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**RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
December 12, 2023**

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, December 12, 2023 at 2:15 p.m. virtually via Zoom.

Board Members Present: Mike Gaffney, Jeff Richardson, Brian Pinkston, Ann Mallek (arrived at 2:35 pm), Gary O’Connell, Lauren Hildebrand.

Board Members Absent: Sam Sanders

Rivanna Staff Present: Bill Mawyer, Lonnie Wood, Deborah Anama, Betsy Nemeth, David Tungate, Victoria Fort, Jennifer Whitaker, Jacob Woodson.

Attorney(s) Present: Valerie Long.

1. CALL TO ORDER

Mr. Gaffney called the December 12, 2023, regular meeting of the Rivanna Water and Sewer Authority to order at 2:15 p.m.

2. AGENDA APPROVAL

Mr. Pinkston moved that the Board approve the agenda as presented. Mr. Richardson seconded the motion, which passed unanimously. (5-0). (Mr. Sanders and Ms. Mallek were absent.)

3. MINUTES OF PREVIOUS BOARD MEETING ON NOVEMBER 14, 2023

Mr. Pinkston moved that the Board approve the meeting minutes. Mr. O’Connell seconded the motion, which passed unanimously (5-0). (Mr. Sanders and Ms. Mallek were absent.)

4. RECOGNITIONS

There were no recognitions.

5. EXECUTIVE DIRECTOR’S REPORT

Mr. Mawyer stated that it was the fourth year of having all or a few virtual Board meetings. But this would be the last scheduled virtual meeting.

Mr. Pinkston asked if the Board members should state their locations for the purposes of this meeting.

43 Mr. Gaffney stated that would be appropriate.

44
45 Mr. Pinkston stated that he was located at 575 Alderman Road, Charlottesville, Virginia.

46
47 Mr. O'Connell stated that he was located at 1720 Yorktown Drive, Charlottesville, Virginia.

48
49 Mr. Richardson stated that he was located at 401 McIntire Road, Charlottesville, Virginia.

50
51 Ms. Hildebrand stated that she was located at 305 4th Street NW, Charlottesville, Virginia.

52
53 Mr. Gaffney stated that he was located at 3180 Dundee Road in Earlysville, Virginia.

54
55 Ms. Long stated that it would be appropriate to reference the Authority's Remote Participation
56 Program and it being carried out in accordance with the policy adopted by the Authority last
57 year, pursuant to Virginia code authorizing such meetings.

58
59 Mr. Mawyer stated that as he had previously stated, there were no more virtual meetings
60 scheduled on their agenda. He stated that under their Strategic Plan's priority of Optimization
61 and Resiliency, he was pleased that the Department of Environmental Quality (DEQ) agreed to
62 modify their wastewater permit, eliminating the need for weekend lab testing. He stated that this
63 change would save approximately \$18,000 per year in salary costs as chemists would not be
64 required to work on Saturdays and Sundays.

65
66 Mr. Mawyer stated that they had urban water permits issued by DEQ and the Army Corps which
67 allowed them to mitigate impacts to wetlands and streams during projects such as the Rivanna to
68 Ragged Pipeline project and the original Ragged Mountain Dam Project. He stated that the Army
69 Corps issued a permit to them in 2008 which was valid for 10 years. He stated that the Corps
70 granted an extension in 2018 extending the permit for another five years to 2023. He stated that
71 recently, the Corps approved a ten-year permit extension to 2033.

72
73 Mr. Mawyer stated that this extension was intended to cover the Rivanna to Ragged Pipeline
74 project and complete all related work. He stated that the DEQ had issued an original permit in
75 2008, which was valid for 15 years and expired this year. He stated that they applied for a new
76 permit last year, and the DEQ granted them a continuance while the DEQ completed its review.
77 He stated that they anticipated receiving another 15-year permit. He stated that with these
78 extensions and new permits, they hoped to successfully complete all of the projects included in
79 the community's water supply plan.

80
81 Mr. Mawyer stated that the current water supply data provided in his written report had become
82 outdated due to the recent rainfall over the weekend. He stated that he was pleased to say that all
83 reservoirs were now full, with the exception of Ragged Mountain, which was approximately 200
84 million gallons below capacity. He stated that currently there were 1.2 million gallons stored in
85 Ragged Mountain. He stated that the community consumes about 10 million gallons daily. He
86 stated that the available water in Ragged Mountain would last for roughly 120 days. He stated
87 that this was not an extensive supply, but it was a satisfactory amount. He stated they were
88 pleased to receive the rainfall.

