RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
January 23, 2024

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> A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, January 23, 2024 at 2:15 p.m. at Rivanna Administrative Building, (2nd Floor Conference Room), 695 Moores Creek Lane, Charlottesville, VA 22902.

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Board Members Present: Mike Gaffney (participating remotely), Jeff Richardson, Lauren Hildebrand, Gary O'Connell, Ann Mallek, Brian Pinkston, Samuel Sanders.

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Board Members Absent: None.

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Rivanna Staff Present: Bill Mawyer, Lonnie Wood, Jennifer Whitaker, David Tungate, Betsy 15 Nemeth, Andrea Bowles, Jacob Woodson, Deborah Anama, Leah Beard, George Cheape. 16

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Attorney(s) Present: Valerie Long (participating remotely).

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1. CALL TO ORDER

Mr. Sanders called the January 23, 2024, regular meeting of the Rivanna Water and Sewer 21 Authority to order at 2:39 p.m. 22

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Mr. Pinkston moved to allow Mr. Gaffney to remotely participate in the meeting. The motion was seconded by Mr. Richardson and passed 6-0-1, with Mr. Gaffney abstaining from the vote.

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Mr. Gaffney stated that he could not attend the meeting since he was located in Cape Coral, Florida.

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2. AGENDA APPROVAL

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Mr. Pinkston moved to approve the agenda. The motion was seconded by Mr. O'Connell and passed unanimously (7-0).

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3. MINUTES OF PREVIOUS BOARD MEETING

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a. Minutes of Regular Board Meeting on December 12, 2023

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Mr. Pinkston moved the Board to approve the minutes of the December 12, 2023 meeting. The motion was seconded by Mr. Richardson and passed unanimously (7-0).

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4. RECOGNITIONS

There were no recognitions. 43

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5. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer stated he was pleased to introduce their new Human Resources Manager, Leah
Beard. He stated that Ms. Beard came to them from the UVA Credit Union and held a master's
degree in public administration from Old Dominion University. He stated that they were thrilled
to have Leah join their team as the Human Resources Manager.

Mr. Mawyer stated that he would also introduce George Cheape. He stated that Mr. Cheape had been with Rivanna for five and a half years as an Engineering Construction Inspector, and was recently promoted to be the Safety Manager. He stated that the previous safety manager left to join the Virginia Health Department, and Mr. Cheape was selected as the new Safety Manager through a competitive interview process. He stated that Mr. Cheape would serve both the Water and Sewer and the Solid Waste Authorities. He stated that Mr. Cheape was an elected official in Nelson County, serving on the school board.

 Mr. Mawyer stated that they celebrated the holidays in December with a team-building lunch event. He stated that several of their water treatment facilities received the Water Fluoridation Quality Award from the Virginia Department of Health's Office of Drinking Water. He stated that they received an award for the Crozet, North Rivanna, Observatory, and Scottsville Water Treatment Plants for meeting the criteria set by the health department.

Mr. Mawyer stated that three operators obtained higher state licenses. He stated that Daniel Hunter passed his Class 2 Wastewater Operator License, Schuyler Deal passed his Class 3 Wastewater Operator License, and Seth Marshall passed his Class 1 Water Operator License, which was the highest level for a Water Operator in the state. He stated that they congratulated all three individuals for their achievements.

Mr. Mawyer stated that the State Water Control Board was considering new regional water supply regions across the state, and proposed to include Albemarle and Charlottesville in a region with Louisa, Greene, Buckingham and Fluvanna Counties. He stated that the current water supply plan was approved in 2018 for Albemarle County, Charlottesville, the Albemarle Service Authority and town of Scottsville.

Mr. Pinkston asked if they had considered the potential implications of this for the organization.

Mr. Mawyer stated that the Board was provided a presentation on long-range planning in June 2023, which suggested that regionalism might become a topic in the future. He stated that he was unaware of the reason for this proposed change to the water supply regions. He stated that they did not know what the State Water Control Board had in mind regarding regionalism. He stated that their community water supply plan included reservoirs and pipelines to support only the Albemarle/Charlottesville/Scottsville community. He stated that he could not imagine a major shift away from this approach. He stated that when discussing the future with others, he referred to the "big box" approach where smaller localities need to connect with larger ones to afford utilities such as water and wastewater services. He stated that whether this approach would be emphasized in regionalism remains to be seen.

Mr. O'Connell stated that he would assume this was happening all around the state.

Mr. Mawyer stated yes. 93

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Mr. O'Connell asked if the connection between localities was related to their watershed 95 locations. 96

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Ms. Whitaker stated that the plans were moderately connected to watersheds. 98

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Mr. Mawyer stated that the budget schedule was approaching. He stated they had met with the Board subcommittee, which included Mr. O'Connell and Ms. Hildebrand, to discuss the proposed FY 25 - 29 capital improvement plan. He stated that next month, they would meet with the subcommittee again to review the proposed operating budget. He stated that in February, they would present the capital improvement plan to the Board, and in March, they would present the operating budget. He stated that a public hearing would be held in May when the total budget would be considered for approval.

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Mr. Mawyer stated that although drought was not a significant issue at present, rainfall levels 108 were about 35% below normal in 2023. He stated that over the three-year period of 2021, 2022, 109 and 2023, they were about 16% below normal. He stated that recent rainfall had been substantial. 110

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- Mr. Mawyer stated that all reservoirs were now 100% full except for Ragged Mountain and 112
- Sugar Hollow. He stated that Ragged Mountain was approximately 96% full. He stated that they 113
- had been transferring water from Sugar Hollow Reservoir to Ragged Mtn Reservoir since 114
- December 9. He stated that by summer, they planned to have all reservoirs filled. He stated that 115
- Sugar Hollow Reservoir was not full because a pneumatic connector malfunction caused the dam 116
- bladder to deflate last week and allowed about 5 feet of water to be released from the reservoir. 117
- He stated that the bladder was re-inflated on the same day it deflated, which occurred on January 118 17, 2024.

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Mr. O'Connell asked if the deflation happened immediately. Mr. Mawyer stated that the 121 deflation occurred within about 45 minutes. 122

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Mr. Mawyer stated that they had concluded their collaboration with the City and the Albemarle 124 County Service Authority for the Imagine a Day Without Water program, and had received many 125 interesting artworks from local students. He stated that the theme was to "tell us your action to 126 127 save water".

