might go down.

451  
452 Ms. Whitaker replied that it was not completely uniform mixing and the closer one was to one  
453 facility or another increases the likelihood that any given drop of water will be from that facility,  
454 though it does change and move on any given day.

455

456 Mr. Gaffney observed that in the original design the reason we were at 20% at Observatory was  
57 the water comes from Ragged Mountain and Sugar Hollow and the thought was that it doesn't  
458 need it but now they are talking about the pipeline and moving the water from South Fork up to  
459 Ragged Mountain and it needs to be equal.

460  
461 Mr. Mawyer agreed.

462  
463 Mr. O'Connell remarked that the other concept of the original water supply system that got lost  
464 during negotiations was that this plant would be improved to try to equalize it and some pieces  
465 that were envisioned 20 years ago are just now falling into place. He observed that GAC has  
466 greatly improved the water quality and asked for confirmation that they are using less chlorine.

467  
468 Mr. Tungate agreed that the applied dose was less.

469  
470 Mr. O'Connell recognized that GAC was much more expensive but it fits all of those pieces into  
471 place.

472  
473 Ms. Galvin emphasized that they will have to see how this fits into the CIP by determining if this  
474 was a marginal improvement that will cost more than a marginal increase or not. She stated she  
475 was also looking at this from the perspective of the City budget and wants to know if the  
476 improvement of water quality will be commensurate with the cost, though she can't answer that  
477 at this point. She stated she would like to provide a standardized water quality to everyone, she  
478 supports the project, but she wants to see what other CIP requests will be made.

79  
480 Mr. Mawyer remarked that they don't have any significant changes to the current CIP that they  
481 have identified yet and they hope it will be a relatively stable CIP going forward. He pointed out  
482 that out of a \$100M budget for five years they are adding \$5M.

483  
484 Mr. O'Connell remarked that from his perspective the thing they have to sell was water quality  
485 and this clearly improves water quality for a reasonable cost.

486  
487 Ms. Galvin emphasized that it will be important to articulate the benefits of GAC to the public to  
488 justify the spending, including that they have the best water supply in Virginia.

489  
490 Mr. Gaffney recognized that there will be new regulations with a new contaminant list coming  
491 and they are already set.

492  
493 Mr. Mawyer remarked that they will be hiring a firm to produce videos of the upgrades and  
494 perhaps they can dedicate a video to GAC and get this out to the public.

495  
496 Ms. Galvin urged that it be conveyed in a way the public can understand with an emphasis on  
497 human health and environmental health outcomes, in order to reassure constituents who are  
498 concerned about their rates.

499  
500 Mr. O'Connell observed that the recent customer survey indicated that people want safe, clean  
71 drinking water and assurance that the Authority was doing everything it can to reduce lead and

502 contaminants. He noted that 90% responded that they were satisfied with water rates and stated  
503 that if they are concerned about the rates there could be movement of other items in the CIP  
504 budget.

505  
506 **Mr. O'Connell moved that the Board authorize the Executive Director to execute the**  
507 **amendment for additional GAC contactors outlined in the Board packet. The motion was**  
508 **seconded by Ms. Galvin and passed unanimously (5-0). Dr. Palmer and Dr. Richardson**  
509 **were absent from the meeting and the vote.**  
510

511 **9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

512 There were none.

513

514 **10. CLOSED MEETING**

515 There was none.

516

517 **11. ADJOURNMENT**

518 **At 3:33 p.m., Ms. Galvin moved that the Board adjourn. The motion was seconded by Mr.**  
519 **Richardson and passed unanimously (5-0). Dr. Palmer and Dr. Richardson were absent**  
520 **from the meeting and the vote.**

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523 Respectfully submitted,

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Mr. Jeff Richardson  
Secretary-Treasurer