89

90 Mr. Mawyer stated that the updated DEQ drought monitoring chart, similar to the one included
91 in the written report, had also been provided. He stated that the precipitation quadrant for our
92 area was adjusted from being in an “emergency” to a “watch” status. He stated that the previous
93 weekend’s rainfall had reduced drought conditions in our area.

94

95 He stated that over the past 35 months, they had experienced an 18 inch deficit and a 41%
96 shortage in precipitation for calendar year 2023. They were pleased to receive rainfall, but they
97 had not yet exited the drought watch.

98

99 Mr. Mawyer stated that regarding water supply, he wanted to thank Ms. Hildebrand and Mr.
100 Pinkston for their efforts with City Council. He stated that last week, they proposed an
101 amendment to the Ragged Mountain Dam Project Agreement which would allow RWSA to add
102 700 million gallons to Ragged Mountain as soon as possible. He stated that the revised
103 agreement removed some limitations present in the original 2012 agreement, which prohibited
104 adding water until demand reached 85% of the supply. He stated that he was pleased to report
105 that City Council unanimously supported the proposed amendment.

106

107 Mr. Mawyer stated that with approval of the Consent Agenda today and approval by the
108 Albemarle County Service Authority Board of Directors on Thursday, the City and ACSA would
109 be authorized to request the addition of 700 million gallons to Ragged Mountain Reservoir. He
110 stated that this would increase the reservoir’s capacity by 50%, storing an additional 12 feet of
111 water. He stated that the dam was constructed with this expansion in mind, and to achieve this,
112 they must modify the intake tower and close one weir that controls the normal pool level.

113

114 Mr. Mawyer stated that water would flow into the reservoir either from Sugar Hollow when the
115 inflow exceeded 30 million gallons per day or through the new pipeline from South Rivanna to
116 Ragged once it was completed around 2030. He stated that between the two water sources, they
117 would add 700 million gallons, resulting in a 50% increase in the water supply at Ragged
118 Mountain. He stated that this would help secure the community’s water supply for many decades
119 into the future based on growth projections from the City, County, and University.

120

121 Mr. Mawyer stated that he appreciated the help from Ms. Hildebrand, Mr. Sanders, and Mr.
122 Pinkston in obtaining approval from City Council. He stated that moving forward, they would
123 begin designing grading modifications and intake tower changes. He stated that this process
124 would take approximately one year to design and another year to complete. He stated that in
125 about two years, they expected to start adding water to Ragged Mountain and increase the
126 community’s water supply. He stated that this was a significant improvement.

127

128 Mr. Gaffney thanked Mr. Pinkston, Ms. Hildebrand, and Mr. Sanders for their contributions. He
129 asked if the City or Service Authority needed to request Rivanna to move forward with the
130 increase.

131

132 Mr. Mawyer stated that the amendment to the agreement was on today’s Consent Agenda for
133 approval. He also stated that it was scheduled for approval at the Albemarle County Service
134 Authority Board of Directors meeting on Thursday. He stated that following this approval, all

135 necessary authorizations would be in place to proceed with the project. He stated that the
136 agreement stipulated that either the City or the County could provide Rivanna with a written
137 request to proceed with the project. He stated that they anticipated receiving a letter from Ms.
138 Hildebrand and Mr. O’Connell, requesting RWSA to commence adding the 700 million gallons
139 as soon as possible.

140

141 Mr. Pinkston asked if they would be voting on it before ACSA.

142

143 Mr. Mawyer stated that he believed it was acceptable.

144

145 Ms. Long confirmed that the three-party agreement had no particular sequence that required its
146 implementation.

147

148 Mr. Mawyer noted that Ms. Long was the author of the amendment and had collaborated with
149 Mr. O’Connell, Ms. Hildebrand, their attorneys and staff to draft and prepare the document that
150 effectively conveyed their intended purpose.