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- Mr. Mawyer stated that he would report on the Rivanna wastewater pump station issues that 129 occurred on January 9. He stated that they had a media release and had informed the Board of the 130 situation, but he would provide more information. He stated that there were two large pump 131 stations at Moores Creek, which were the Moores Creek Pump Station and the Rivanna Pump 132
- Station. He stated that the yellow area shown on the map represented the norther areas of the 133
- City and County served by the Rivanna Pump Station, which was their largest wastewater 134
- pumping station, serving approximately 60% of the urban area. 135

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Mr. Mawyer stated that the Rivanna Pump Station was built in 2017. He stated that it had a 137 capacity to pump 53 million gallons per day and served the primary purpose of lifting 138

wastewater about 100 feet vertically to the headworks and the beginning of the treatment process facilities. Mr. Mawyer stated that the pump station did not perform treatment; instead, it transferred wastewater from lower to higher levels. He stated that by observing the bird's-eye view of the site, he pointed out that there was a wet well in the center of the pump station. He stated that water entered the facility from the north through a 60 inch pipe arrow and flowed into the wet well before passing under the pumping area of the two dry pumping rooms. He stated that the 2 pump rooms were designed to be dry.

Mr. Mawyer stated that on January 9, there was a failure that caused the dry areas to become submerged, and they remained so to this day as they attempted to pump them out. He stated that they had to maintain service as approximately 6 million gallons of wastewater arrived at the station on an average day; however, during rainfall, this amount increased significantly. He stated that regarding the flow control gates in the wet well, a picture from 2017 was provided to show what the gates and wet well covers looked like when they were built. He stated that the series of gates could be seen in the image provided.

Mr. Mawyer stated that there were three channels at the bottom of the wet well that enabled them to control flow. He stated that it entered through a 60-inch pipe. He stated that at the top of the page, there was a flow gate that was designed to control flow into the wet well. He stated that one of the issues they discovered was that when they realized the station was taking on water and attempted to close that gate, it would not fully close. He stated that this had been part of their challenge as they were unable to stop the incoming flow.

Mr. Mawyer stated that another image from 2017 showed what the pump rooms normally look like. He stated that the spaces were tall, and the pipes extended vertically in the space to lift wastewater from its initial elevation to a higher elevation at the headworks. He stated that next was a view of the pump room again, displaying the vertical piping because they were going to show the water level where it currently was on that piping.

Mr. Mawyer stated that they had two pump rooms, each containing three wastewater pumps. He stated that two of the pumps were capable of pumping 13 million gallons a day individually, and the smaller one pumped 7 million gallons. He stated that the different pumping capacities served a purpose, which was that if there was low flow in the pump station, the smaller pump operated, and the larger pumps would activate if the flow in the pump station increased. He stated that they had variable frequency drives on these pumps, allowing them to operate at different speeds to pump differing volumes of wastewater.

Mr. Mawyer stated that as more wastewater entered the station, the pumps increased their speed. He stated that when the smaller pump reached its capacity, it stopped, and the larger one took over. He stated that if the flow increased further, up to 13 million gallons, additional pumps in series were activated based on the water inflow. He stated that their supervisory control and data acquisition (SCADA) system provided an elaborate computer-controlled orchestration of which pump was active and at what capacity.

Mr. Mawyer stated that they had six pumps in total, and after the submergence event, they could see the vertical piping and the pumps were submerged. He stated that in one of the pump rooms,

the wastewater had risen to such an extent that their consultant used a camera on a pole to capture the image. He stated that the red and white dots shown in the photo indicated the gates' position. He stated that water should not have reached that height in the wet well; however, by January 10, it had. He stated that the station was filled with wastewater.

Mr. Mawyer stated that to address this issue, they decided to build a temporary bypass system. He stated that they initially utilized the equipment they had immediately available and installed a smaller system with the pumping capacity of about 10 million gallons per day. He stated that on the trailer in the photo, they could see temporary piping being transported by trucks and tractors to facilitate its installation. He stated that they excavated on the entrance side of the building where a large wastewater pipe exited the pump station. He stated that part of the bypass involved placing a pump in the wet well and running a pipe around the building before connecting it to the permanent piping that exits the structure.

Mr. Mawyer stated that on January 13, they brought in the manifold for installation. He stated that to tie into that pipe, they disassembled it, raised it to ground elevation, and added a connector at ground level. He stated that their staff, along with various contractors, worked around-the-clock in the harsh cold to build this connection. He stated that they had already made progress on the project. He stated that there were two temporary pipes connected from the wet well to the permanent underground piping leading to the headworks.

Mr. Mawyer stated that they could not handle 50 million gallons initially with this system, and could only manage around 10 to 15 million gallons per day. He stated that larger temporary pumps were brought in by a contractor, Godwin Pumps, along with the necessary controls for these pumps. He stated that staff was assembling temporary bypass piping in the snow and cold conditions, requiring a crane to handle the large pumps which were lowered into the wet well. He stated that the large pipes emerging from the wet well indicated the scale of this equipment.

Mr. Mawyer stated that a photograph taken on January 19 showed the vertical chimney pipe connected to a temporary pump placed within the wet well. He stated that the initial challenge involved removing the channel covers in the wet well to allow installation of larger pumps below the covers. He stated that the large pipes to the right of the pump station were 36 inches in diameter. He stated that water was pumped out through the system.

Mr. Mawyer stated that the water flowed via a pipe located to the right of the pump station, which consisted of 36-inch pipes. He stated that to reach the manifold at the bypass connection point, a larger connector must be installed. He stated that wastewater was pumped into the backwash basin, a circular structure, and then flowed to the Moores Creek Pump Station. He stated that from there, it was pumped to the headworks.

Mr. Mawyer stated that previously, water was introduced into the permanent force main and the backwash basin, ultimately reaching the Moores Creek Pumping Station. He stated that unfortunately, for approximately one day, water had to be pumped into Moores Creek near that location to facilitate sufficient wastewater removal from the pump station to enable the installation of larger pumps. He stated that it was specifically from January 18 at 11:59 a.m. until 2:00 p.m. the following day, January 19. He stated that approximately 6.2 million gallons were

pumped into Moores Creek during this 26-hour period.

