

**Albemarle County Service Authority Board of Directors**

1           The Board of Directors of the Albemarle County Service Authority  
2 (ACSA) met in a regular session on August 17, 2023, at 9:00 a.m. at the  
3 Administration and Operations Center at 168 Spotnap Road in  
4 Charlottesville, Virginia.

5           **Members Present:** Mr. Richard Armstrong, Chair; Dr. Lizbeth Palmer; Mr.  
6 John Parcels; Mr. Clarence Roberts; Mr. Charles Tolbert, Vice-Chair.

7           **Members Absent:** Mr. Nathan Moore.

8           **Staff Present:** Kenny Barrow; Mike Derdeyn; Brendan Ganz; Terri Knight;  
9 Jeremy Lynn; Quin Lunsford; Alex Morrison; Gary O’Connell; Emily Roach;  
10 Belinda Shifflett; Danielle Trent; Janet Vest.

11           **Staff Absent:** Jeremy Lynn; Gary O’Connell

12           **Public Present:** None.

13  
14           1.       Call to Order and Establish a Quorum – Statement of Board Chair

15           Mr. Armstrong called the meeting to order. He then read the opening  
16 Board Chair statement (Attached as Page \_\_\_\_\_), and a quorum was  
17 established.

18  
19           2.       Employee Recognition – Debbie Grady – 45 Years of Service

20           Mr. Armstrong stated that Ms. Debbie Grady was retiring after 45  
21 years of service, but she was not present at the meeting. He stated that there  
22 was a resolution, which he then read (Attached as Page \_\_\_\_\_). He asked  
23 whether there was a motion for the recognition.

24           ***Mr. Tolbert moved to adopt the recognition, seconded by Dr.***  
25 ***Palmer. All members voted aye.***

26  
27           3.       Approve Minutes of June 15, 2023

28           Mr. Parcels noted there were two tiny errors in the minutes. He said  
29 the one of the errors was on page 11, line 16. He said they needed to add,  
30 "of the plan." He said on page 19, line 12, "that" should be "who."

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1 Dr. Palmer stated she wanted to add one more correction. She noted  
2 that on page 4, line 11, it should read, "ACSA," not, "ASA."

3 Mr. Parcels said he enjoyed reading the technical transcript and  
4 noted that it had a few different perspectives. He said that together, the  
5 transcripts would have been perfect, but it matched the quality of the staff  
6 version.

7 Dr. Palmer noted she was not present at the last meeting, so it was  
8 challenging putting the two transcripts together. She explained she ended  
9 up taking one section from each version and put them next to each other.  
10 She said it was interesting that there were times when she was unsure if it  
11 was said or not. She assumed that the interpretation would be to say the gist  
12 of it, but she was not sure. She said she enjoyed the staff way that they do  
13 it better because it explained it a little bit better, but at the same time, it was  
14 more verbatim on the other. She wished she had been present to hear the  
15 meeting, and she noted that there was a tremendous desire to put this to a  
16 paid company, and she did not object to that. She saw the value in staff  
17 reviewing the transcript and massaging it.

18 Mr. Tolbert said there was an opportunity to review the minutes that  
19 were provided and add additional context.

20 Mr. Parcels asked how much time it took to draft the minutes. Ms.  
21 Trent replied it was about 4 hours of work per hour of audio. Mr. Parcels  
22 noted that reviewing the prepared transcript would require less time. Ms.  
23 Trent said yes. Mr. Parcels said he agreed with Dr. Palmer regarding the  
24 perspective staff added to the minutes. He hoped that in switching to the  
25 transcript method, staff would have a chance to provide any missed  
26 perspectives from the transcripts. Ms. Trent noted that as time went on, the  
27 company may become more familiar with the organization. She said that she  
28 may need to massage the transcript to not take away from the context of  
29 what was said in the meeting.

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1 Dr. Palmer noted if they hired somebody else to take on that, and  
2 they did not have the context or knowledge, they would be better off with a  
3 straight verbatim.

4 Mr. Tolbert asked if the company did court reporting. Ms. Trent  
5 responded that they did not do court reporting, but they worked with Rivanna  
6 and other County entities. Dr. Palmer said that the transcription company,  
7 Golden Transcription Services, also did the minutes for the Board of  
8 Supervisors. She explained that when she was on the Board of Supervisors,  
9 she would interact with the owner of the company sometimes in the office,  
10 and she had been around for quite a while.

11 Mr. Roberts asked whether someone from the company would be  
12 present at the meetings or if they would work from recordings. Ms. Trent  
13 replied that it would all be from recordings, and they would try to provide the  
14 actual video. She noted the company had not indicated they would be joining  
15 the meetings, but they would have audio and video recordings. Mr. Roberts  
16 said he guessed that the word-for-word reporting met the legal requirements  
17 for the minutes. He said they were lucky to have staff write the minutes, but  
18 he was not opposed to the transcription company doing it.