151

152 Mr. Pinkston asked if there were enough Board members present.

153

154 Mr. Mawyer confirmed that there were five members present, and a quorum required four
155 members.

156

157 Mr. Mawyer stated that last month they visited Roanoke and toured the Western Virginia Water
158 Authority’s renewable natural gas facility. He stated that they were collaborating with Ms.
159 Hildebrand and the City to explore the possibility of utilizing methane waste gas from
160 wastewater as an energy source for the community.

161

162 Mr. Mawyer stated that this would involve injecting methane into the City’s natural gas system,
163 similar to what the Western Virginia Water Authority had done in partnership with the Roanoke
164 Gas Company. He stated that during their visit, they gained valuable insights into WVWA’s
165 renewable natural gas system and the challenges they faced while implementing it. He stated that
166 the presentation was informative, and they thanked City staff for accompanying them on the trip.

167

168 Mr. Mawyer stated that they also celebrated “Imagine a Day Without Water 2023”, an event for
169 school children in the City and County to submit their drawings with the theme of “Tell us how
170 your action saves water.” He stated that they had received numerous submissions, and the
171 winners would be selected tomorrow. He stated that the announcement would follow shortly
172 after. He stated that they appreciated the collaboration between the City, ACSA, and their staff
173 on this program.

174

175 Mr. Mawyer stated that in addition to community involvement, some staff members participated
176 in the toy lift event, assisting with receiving and distributing toys to families in need during the
177 holiday season. He expressed gratitude to Debra Hoyt, Patricia Defibaugh, and Alisa Cooper for
178 their contributions to the event held earlier this month.

179

180 **6. ITEMS FROM THE PUBLIC**

181
182 There were none.

183
184 **7. RESPONSES TO PUBLIC COMMENTS**

185 There were none.

186
187 **8. CONSENT AGENDA**

- 188 *a. Staff Report on Finance*
- 189 *b. Staff Report on Operations*
- 190 *c. Staff Report on CIP Projects*
- 191 *d. Staff Report on Administration and Communications*
- 192 *e. Staff Report on Wholesale Metering*
- 193 *f. Staff Report on Drought Monitoring*
- 194 *g. Approval of Term Contract for Environmental Engineering Consulting Services – ECS*
195 *Mid-Atlantic LLC*
- 196 *h. Approval of the First Amendment to the Ragged Mountain Dam Project Agreement*

197
198 **Mr. Pinkston moved that the Board approve the Consent Agenda. Mr. O’Connell seconded**
199 **the motion, which passed unanimously (5-0). (Mr. Sanders and Ms. Mallek were absent.)**

200
201 **9. OTHER BUSINESS**

- 202
203 *a. Presentation and Vote on Acceptance: FY 23 Audit Report*

204 Matthew McLearen stated that he was with Robinson, Farmer, Cox Associates and would be
205 presenting the audit of financial statements for the fiscal year ending June 30, 2023. He stated
206 that he would speak briefly about the audit, the audit results, and point out a few highlights in the
207 bound audited financial report. He stated that the audit field work was conducted in mid-August,
208 and they had a team of four auditors there for a period of about four days testing records and
209 controls and the timing on the tests that they conducted.

210
211 Mr. McLearen stated that there were several required communications between an auditor and
212 those charged with governance, and he would briefly review those. He stated that the
213 communications were also contained in a two-letter document that was displayed on the screen.
214 He stated that he would highlight the key points in this document. He stated that the first point
215 was related to responsibilities under the audit. He stated that both the auditor and the auditee,
216 being the Authority, had responsibilities under the audit process.

217
218 Mr. McLearen stated that the auditee was responsible for providing records sufficient for audit
219 purposes and maintaining internal controls, complying with agreements and compliance
220 requirements. He stated that they must ultimately accept responsibility for the financial report.

221 He stated that the auditor was required to conduct audit tests, test controls, and perform
222 conclusive tests on the financial statements.

223
224 Mr. McLearen stated that this letter also discussed accounting estimates, which were commonly
225 used in audited financial statements. He stated that in this case, the Authority had accounting
226 estimates related to the depreciable lives of long-term assets or capital assets and estimates
227 concerning the measurement of net pension and OPEB liabilities. He stated that the letter further
228 described difficulties encountered during the audit process. He noted that it was disclosed that
229 for the fiscal year ending June 30, 2023, no difficulties were encountered in performing the audit
230 or the audit field work.