Mr. Mawyer stated that it was unfortunate, and they maintained full contact with DEQ, keeping them informed, as well as the Health Department. He stated that they contacted Fluvanna County downstream and Lake Monticello. He stated that Moores Creek flowed to the Rivanna River which flowed to the James River, and was the water supply for Lake Monticello. He stated that although 6 million gallons of wastewater may be significant, at this time there were about 420 million gallons flowing in the Rivanna River at the Palmyra gauge, and about 4.5 billion gallons flowing in the James River.

Mr. Mawyer stated that to emphasize the significance of their discharge into Moores Creek without minimizing the importance, he stated that such situations are relative. He stated that when considering the City of Richmond's response to large storms, they released hundreds of millions of gallons of wastewater into the James River due to their combined sewer system. He stated that this system combined rainwater and sewage in a single pipe, overwhelming their wastewater treatment plant during heavy precipitation. He stated that the City was currently addressing this issue with a multi-billion dollar program, receiving assistance from the state.

Mr. Pinkston asked if it was correct that roughly 6 million gallons were released in the course of the day.

Mr. Mawyer stated yes, it was 6.2 million gallons over a 26-hour period.

Mr. Pinkston asked if that was the total number of gallons.

Mr. Mawyer answered yes. He stated that as of yesterday, they still had water in the dry pump spaces. He stated that the vertical piping, some of which could be seen in the pump rooms, still had water. He stated that they needed to get the larger pumps installed as part of their ongoing efforts. He stated that then, they could drain the entire facility and complete a thorough investigation into the root causes of the submergence.

Mr. Mawyer stated that they must determine if the piping had ruptured in the pump room allowing water to enter. He stated that they knew that one gate malfunctioned, but it did not fully explain how water reached the dry area. He stated that they did not know if there was a pipe break or if the controls were ineffective, causing pumps to operate improperly.

Mr. Mawyer stated that they suspected the Rivanna River contributed to the excess water by flowing into manholes in Riverview Park. He stated that as soon as they could access the pump rooms for inspection, they would have a clearer understanding of the situation and identify necessary repairs. He stated that they could not determine in the pump room whether the pumps were blown out or if the piping had ruptured. He stated there were anecdotal stories regarding this issue.

Mr. Mawyer stated that the pumps were not intended to be submerged in water, but some of them operated for several days, at least intermittently after that, which was remarkable. He stated that they had one that would run, and it created a large swirl in the visible wastewater, which led them to believe there might be a leak in the piping. He stated that it appeared as if the water was either recirculating or coming directly out of the pipe. He stated this was anecdotal information; they did not know for certain yet. He stated that once the pump station could be dewatered and inspected, they would have a clearer understanding of what happened.

Mr. Pinkston asked if water from the river entered the manholes and contributed to overwhelming the system.

Mr. Mawyer stated that there was a large 60-inch sewer line that went into the Rivanna Pump Station, and this line followed the Rivanna River through Riverview Park. He stated that on the map displayed, the white area between the green park was where the tunnel was located. He stated that between the pump station and the tunnel, the system proceeded through Riverview Park and continued northward to Darden Towe Park. He stated that it then followed the yellow area shown earlier, almost reaching Greene County.

Mr. Mawyer stated that numerous connections linked these areas together. He stated that the major interceptor passed through this region as well, and each round yellow symbol represented a sewer manhole. He stated that in the center image on Riverview Park, water from the river could be seen on the walking path. He stated that their manholes were situated near that path. He stated that they had data indicating that the river level rose by 18 feet.

Ms. Whitaker stated that the river was measured at the South Rivanna gauge. She stated that at the time the photograph was taken, the height was 8 feet. She stated that they knew the South Rivanna River was 10 feet higher than what was shown in the photograph. She stated that the normal flow was typically three to five feet.

Mr. Mawyer stated that the photograph on the far right, featuring a star, depicted their sewer manhole. He stated that it had been surcharging and overflowing. He stated that when flow was restricted at the pump station, it caused backups in the pipe, leading to discharge from the manholes. He stated that alternatively, if the infiltration north of the manhole was excessive, this could also result in overflow. He stated that river or other streams might infiltrate or inflow into the sewer system, causing surcharges and overflows.

Mr. Mawyer stated that these issues were still occurring at least for a certain period and that there were instances of overflow happening. He stated that during future large flows entering the pump station, intermittent overflow might occur from the manhole in Riverview Park. He stated that the temporary bypass system was implemented to maintain the process treatment as wastewater continued to arrive every minute. He stated they aimed to keep the process moving forward and address any backflow.

Mr. Mawyer stated that they had five reported overflow locations. He stated that these instances were reported to the Virginia Department of Environmental Quality. He stated that it was unfortunate that there was flooding in the parks, but that was what happened when a sewer system was overwhelmed. He stated that designing a single system large enough for both rainwater and wastewater would be challenging.

Mr. Sanders asked if Parks and Recreation had been notified.

Mr. Mawyer stated yes, both Parks and Rec and the Utilities Department worked to put up barriers so people would avoid the flooded trails in Riverview Park. He stated that their media release also indicated there had been overflows in the parks. He stated that they expected the 10 million gallon per day system to be completed and operational by the end of the week. He stated that towards the end of the following week, specifically on February 4 or thereabouts, they aimed to have the 50 MGD system in place.

Mr. Mawyer stated that if a significant rainstorm occurred and washed them out, it might impact their progress. He stated that nevertheless, it was their hope and plan until they could restore the pump station. He stated that once they had the spaces in the pump station dewatered and completed the 50 MGD bypass system, they would be able to assess the situation inside the pump station and initiate the restoration process. He stated that following the assessment, in February and March, they would focus on testing equipment, inspecting for damages, and identifying any non-damaged components.

Mr. Mawyer stated that they anticipated that all the pump motors, as electrical equipment that had been underwater, would have to be replaced. He stated that the pumps themselves may or may not need to be replaced. He stated that the controls or electrical equipment would likely have to be replaced. He stated that after the process of ordering and repurchasing the correct equipment, they would install it. He stated that they hoped to be fully restored by the end of this calendar year.

Mr. Gaffney asked if Mr. Mawyer could provide an understanding of how their insurance coverage may assist them in this situation, even if they did not know the exact cause.