231
232 Mr. McLearen stated that most audits produced audit adjustments. He stated that these
233 adjustments were a normal part of the audit process, with corrected audit adjustments being
234 included in the financial statements. He stated that uncorrected items were not included in the
235 financial statements. He stated that under professional standards, they were required to disclose
236 in detail any uncorrected misstatements. He reported that there were no uncorrected
237 misstatements. He stated that they had no disagreements in applying any accounting principles.

238
239 Mr. McLearen stated that one accounting standard was tested and found not to apply to the
240 Authority this year. He stated that they were also required to disclose, under professional
241 standards, their knowledge that management sought consultation from a second audit firm, which
242 was also known as opinion shopping. He stated that they had no knowledge of management
243 seeking a second opinion. He stated that that concluded the letter to those charged with
244 governance.

245
246 Mr. McLearen stated that moving on to the actual bound financial report, he mentioned that on
247 the screen, they would see the independent auditor's report. He stated that this was the first of
248 two reports on the audit firm's letterhead, spanning three pages. He stated they had issued an
249 unmodified or clean opinion on the fiscal year ending June 30, 2023 financial statement. He
250 stated that in this document, there was a wealth of detailed information. He stated that there were
251 three summarized financial statements: Exhibit 1, Exhibit 2, and Exhibit 3.

252
253 Mr. McLearen asked the Board to review these briefly. He stated that these amounts pertained to
254 the fiscal year ending on June 30, 2023, starting with the Statement of Net Position. He stated
255 that the Statement of Net Position could be found on pages 30 and 31 of the document. He stated
256 that at June 30, 2023, net position was approximately \$173 million.

257
258 Mr. McLearen stated that Exhibit 2, the Statement of Revenues, Expenses, and Changes in Net
259 Position, was similar to a profit and loss statement for a for-profit entity. He stated that it
260 reported the increase or decrease in equity or net position. He stated that the change in net
261 position was the third number from the bottom of the statement. He stated that there had been an
262 increase in net position of approximately \$8.2 million for the fiscal year ending on June 30,
263 2023.

264
265 Mr. McLearen stated that Exhibit 3 was the statement of cash flows. He stated that this reported
266 changes strictly in the cash position. He stated that the ending cash position was \$61 million, as

267 indicated by the double underline halfway down the page. He stated that it reported a decrease in
268 the cash position of approximately \$14.7 million. He stated that one could see the effects of this
269 decrease on that page. He stated that much of this was reported under the addition to capital
270 assets. He stated that cash was extended for capital asset purposes. He stated that this
271 summarized the three financial statements.

272
273 Mr. McLearen stated that the final document he would like to present to the Board was the
274 Independent Auditor's Report on Internal Control over Financial Reporting. He stated that in this
275 report, the auditor described any significant deficiencies or material weaknesses in the financial
276 reporting structure or noncompliance with laws. He stated that they confirmed there were no
277 significant deficiencies or material weaknesses in the Authority's financial reporting structure.

278
279 **Mr. O'Connell moved the Board to accept the Annual Comprehensive Financial Report for**
280 **Year Ended June 30, 2023 (FY23). Ms. Hildebrand seconded the motion, which passed**
281 **unanimously (6-0). (Mr. Sanders was absent.)**

282
283 *b. Presentation: Dam Safety Program Overview*

284 Victoria Fort, P.E., Senior Civil Engineer, stated that she managed the engineering department's
285 dam safety program. She stated that she would provide an annual overview of the dam facilities
286 and the program. She stated the agenda included discussing dam safety regulations, how they had
287 incorporated these regulations into the dam safety program, highlighting features of each dam,
288 outlining the emergency planning procedures, and presenting recent and current dam safety
289 projects.

290
291 Ms. Fort stated that in the United States, there were approximately 92,000 dams. She stated that
292 about 65% of the dams were privately owned, while the remaining 35% were owned by state,
293 local, or federal governments, or public utilities. She stated the average age of dams in the
294 United States was 61 years, and over 15,000 were high hazard, which meant they would cause
295 loss of life if they were to fail. She stated that 15% of those were estimated to be deficient. She
296 stated that in Virginia, there were over 3,700 dams in the state. She stated that half of the
297 regulated dams had an unknown hazard classification, meaning they did not understand the
298 consequences if they were to fail.

299
300 She stated that in Albemarle County, there were approximately 240 dams, with 167 of them
301 being regulated. She stated that there were 20 high-hazard dams and 118 others with unknown
302 hazard potential classification. She stated that Rivanna operated 10 dams, seven of which were
303 regulated.

304
305 Ms. Fort stated that since 2018, there had been 39 reported dam incidents in Virginia, five of
306 which resulted in dam failure. She stated that dam failures can lead to catastrophic consequences,
307 such as flooding, loss of life, and severe economic damage.

308
309 She stated that the dam owner was responsible for any damages caused by a failure. She stated
310 that one of these incidents occurred in Ivy at the Clover Dam. She stated that in early June 2018,
311 the dam overtopped due to significant rains, causing severe erosion on the downstream side. She
312 stated that they were currently seeking a consultant and would face substantial repair costs. She

313 stated that record reservoir levels were observed at the South Rivanna Dam during the same
314 storm in late May to June of 2018. She stated that the South Rivanna Dam was designed for that
315 level of storm, and it did not sustain any significant damage.

316
317 Ms. Fort stated that in Virginia, the regulatory body for dam safety was the Virginia Department
318 of Conservation and Recreation (DCR), which ensured proper and safe design, construction,
319 operation, and maintenance of Virginia's dams to protect public safety. She stated that every dam
320 in Virginia was subject to these regulations unless they fell under one of three categories: they
321 were either under a certain size, had a specific height limit, or had a certain volume of water
322 impounded behind the dam. She stated that any dams owned or licensed by the federal
323 government were exempted.

324
325 She stated that the South Rivanna Dam was currently licensed by FERC and thus exempt from
326 state regulations. She stated that the last exception included dams operated for mining,
327 agricultural, or canal purposes. She stated that locally, several dams were exempted for
328 agricultural purposes, which meant the state did not have oversight over those facilities.

329
330 Ms. Fort stated that the program encompassed various aspects and required significant
331 involvement from staff members to maintain its functionality. She stated that a substantial part of
332 the program involved permitting and regulatory compliance. She stated Emergency Action Plans
333 were maintained, updated, and trained on. She stated that extensive time and effort were
334 dedicated to facility maintenance and vegetation control. She stated that regular repairs and
335 upgrades were conducted to ensure optimal performance.

336
337 She stated that public safety and outreach were critical components of the program. She stated
338 that compliance with state and federal regulations was achieved through regular reports, studies,
339 and inspections by various departments, and necessary surveys. She stated that constant
340 monitoring was carried out via SCADA systems or on-site personnel. She stated that the
341 facilities were primarily operated for water supply purposes.

342
343 Ms. Fort stated there were four dams classified as high hazard: South Rivanna, Ragged
344 Mountain, Sugar Hollow, and Beaver Creek. She stated they had three low hazard dams: Totier
345 Creek Dam in Scottsville, Lickinghole Creek Dam in Crozet, and the Buck Mountain Property
346 Dam in Free Union. She stated that the last three were unregulated facilities, which included the
347 North Fork Rivanna Low Head Dam, Mechums River Low Head Dam, and Ivy MUC pond dam
348 owned by RSWA.

349
350 Ms. Fort stated that the South Fork Rivanna Dam, a FERC-regulated dam, was built in 1965, and
351 a small hydropower facility was added in 1987, which was why it was regulated by FERC. She
352 stated the decommissioning process was ongoing, and hopefully, by next year, they would fall
353 back under state regulations. She stated it was located on the South Fork of the Rivanna River,
354 and it served as the intake for the South Rivanna Water Treatment Plant. She stated the structure
355 was a concrete gravity dam, measuring 700 feet in length and 54 feet in height.

356
357 Ms. Fort stated the Ragged Mountain Dam was a state-regulated dam constructed between 2012
358 and 2014. She stated it replaced historical dams from 1885 and 1908, and it was an earth fill

359 embankment dam, spanning 785 feet in length and reaching 125 feet in height. She stated that
360 this was the largest earthen dam they managed. She stated that it was designed to accommodate
361 an extra 12 feet of normal pool, providing an additional 700 million gallons of storage. She
362 stated the dam supplied water to the Observatory Water Treatment Plant.