Mr. Mawyer stated that they did possess property insurance, and Mr. Wood had been involved with the company. He stated that an adjuster had visited the site and assessed it with Mr. Wood. He stated that the property coverage totaled \$100 million for boilers and machinery. He stated that similar to other insurance claims, they must navigate the evaluation process to determine if there was a suitable claim. He stated that they were optimistic that costs would be eligible for recovery.

Mr. Mawyer stated that if there was an equipment failure, they had coverage. He stated that there was a possibility of an act of God where a massive storm occurred and overwhelmed the system, and this was where insurance eligibility faced challenges. He stated that on that day, they experienced three inches of rain, which was a significant amount, but not excessive. He stated that they suspected something went wrong or malfunctioned with the equipment and controls.

Mr. Mawyer stated that they knew one gate did not function properly, and whether the controls were sending incorrect messages to the pumps, or a pump or pipe within the pump room failed and allowed water to flow in would be investigated. He stated there was a heating-cooling duct; however, it was only about one foot by two feet in size, and the water rose high enough that it flowed into the dry side from the wet side through the HVAC duct. He stated that the design engineer from Hazen engineers, who originally designed the system, had been on site.

Mr. Mawyer stated that to address the crucial question of what went wrong, they had not yet determined the exact cause. He stated that they had several theories and approaches, such as whether the pipe failed, the pump failed, or if the controls failed to provide proper directions to their equipment. He stated that they would be able to ascertain the issue more accurately once they drained the wastewater and gained access to the equipment and so that they could inspect it thoroughly. He stated that they were currently coordinating with their insurance provider, VRSA.

He stated that an unfortunate event occurred, and they apologized for it.

Mr. Mawyer stated that they were responding as quickly and effectively as possible to the situation. He stated that their engineering, maintenance, operator staff and information technology team had been working virtually around the clock, particularly during the first week, to establish a bypass system. He stated that the design engineer had been on-site frequently, and they had also recruited numerous contractors who provided valuable assistance in acquiring temporary pumps from various locations across the country.

Mr. Mawyer stated that the crane was challenging to secure, but everyone had been helpful. He stated that they would like to acknowledge Woolen Mills, their neighbors, for their accommodating nature as the restoration team accessed the site through a back gate and had equipment stacked and parked there on property owned by Woolen Mills as part of their easement. He stated that they posted an emergency procurement on January 9 to grant them the authority to contract with these companies and compensate them for their assistance.

Mr. Pinkston asked how much wastewater was in the Rivanna River. He stated that he assumed it was not safe to drink.

Mr. Mawyer stated that they understood that the Rivanna River Company was having a nighttime sauna and river cooling program, so people would get in the river after being in the sauna. He stated that they called the River Company to advise them against holding the program during this time due to their location between Darden Towe and Riverview Parks.

Mr. Pinkston asked if most of the water coming out of the pump station was ending up in the river.

Mr. Mawyer stated no, all of the wastewater was coming through and around the pump station and into the treatment system. But if the system became overloaded with wastewater water due to a storm, there could be an overflow in the park.

Mr. Pinkston stated that he must have misunderstood. He asked Mr. Mawyer to explain the Rivanna service area depicted in yellow on the wastewater map.

Mr. Mawyer stated that it was the sewer shed.

Mr. Pinkston stated that the water from that area went down to the pump station, which was 100 feet below where it needed to go in the headworks. He asked how the water got where it needed to go if the pump station was not operational.

Mr. Mawyer stated that the temporary pumps would achieve that. He stated that they placed a hose in the wet well of the permanent pump station. He stated that as displayed on the slide, there was a crooked pipe emerging from the wet well, and they were looking down into it. He stated that at the base of the pipe, there was a single pump. He stated that to the right of the lower corner, there was another pump, which was submerged but pumped water out of the wet well and around the building into the drainage basin, a round circular basin. He stated that they also could pump wastewater into the manifold with two pipes, leading it into the permanent pipe and to the

headworks for treatment.

Mr. O'Connell asked if there was a separate pipe system in the dry wells to pull that out.

Mr. Mawyer stated no, not yet. He stated that they were going to do the same thing with the 50 MGD system. He stated that it would involve larger pumps and pipes to facilitate moving more water from the wet well and the dry pumping areas.

Ms. Mallek asked if it was correct that at 2 p.m. the next day, the leak had stopped because they had activated the bypass.

Mr. Mawyer stated that they had activated the bypass, but it was insufficient to bring down the water level in the pump station. He stated that the wastewater system experienced what was known as the diurnal effect. He stated that this occurred at 6 p.m. when people returned home and engaged in activities such as bathing and washing dishes. He stated that consequently, a high volume of wastewater was typically generated at this time of day.

Mr. Mawyer stated that the phenomenon repeated itself around 6 a.m. in the morning. These were the diurnal surges they encountered. He stated that at the pump station, water flow rates could be doubled or tripled during these peak flow periods. He stated that they faced their greatest challenges with the smaller 10 mgd bypass system during those surges. He stated that when they completed the 50 million gallon per day pumping system, they would be able to manage all surges up to 50 MGD.

 Mr. Mawyer stated that on an average day, approximately 6 million gallons passed through that pump station. He stated that all of the recent wastewater was directed into the treatment process and treated, except for the 26 hours during which some was intentionally discharged to the creek to lower the water level in the pump station. He stated that this discharge allowed them to access the covers above the gates and replace them with larger pumps as they transitioned into completion of the 50 MGD pumping system.

Mr. Pinkston asked if the 26 hours was potentially impacting the water quality level in the stream.

Mr. Mawyer stated that it did during the discharge period, but high flows in the stream washed it away. He stated that Mr. Tungate walked along the stream today all the way to the river to check if there was any debris hanging in the trees and so on, and he saw very little; only one five-gallon bucket of debris was collected.

Mr. O'Connell asked how much time it took for the pumping to reach a point where they could access the pump levels and begin to determine what had occurred with regard to the gates and pumps.

Mr. Mawyer stated that in early February, approximately two weeks from now, they anticipated being able to begin assessing the situation. He stated that the 50 million gallon per day system was expected to be operational by February 4, and this would enable them to lower the water level sufficiently to investigate. He stated they must sanitize and clean the spaces prior to getting anyone in there.

Ms. Mallek stated that after addressing the emergency, they could then consider how to redesign infrastructure based on the lessons learned from water flows and climate change over the past eight years.