363
364 Ms. Fort stated that Sugar Hollow Dam, another state-regulated dam, was built in 1948 and
365 upgraded in 1998 with a rubber crest gate across the dam's crest. She stated that the crest gate
366 was replaced in 2021, and it was expected to have a service life of approximately 20 years. She
367 stated it is a concrete gravity dam, measuring 480 feet in length and 96 feet in height. She stated
368 that a pipe ran from the Sugar Hollow Dam to fill the Ragged Mountain Reservoir.

369
370 Ms. Fort stated that the Beaver Creek Dam was a state-regulated structure built in 1963 for water
371 supply and flood control purposes. She stated that it was constructed through a Natural
372 Resources Conservation Service program. She stated the dam was an earth fill embankment dam,
373 measuring 530 feet in length and 60 feet in height. She stated that it served as a County park in
374 Crozet, attracting numerous visitors daily. She stated that a state road, Brown's Gap Turnpike,
375 ran along the crest of the dam. She stated that the spillway was undersized to meet current dam
376 safety regulations. She stated the design of an upgraded spillway was currently underway and
377 was being funded entirely by NRCS, a division of the USDA.

378
379 Ms. Fort stated that Totier Creek Dam was an earth fill dam built in 1971, measuring 277 feet
380 long and 35 feet tall. She stated that it also served as a County park in Scottsville. She stated that
381 the Totier Creek Reservoir provided water for the Scottsville water treatment plant. She stated
382 that the Lickinghole Creek Dam was a state-regulated dam located south of the Beaver Creek
383 Reservoir, and it was built in 1995. She stated that it was a concrete gravity dam that did not
384 serve a water supply function but caught sediment to prevent it from entering the South Fork
385 Reservoir drainage basin. She stated that it was 458 feet long and 32 feet tall.

386
387 Ms. Fort stated the Buck Mountain Dam was a small embankment dam constructed in the early
388 1980s and then acquired a few years later by Rivanna as part of the Buck Mountain property
389 purchase. She stated that it did not have a water supply function. She stated it was an earth fill
390 dam, and it measured 190 feet in length and 33.5 feet in height. She stated that recent studies had
391 revealed that its primary spillway conduit had reached the end of its useful life. She stated the
392 dam would require repair or removal, or other options may be considered in the coming years.

393
394 Ms. Fort stated there were three facilities that were unregulated due to their size. She stated the
395 North Rivanna Low Head Dam was a small low head intake that served the North Rivanna Water
396 Treatment Plant. She stated that the plant was scheduled for decommissioning in the next couple
397 of years. She stated that the dam decommissioning was included as part of the project. She stated
398 the Mechums River Low Head Dam was no longer in service and was scheduled for removal.
399 She stated that the Ivy MUC pond dam served a fire safety water storage purpose. She stated that
400 it had recently been lowered to fall below regulatory height thresholds. She stated that minor
401 modifications were planned to accommodate a dry hydrant.

402
403 Ms. Fort stated that planning for dam emergencies began with good design and construction,
404 followed by maintenance and prevention. She stated that although they were low probability

405 events, dam emergencies had high potential impacts; thus, dams were designed with a high level
406 of conservatism to minimize failure risks. She stated some factors contributing to dam
407 emergencies and failures included excessive rainfall beyond a dam's design capacity, which was
408 the most common cause of dam failure. She stated other potential causes were material failure or
409 construction issues, vandalism or terrorism, accidents, or public safety events at the dam site.

410
411 Ms. Fort stated that when discussing a dam's hazard potential classification, it referred to the
412 severity of consequences resulting from the dam's failure or misoperation. She stated that this
413 classification did not reflect the dam's condition but rather dictated its design criteria. She stated
414 that a high-hazard potential dam indicated that failure would likely result in loss of life and
415 severe economic damage.

416
417 She stated that a significant hazard potential dam suggested possible loss of life and appreciable
418 economic damage upon failure. She stated that a low hazard potential dam implied no expected
419 loss of life or significant economic damage from the dam's failure. She stated that the higher the
420 hazard potential classification, the more stringent the design requirements for the dam, including
421 its ability to withstand larger storms and greater amounts of rainfall.

422
423 Ms. Fort stated that the probable maximum precipitation (PMP) referred to the highest possible
424 amount of precipitation that could occur within a specific drainage basin. She stated it
425 represented the most rainfall in a particular area over a given time period. She stated that each
426 drainage basin had its own unique PMP value; for instance, at Sugar Hollow, it was
427 approximately 34 inches of rain within 24 hours, while in the South Fork Rivanna Reservoir, the
428 figure was around 25 inches of rainfall during the same timeframe.