Mr. Mawyer stated that he would also like to discuss an issue at the Sugar Hollow Reservoir. He stated that on the slide was a picture of the reservoir, which the City owned. He stated that when it was built, there were steel crest gates on top of the concrete dam. He stated that in 1999, a significant storm caused debris to wash against the gates, rendering them ineffective. He stated that as a result, the reservoir manager had to walk down the walkway and attempt to open those gates to release water during large storms. He stated that it was not a safe or efficient system.

Mr. Mawyer stated that in 1999, an automated inflatable bladder was installed to replace the steel gates. The bladder was replaced approximately two years ago as it had reached the end of its service life. He stated that this bladder inflates to a height of five feet, serving as an alternative to gates for holding back five feet of water in the reservoir, thus increasing water storage capacity. He stated if there was excessive pressure from water attempting to rise over the bladder due to storms or heavy rainfall, it could gradually deflate to reduce the pressure from the water on the concrete dam.

Mr. Mawyer stated that on that particular day, the bladder deflated suddenly because a pipe connection came apart which was part of the pneumatic system responsible for pumping air into and keeping the bladder inflated. He stated that those connectors were flexible due to significant heat and cold changes throughout the year. He stated that for example, on the day it happened, it was 12 or 13 degrees, and this may have contributed to the connector failure.

Mr. Mawyer stated that the fix was implemented the same day; their mechanics reconnected the pneumatic piping and restored the inflation system. He stated they also installed a post support beneath the pneumatic piping to stabilize it as they believed that it might have swayed horizontally and contributed to the connector's separation.

Mr. Mawyer stated that their engineering group had devised a plan for the system manufacturer and design consultant to conduct a thorough review and provide recommendations. He stated that they aimed to prevent such occurrences in the future. He stated that yesterday, their crew inspected the Mormons River below the dam for any potential damage. He stated that VDOT promptly inspected the roads and bridges affected by the event to ensure their integrity. He stated

they also had added another device to the connector to prevent horizontal movement.

Ms. Mallek stated that she was glad to hear the description of the bladder taking the place of the gates, as there were concerns among neighbors. She stated that some people would have liked to have commented today if they had the availability for online public comment. She stated it had become more of a water retention and less of a give-and-take with the river than it was presented to the neighbors back in the 1990s. She stated that they would have more conversations about that going forward, because the upset to the community was that judging by where the new leaves and things were directly east of the pool, they could see how high the water level rose.

Ms. Mallek stated that it was a miracle no one was on that first bridge. She stated that some may recall Carlton Frasier and Paige Reins who were the ones who crawled along that gate and opened those things by hand in 1995. She stated that it was about to take out the whole dam. She stated that even the vibration of standing on the dam on a good day meant it was no surprise that something would wiggle off the underside.

6. ITEMS FROM THE PUBLIC

Mr. Bill Emory stated that he resided at 1604 East Market Street in the Woolen Mills neighborhood. He stated that he had resided next to the Moores Creek facility for 36 years. He stated that serving on this Board, they were already aware of the high degree of engineering and administrative excellence within their organization. He stated that the RWSA was exceptional. He stated that he was interested in the Chesapeake Bay, having participated in the public process back in 2010 that created the Total Maximum Daily Load (TMDL).

Mr. Emory stated that their goal was to restore the bay by 2025, meaning that he would be able to see his feet when standing waist-deep in water. He stated that back in the 1600s, they could see anywhere in the bay regardless of the depth. He stated that the remaining pollutants in the Chesapeake Bay were nitrogen, phosphorus, and sediment. He stated that Rivanna did an excellent job removing these contaminants.

Mr. Emory stated that he was unsure about which regulatory agency, the DEQ or the EPA, set the allocations for nitrogen and phosphorous; however, Rivanna typically came in at less than half of what they were permitted to discharge. He stated that he had not planned to address the group today, but the City Council received a written report last night and the ongoing strategic plan update, so it seemed like good timing.

Mr. Emory stated that the Rivanna Pump Station went online in 2017, and it was remarkable how the connection between the pump station and Moores Creek had been facilitated by this facility. He stated that the interceptor pipe was created using a tunnel boring machine. He stated that Mr. Richardson was not on the Board at that time, but many of them were involved, and an impressive machine was used to create the pipe with a diameter that removed 6,000 cubic yards of rock.

Mr. Emory stated that the pump station was capable of pumping 53 million gallons a day during rain events. He stated that water made its way into sanitary sewers via inflow and infiltration. He

stated that as Mr. Mawyer mentioned, from a City Council point of view, it might be a good time to provide Ms. Hildebrand with additional funds to address this. He stated that they had a sanitary sewer and an MS-4 stormwater sewer; however, more attention needed to be given to the sanitary sewer to help homeowners.

Mr. Emory stated that he recently replaced the terracotta in his yard with 300 feet of hand-dug trenches but there was still a significant amount of terracotta used in the County to drain fields, which overwhelmed the RWSA. He stated that it was unclear how much of this terracotta came from the County and how much came from the City, but it would be helpful to calculate it. He stated that perhaps they could look into it further.

Mr. Emory stated that on January 9, they experienced three inches of rain for the first time since the completion of the Rivanna Pump Station six years ago. He stated that during this event, the four-foot diameter vertical access pipe on the right bank of the Rivanna, just upstream from the Rivanna River, became surcharged and detached. He stated that then, the Rivanna Pump Station would not function.

Mr. Emory stated that as the pressure was sufficient to dislodge the 57-inch diameter concrete cap that was on the pipe. He stated he had a video on YouTube where one could see it in action, with water discharging. He stated that he had a few questions regarding this situation since he had not seen any media information about it. He stated that he had written to Tim Gate and to Mr. Mawyer, who responded, but they were quite busy attending to various issues down there.

Mr. Emory stated that there was not much news coverage about the facility, which was a 40 million dollar investment. He asked about the protocol in the event of a sanitary sewer overflow. He asked what the standard operating procedure was for an overflow. He asked if the overflow was monitored during the incident. He stated that considering billions of gallons of fluid were involved, he was not an engineer, but much of the wastewater scoured the area once the river level went down and flowed north, undermining the trail and causing damage to the bank of the river.