429
430 Ms. Fort stated that in Virginia, high-hazard potential dams must be designed to withstand and
431 accommodate at least 90% of the probable maximum flood, which was the flood resulting from
432 PMP precipitation levels. She stated that Rivanna, however, required its high-hazard dams to
433 handle 100% of the PMP. She stated that they had built in an extra level of conservatism to
434 account for potential future changes in regulations and rainfall patterns.

435
436 Ms. Fort stated that a two-year storm would produce approximately 3.68 inches of rain over a
437 24-hour period, while a 100-year storm would yield just over nine inches of rain in 24 hours.

438
439 She stated that a PMP was significantly more extreme, with 34 inches of rain in 24 hours. She
440 stated that Hurricane Camille brought over 27 inches of rain overnight to Nelson County in 1969
441 – equivalent to about 81% of a PMP rainfall event. She stated that similarly in Madison County
442 in 1995, 25 to 30 inches of rain was recorded within 16 hours, which amounted to approximately
443 86% of a PMP.

444
445 Ms. Fort stated that a significant aspect of their dam safety program involves preparing for
446 emergencies at their dams. She stated this included the dam safety program as well as internal
447 development, maintenance, distribution, and training of Emergency Action Plans (EAPs). She
448 stated that public safety and outreach was crucial, as dam safety is a shared responsibility. She
449 stated their ability to communicate hazards to downstream property owners and businesses helps
450 them respond effectively during emergencies. She stated that this included posting signs, sharing

451 alerts, issuing downstream notifications, and engaging in outreach opportunities.

452

453 Ms. Fort stated that dam Emergency Action Plans were required for all high-hazard dams in
454 Virginia. She stated these plans outlined pre-planned actions to minimize or alleviate emergency
455 conditions at a dam during an emergency. She stated that they contained procedures and
456 information on issuing early warning notifications, which aimed to minimize or prevent loss of
457 life and property damage during an emergency event. She stated it outlined the necessary
458 coordination between VDEM, the local Emergency Communications Center, local police, fire
459 rescue, VDOT, the media, local government, and others.

460

461 Ms. Fort stated that the four high-hazard Emergency Action Plans were updated annually. She
462 stated that the EAP outlined the responsibilities of the Authority and the community during an
463 emergency. She stated that the Authority's duties included verifying and assessing emergency
464 conditions at the dam, notifying participating emergency management agencies, taking available
465 or possible corrective action at the facility, issuing condition status reports, and terminating the
466 emergency once it had ended.

467

468 Ms. Fort stated that in turn, external agencies such as the Emergency Communications Center,
469 associated fire rescue police, County, and City governments also had their respective roles to
470 play in managing emergencies. She stated that they were responsible for receiving condition
471 status reports from Rivanna and making notifications to the public. She stated that they
472 coordinate and conduct evacuations from inundation areas if necessary, provide mutual aid, and
473 declare local emergencies, which can bring additional resources to the area.

474

475 Ms. Fort stated that EAPs offered descriptions of different emergency scenarios and stages. She
476 stated that by assessing the stage of the emergency, appropriate actions can be taken. She stated
477 the first condition was a non-failure emergency or Stage One, which meant that extreme rainfall
478 had occurred, and facilities were being monitored closely. She stated that Stage Two indicated
479 that a potential failure situation was developing. She stated this may involve continued rainfall,
480 potential risks of the dam overtopping and failing, or accelerating seepage in the dam.

481

482 She stated that Stage Three signified that failure was imminent or had occurred. She stated it
483 meant the dam was either actively failing or was expected to fail imminently.

484

485 Ms. Fort stated that dam breach inundation maps came with every copy of the EAP and
486 illustrated various failure scenarios and which areas downstream of the dam would be inundated
487 or flooded. She stated the maps also highlighted impacted structures and called out roadways and
488 bridges that would be affected, including the time of arrival of the initial flood wave, peak flood,
489 and expected flood height.