Mr. Emory stated that this was not a minor issue and he wanted to know if the overflow was estimated in terms of gallons discharged. He asked whether the weights of discharged nitrogen and phosphorus were also calculated. He stated that he would ask if they informed the DEQ about these incidents, but he believed Mr. Mawyer had addressed this matter previously. He asked if an incident report was provided and if this information was available to the public. He stated that that a key value in the strategic framework was integrity.

Mr. Emory stated that RWSA possessed integrity and strived for openness and transparency. He stated that in the future, in the event of a problem, he requested updates because people genuinely cared about this agency. He stated that he had appreciation for Ms. Whitaker's expertise, as they had worked with her for years. He stated that in this case, it seemed like there was a lack of information being shared, which made the situation feel somewhat hidden. He stated that moving forward, he believed clearer communication would be beneficial.

7. RESPONSES TO PUBLIC COMMENT

	ere v	vere none.
8.	CO	NSENT AGENDA
3	a.	Staff Report on Finance
	b.	Staff Report on Operations
	C	Staff Papert on CIP Projects
	С.	Staff Report on CIP Projects
	d.	Staff Report on Administration and Communications
	e.	Staff Report on Wholesale Metering
	f.	Staff Report on Drought Monitoring
	g.	Approval of Engineering Services – Modifications to Reach Additional Pool Level, Ragged Mountain Reservoir – Schnabel Engineering
	h.	Approval to Increase Construction Contingency and Amend Capital Improvement Plan – South Rivanna Hydropower Plant Decommissioning Project – English Construction Company, Inc.
	i.	Approval of Engineering Services – North Rivanna Water Treatment Plant Decommissioning – Short Elliott Hendrickson Inc.
the	e mo	chardson moved that the Board approve the Consent Agenda. Ms. Mallek seconded tion, which passed unanimously (7-0). HER BUSINESS
	(r	econvene RSWA for a JOINT SESSION with the RWSA)
a.		esentation: Employee Healthcare and retirement Benefits Overview sy Nemeth, Director of Administration and Communications
be: Ch	nefits arlot ted t	meth stated that she would provide an overview of employee healthcare and retirement s. She stated that they worked with an insurance broker named One Digital from tesville. She stated that they handled their medical, dental, and vision providers. She hat they also collaborated with their medical providers when issuing requests for als. She stated that One Digital reworked these proposals based on previous experiences.
as	flexi	meth stated that the company also assisted them with additional health care benefits such ble spending accounts, health reimbursement accounts, and the administrators for their A program, which was required by law. She stated that for health care, specifically

medical insurance, they used Anthem. She stated that they had been using Anthem for about eight years. She stated that there were two plans, which were HealthKeepers Health Savings Account plan and HealthKeepers Point of Service (POS) plan.

Ms. Nemeth stated that the first plan was a high deductible one with deductibles of \$3,000 for employee-only coverage, \$6,000 for employee, spouse, employee, and children, and \$6,000 for employee and family. She stated that the second POS plan had lower deductibles, which were \$1,000 for employee-only coverage and \$2,000 for employee plus whomever their dependents were. She stated that a health savings account was provided to all employees participating in the HSA plan, and Rivanna contributed to employees' accounts each July.

Ms. Nemeth stated that the contributions depended on the type of coverage; an employee received \$1,000, while an employee and spouse received \$1,500. She stated that in addition to the health savings account plan, which had a high deductible, there was a health reimbursement arrangement on the back end. She stated that this arrangement was only provided for employee-only participants due to IRS requirements. She stated that when reaching their deductible amount, she stated they would reimburse employees up to \$1,000, covering the range from \$2,000 to \$3,000 in total expenses.

Ms. Nemeth stated that unfortunately, the IRS did not allow them to provide this arrangement for employees with dependents on the plan. She stated that they offered Flexible Spending Accounts for participants in the HealthKeepers POS plan. She stated that a Flexible Spending Account allowed an employee to make a pre-tax deduction into the account, which could be used to pay for healthcare expenses. She stated that this fiscal year, RWSA would contribute about \$1.4M and RSWA about \$0.3M for employee health insurance.

Ms. Nemeth stated that they got a renewal in the month of March, and she expected premiums to go up. She stated that they provided dental and vision insurance through Ameritas. She stated that the cost of dental coverage depended on the number of individuals being covered, such as employee-only or employee with spouse/family. She stated that Rivanna offered complimentary vision benefits for all employees and their dependents, should they have any. She stated that presented on the next slide were their medical insurance costs.

Ms. Nemeth stated that in the first column it showed what employees paid per month based on their chosen plan and coverage. She stated that the second column displayed the contributions made by Rivanna, followed by the total premiums. She stated that the information on the next slide presented Albemarle County's two plans, City of Charlottesville's three plans, and their own. She stated that all these entities fell within a similar range regarding employee costs.

She stated that the Rivanna Authorities participated in the Virginia Retirement System, which was a mandatory requirement for all employees working there. Ms. Nemeth stated that employees could not opt out of participation. She stated that the mandatory contribution was 5% of their credible contribution, calculated as hourly rate multiplied by 40 hours per week and 52 weeks per year. She stated that Rivanna Water and Sewer currently contributed 8.39% to each employee's credible contribution in the Virginia Retirement System, while the Solid Waste Authority contributed 4.86%. She stated that those numbers changed every two years, and she

was slightly surprised that she did not have an update on her desk at the moment.

Ms. Nemeth stated that the change would be effective as of July 1, and they hoped to receive notification regarding the change this month. She stated that the Authorities are also required to provide VRS participants life insurance equal to two times each employee's annual salary. She stated that the funding was provided by the Rivanna Authority. She explained that VRS had three distinct plans: one for participants who began before July 1, 2010, and had at least five years of service prior to January 1, 2013; a second plan for those with less than five years of service by January 1, 2013; and a third hybrid plan she would explain in more detail later.

Ms. Nemeth stated that approximately 30% of their employees currently participate in Plan 1. She stated that Plan 1 was a defined benefit plan or pension plan. She stated that when they retired, they began receiving their pension. She stated that the pension was determined by years of service, the average of their highest 36 consecutive months of compensation, and a retirement multiplier of 1.7. She stated that if an employee retired after 30 years of service, they would receive approximately 51% of their average salary during those 36 months.