490

491 Ms. Fort stated the South Fork Rivanna Dam hydropower facility was currently being
492 decommissioned, and it was expected to be completed next year. She stated they were installing
493 a reservoir-level monitoring station at the Lickinghole Creek Dam, which was the only one of
494 their dams without a level sensor. She stated that they anticipated this installation to be finished
495 in the next couple of months. She stated that the Beaver Creek Dam spillway upgrades were in
496 planning and design, and it was expected to be ready for bidding in approximately 20 months.

497
498 Ms. Fort stated that they were working on a dam concrete and steel repair project, which was a
499 long-term maintenance project at several facilities. She stated that she was reviewing public
500 safety plans and signage design at multiple locations. She stated the Buck Mountain Dam would
501 require remediation. She stated that they always had annual maintenance, permitting, and other
502 activities taking place. She stated that monthly tree and brush clearing occurred alongside these
503 activities.

504
505 Ms. Fort stated they conducted seasonal or biennial clearing of brush and stream channels to
506 maintain clearance from obstructions. She stated their water and maintenance departments were
507 responsible for ongoing instrumentation, maintenance, and calibration. She stated that in the
508 upcoming year, they planned to hold an EAP tabletop exercise in collaboration with local
509 emergency management agencies, emergency services personnel, fire rescue, and other relevant
510 organizations. She stated the event would involve regulators such as DCR staff, VDEM
511 representatives, and Rivanna personnel. She stated participants would gather in a room to
512 practice responding to a scenario using the EAP actions as guidance, assessing their
513 performance.

514
515 Mr. Pinkston asked how they performed inspections at the South Fork Dam on the upstream side.
516 He asked if they performed dive inspections.

517
518 Ms. Fort stated that they did not conduct dive inspections at that facility unless they were
519 examining specific features. She stated that in the past, divers had entered to inspect gates on the
520 upstream side. She stated that whenever the dam stopped spilling, as it did during the summer,
521 they typically attempted to survey the monuments across the crest to determine if there had been
522 any movement since the previous assessment. She stated they also obtained detailed photographs
523 of various dam features to identify whether cracks had widened or if new seeps had emerged that
524 were not noticed in prior inspections.

525
526 Ms. Fort stated that personnel from FERC conducted a thorough inspection of the facilities
527 annually, assisted by their staff. She stated they examined various aspects of the dam, including
528 its abutments, seepage adjustment, and concrete condition. She stated they assessed the
529 hydropower facility, vegetation management, and other relevant features.

530
531 ***10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA***

532 Mr. Pinkston stated that he had examined the financial report and found it to contain a lot of
533 information. He stated that an interesting aspect was observing the detailed calculations
534 regarding their pension liabilities, which he was glad they were conducting. He stated that he had
535 learned that the City had decided to manage its own retirement, which he found intriguing. He
536 asked if the Board had ever received a presentation regarding its funding position in VRS.

537
538 Mr. Mawyer stated that they had not conducted a presentation. He stated that they were part of
539 the VRS system, and according to his understanding, VRS provided a report to the General
540 Assembly periodically detailing their level of funding for the VRS program. He stated there was
541 a substantial number of localities, authorities, and even cities that were members of VRS. He
542 stated he had conducted a Google search to determine who participated in VRS, and the list was

543 quite extensive.

544

545 Mr. Mawyer stated that VRS informed them annually about their premium and the percentage
546 increase in their contribution. He stated that Rivanna, along with each employee, contributed to
547 VRS. He stated that the rates for organizations were set each year based on their funding status.

548

549 Mr. Richardson stated that he wanted to request that the minutes indicate Ms. Mallek's arrival at
550 the meeting. He stated that Ms. Mallek had just concluded another meeting on behalf of the
551 County and then joined this meeting after attendance had been taken. He stated he wanted to
552 ensure that the record demonstrated her participation in the meeting.

553

554 Ms. Mallek stated that she arrived at approximately 2:35 PM.

555

556 ***11. CLOSED MEETING***

557 There was no reason for a closed meeting.

558

559 ***12. ADJOURNMENT***

560 **At 3:12 p.m., Ms. Mallek moved to adjourn the meeting of the Rivanna Water and Sewer**
561 **Authority. Mr. Richardson seconded the motion, which passed unanimously (6-0). (Mr.**
562 **Sanders was absent.)**

563

564 Respectfully submitted,

565

566

567

568

569



Mr. Jeff Richardson
Secretary - Treasurer