Ms. Nemeth stated that anyone who joined VRS between July 1, 2010, and December 31, 2013, or if they were hired before July 1, 2010, but did not have five years of service as of January 1, 2013, participated in Plan 2. She stated that only 6% of their employees were part of Plan 2, so the eligibility window was quite narrow. She stated that similar to Plan 1, it was a defined benefit plan, which meant it was a pension plan. She stated that the pension was based on years of service as well.

Ms. Nemeth stated that they extended the period from three years to five years and implemented a retirement multiplier of 1.65. She stated that consequently, an individual with 30 years of service retiring would receive a pension equivalent to 49.5% of their average salary during their highest-five-year period. She stated that the hybrid plan was introduced by the Virginia Retirement System on July 1, 2014.

Ms. Nemeth stated that this plan was more complex than the other two options, but 64% of their employees were participating in it. She stated that the plan combines a defined benefit plan, which was a pension, and a defined contribution plan, where employees contribute to a 401(a) account. She stated that the pension was based on years of service, the average of an employee's highest 60 consecutive months of compensation, and a retirement multiplier of 1%. She stated that previously, individuals retiring after 30 years of service received a pension equal to 30% of their highest five-year salary average.

Ms. Nemeth stated that in addition, they were eligible to save an extra 4% of their credible compensation in a hybrid 457 retirement account. She stated that the hybrid retirement plan also required that the Rivanna Authorities pay for short term and long-term disability insurance. She stated that VaCo served as their short-term disability insurance company for this purpose, and the program was administered through Anthem Life. She stated that the same organization handled the employees' medical insurance needs.

Mr. Mawyer stated that over time, all of their employees would be a part of the hybrid plan,

values va

Ms. Nemeth stated that most people retiring were out of Plan 1, but it depended on the date of when someone joined the VRS.

Mr. Stewart stated that there was a significant difference between the Rivanna Solid Waste
Authority employees and Water and Sewer Authority employees regarding their employer's
contributions to the VRS. He stated that the disparity amounted to approximately 4%. He asked
what the driver behind this was.

Ms. Nemeth stated that it was because they had hired a large number of employees, which led to increased investments.

748 Mr. Mawyer stated that VRS set those premiums.

 Mr. Wood stated that in the early 2000s, the Solid Waste Authority had 20 to 30 employees. He stated that over time, the employee base decreased, so that employer liability on the retirement side went down. He stated that as new employees were added, the investment base increased. He stated that right now, Rivanna Solid Waste Authority was unique because they had a net investment balance rather than a net liability. He stated that this indicates a positive net asset value. He stated that almost every other political subdivision had a net pension liability.

Mr. Andrews stated that on the employee's side, it was primarily determined by years of service and date of employment.

Mr. Mawyer stated that the choice was how much the Authority funded for the health insurance. He stated that he was unsure of what the Authority used to do, but when he started there in 2016, the family plan cost \$800 per month. He stated that he declined to join it and stayed on his wife's insurance through Henrico County. He stated that they had shifted some of that cost from the employee to the employer, so that premium was about \$400 for the family plan. He stated that although that amount still remained higher than the City or the County, it was much better than \$800. He stated that they held rates for their employees that even if Anthem raised a premium, Rivanna would absorb the increase and would not ask an employee to pay more.

Mr. Andrews asked if they had considered spousal employers for coverage and have to certify it.

Ms. Nemeth stated that they did not require them, and they could still take a spouse on their plan even if the spouse could get coverage through their employer.

Ms. Mallek asked if they had an interval in which they put out the RFP for Anthem.

- Ms. Nemeth stated that they did it every four years unless they believed they could get better rates. She stated that they would be notified of the new rates for the next fiscal year in March, and if they felt the numbers were too high, they could go on the market. She stated that the issue was that if they went to market, they had to share those high numbers, so she would likely not
- receive great proposals in return. She stated that if she declined to share those numbers, the other

entities would assume the renewal was terrible and propose increased rates anyway. 781

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- Mr. Wood stated that the Authority was different from the City in the County in this way. He 783
- stated that the City and County were self-insured, which allowed them to have control over their 784
- claims data. He stated that in contrast, the Authority did not have control over their data. He 785
- stated that during the last bidding process, they only received one bid because only one company 786 787

had access to the necessary data.

788

Mr. Richardson asked how many people were covered by their plan. 789

790

791 Ms. Nemeth stated that it was most of the employee population, amounting to 110 individuals.

792

Mr. Richardson asked if dependents were in addition to that. 793

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Ms. Nemeth stated yes, in that case it would be over 200 people. 795

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Mr. Mawyer stated that family plans were where the significant expenses were. 797

798

- 799 Ms. Nemeth stated that there were 14 families on the HSA plan and 7 on the POS plan, so 21
- family plans in total. She stated that in comparison, the monthly cost for an employee on the 800
- family high-deductible HSA plan was \$360, while it was \$454 for the POS plan. She stated that 801
- 70 employees were enrolled in the employee only health plan option. She stated she was 802
- comfortable suggesting that this difference in cost may be a factor in the employees' decision, 803
- and this had a benefit for the organization. 804

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Mr. Mawyer asked what the monthly payment amount was. 806

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Ms. Nemeth stated that for the HSA plan, the payment was \$5 per month, and on the POS plan, 808 they paid \$35 per month. 809

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Ms. Mallek stated that the family would not be covered in that instance. She stated that it was a 811 significant advantage for employees with families to have the insurance. 812

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Ms. Nemeth stated that in some cases, she suspected that family coverage at other employers might be higher than the one provided by the current employer. She stated that if a spouse was insured under another employer's plan, it could potentially be more expensive. She stated that insurance could be challenging.

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- 819 b. Presentation: Strategic Plan Update
- Betsy Nemeth, Director of Administration and Communications 820

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- Ms. Nemeth stated that their vision is to serve the community as a recognized leader in environmental stewardship by providing exceptional water and solid waste services. She stated 822
- that their mission is their knowledgeable and professional team serving the Charlottesville, 823
- Albemarle, and UVA communities by providing high-quality water and wastewater treatment, 824
- refuse, and recycling services in a financially responsible and sustainable manner. 825

Ms. Nemeth stated that she wanted to share this information but would not read it aloud. She stated that their values were defined during their new strategic plan. She stated that prior to the 2023 plan, they had integrity, teamwork, respect, and equality. She stated that there were five priorities: communications and collaboration, environmental stewardship, workforce development, optimization and resiliency, and planning and infrastructure.

Ms. Nemeth stated that she would provide an update on communications and collaboration. Employee volunteering had been a focus since the approval of volunteer time off as a benefit for employees last July. She stated that they were pleased to report that many individuals participated in various community service events this year, such as Toy Lift. She stated that their goal was to continue driving these efforts during the current calendar year.

Ms. Nemeth stated that regarding education, as depicted in the picture, she knew Mr. Mawyer had mentioned that a group of students would be visiting the Ivy facility tomorrow. She stated that on the slide was a picture of the kindergarteners who visited them a couple of months ago. She stated that community awareness campaigns, such as Imagine a Day Without Water, often emphasized the importance of various resources, such as water. She stated that the winners had been announced for that contest, and they were currently planning the next event, "Fix a Leak."

Ms. Nemeth stated that regarding communications, they added a page on the website dedicated to PFAS, as they felt it was essential for people to understand this topic that has gained significant attention recently. She stated that the web page was approximately three pages long and provided a comprehensive layperson's overview of PFAS.

Ms. Nemeth stated that their environmental stewardship efforts were evident when visitors came to their location for meetings; the "no mow" sign indicated that they had a diverse wildlife population. In the picture, she pointed out a turkey, which was one example of the local fauna. She stated that she was unsure if there were any baby turkeys present at the time, but there were now adult turkeys in the area.

Ms. Nemeth stated that community partnerships played an essential role in their work, such as the collaboration with Virginia Commonwealth University for their oyster shell reseeding program in the Chesapeake Bay. She stated that they had successfully increased engagement hours this year and were planning a new Environmental Education Center, currently in the planning phase. She stated that she believed it would be quite impressive once it was completed, and she was eager for them to see it.

Ms. Nemeth stated that resource conservation had been a recent focus for their construction projects. She stated that the value engineering program had proven beneficial in terms of environmental stewardship. She stated that during the meeting for the new administrative building, they discussed resource conservation methods, such as incorporating solar panels and other sustainable practices into their buildings.

Ms. Nemeth stated that regarding workforce development, implementation of their learning management system through Paychex had been successful in providing HR training and safety training. She stated that their leadership development program had concluded with directors, and

now they were planning phase two. She stated that professional development was a crucial aspect of their organization, and she was quite proud of the team's efforts in this regard. She stated one of their mechanics, David Jeffries, who was attending school at Valley Vocational Tech, had received multiple certifications.

Ms. Nemeth stated that the certificates with transcripts were astonishing and impressive, as they attended these classes on their own time after work once or twice a week as part of sponsored apprenticeship programs. She stated that part of completing the apprenticeship involved attending school, and last semester, at least half of their mechanics were going to school. She stated that they also had a staffing master plan, which was updated every five years and continued to expand their staff.

Ms. Nemeth stated that she would next discuss optimization and resiliency. She stated that they had implemented several measures resulting in cost savings. She stated that at Moores Creek, the sodium hydroxide dosing monitoring with SCADA had saved them \$70,000 over a period of 84 days. She stated that in the water department, they introduced a Zeta meter that optimized alum use and had saved them \$26,000 in 2023.

Ms. Nemeth stated that for safety optimization, they were now making lockout tagout documents accessible to teams through CityWorks. She stated that this allowed maintenance personnel working on equipment to easily access the necessary documentation for lockout tagout procedures instead of searching for a physical paper copy.

Ms. Nemeth stated that the Moores Creek permit had been modified to eliminate weekend work in the lab downstairs, which would save approximately \$93,000 annually in overtime pay. She stated that regarding planning and infrastructure, in asset management, CityWorks had been fully implemented, with the system running at 100%. She stated that all work order requests were being processed through CityWorks and completed successfully.

Ms. Nemeth stated that they had completed some preliminary assessments regarding critical infrastructure in order to reduce disruptions. They are focusing on knowledge sharing and they had finished all dam safety training, and the necessary documents are available for easy access via DocLink. She stated that in knowledge acquisition, over the last six months, they had been tracking and documenting non-HR or safety-related training to establish a baseline. She stated that their initial baseline was 500 total hours, which would be adjusted as time progressed.

Ms. Mallek asked if they had been able to use the learning management system for onboarding purposes.

Ms. Nemeth stated that they had just begun to do so last Friday. She stated that Paychex has an application system and onboarding system. She stated that they had posted jobs on Paychex so that when someone went to the Rivanna website, there were links, as well as on Indeed. She stated that when they hired a person through Paychex, all documents would now go to their email to be electronically signed. She stated that they would likely do onboarding videos in person, as there were some videos that warranted discussion, such as workplace expectations.

919	10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA
920	
921	Mr. Pinkston stated that regarding Mr. Emory's earlier public comment, he would like to know if
922	Mr. Emory thought there was more that could have been done or should be done in regard to the
923	pump station situation. He stated that as he had learned more about it today, he was less
924	concerned, but it was complicated to explain and the focus had been on fixing it, so he was
925	unsure about what the narrative in the public had been.
926	
927	Mr. Mawyer stated that there was a media release about a week later. He stated that he
928	acknowledged they likely took too long to do that.
929	
930	Mr. Pinkston stated that he felt that the more that could be shared would be beneficial.
931	
932	Mr. Mawyer stated that he agreed. He stated that they were staffing the new Administration and
933	Communication division of the organization to do so.
934	
935	Ms. Mallek stated that the more direct and prepared with the information they could be, it would
936	result in a better story.
937	
938	Mr. Mawyer stated that he understood; there initially was a mistake regarding the flow rate of the
939	pump station in the press and Ms. Nemeth had to contact them to remedy it.
940	
941	(Adjournment of RSWA Board)
942	
943	11. CLOSED MEETING
944	There was no reason for a closed meeting.
945	
946	12. ADJOURNMENT
947	At 4:08 p.m., Ms. Mallek moved to adjourn the meeting of the Rivanna Water and Sewer
948	Authority. The motion was seconded by Ms. Hildebrand and passed unanimously (7-0).
949	
950	Respectfully submitted,
951	(left / Will _
952	- John Con-
953	Mr. Jeff Richardson
954	Secretary - Treasurer