19 Mr. Parcels asked which version would be approved.

20 Dr. Palmer stated she would abstain because she was not present  
21 at the meeting.

22 Mr. Armstrong said they should move into the new age and approve  
23 the Golden Transcription Services minutes. Mr. Barrow noted they could  
24 approve the minutes as supplemented by the verbatim transcript. Mr.  
25 Armstrong asked if there was a motion to approve the minutes supplemented  
26 by the verbatim transcript.

27 ***Mr. Parcels moved to approve the minutes as supplemented by***  
28 ***the verbatim transcript seconded by Mr. Tolbert. All members voted***  
29 ***aye.***

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1           4.       Matters from the Public

2                   There were no matters from the public.

3

4           5.       Response to Public Comment

5                   There was no response to public comment.

6

7           6.       Consent Agenda

8           **a. Monthly Financial Reports**

9           **b. Monthly CIP Report** – Mr. Parcels noted that item 14, page 90, the  
10           Madison Park Pump Station, stated there was difficulty obtaining the  
11           pump skid. He asked for further information about that in terms of why  
12           ACI was having trouble and details about the pump manufacturer. Mr.  
13           Morrison replied he believed it was coordination between the  
14           manufacturer and the consultant engineer reviewing the submittal, but  
15           he would need to follow up with more information.

16                   Mr. Parcels said his question was tied to item 26, page 96, where  
17           they discussed the SCADA time. He noted that the SCADA time would  
18           obviously be delayed for the pump station, and he asked how that would  
19           affect the overall goal and what the timing issue was. Mr. Morrison  
20           replied that Madison Park was not included as part of the SCADA Phase  
21           3 project. He said SCADA would be installed as part of the Madison Park  
22           pump station upgrades standalone project, and it would not impact the  
23           SCADA Phase 3 project. He said that Madison Park would not be online  
24           with SCADA until the other project was completed, but they would  
25           continue with the Phase 3 project to bring SCADA system access online.  
26           Mr. Parcels asked if there was a timing for Madison Park. Mr. Morrison  
27           stated he would have to follow-up with more information.

28                   Mr. Parcels noted that for item 17, page 91, the Biscuit Run sewer,  
29           it stated Linco was no longer interested, and Prism was taking over some  
30           of the infrastructure work. He asked what the alternatives were. Mr.  
31           Morrison replied that since Linco was no longer interested in the

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1 contract, they had to go out and request quotes, so it was open to  
2 multiple contractors. He noted Prism would most likely be a contractor  
3 to submit a bid. He said that for procurement reasons, they had to go  
4 through the solicitation of multiple prices. Mr. Parcels asked whether the  
5 timing would be affected. Mr. Morrison responded that there would be a  
6 slight delay because the process for requesting and receiving bids took  
7 time, but once they received and reviewed them, they would be able to  
8 award the contract and get construction on repairs underway.

9 Mr. Parcels noted that on page 99, the North Point private  
10 development had a sewer addition for 179 units. He assumed it was  
11 included from a growth perspective for trunk sewer capacity issues. Mr.  
12 Morrison said he did not believe North Point discharged to the Airport  
13 trunk sewer. He explained the pump station discharged near Airport  
14 Road which went to the Powell Creek interceptor. He said he would  
15 provide follow-up information after verification.

16 Mr. Parcels noted he reviewed the master plan, and he was  
17 surprised because the County envisioned 38k units by 2050. He  
18 mentioned that it was just for the north part of the County. Mr. Morrison  
19 said that was correct and noted they had meetings with the County  
20 regarding the AC44 update. He said that at the meeting, they reviewed  
21 the current growth areas, what had been approved, projects in the  
22 pipeline, what had been proposed, and how the projects factored into  
23 other areas of consideration. He mentioned they held the meetings in  
24 conjunction with RWSA to ensure they took a holistic look at their  
25 systems to ensure any required projects were put in place to facilitate  
26 the envisioned growth.

27 Mr. Parcels asked if the future growth of the organization would be  
28 included in the future planning and vision. Mr. Lunsford responded that  
29 the Avon Property was certainly one example of taking steps to prepare  
30 for the growth of the system, and it was absolutely something they would  
31 look at. He said they had seen increases in different departments from

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1 the staff perspective over the last few years. He said that with open  
2 communication between the County, RWSA, ACSA, and all community  
3 partners, they were doing what they needed to do to take care of future  
4 goals. He said that it was a challenge, and there were financial aspects  
5 that needed to be considered.

6 Mr. Roberts asked whether an impact statement was being  
7 performed on how the infrastructure would be impacted. Mr. Morrison  
8 replied that if there were parcels within the growth area under a rezoning  
9 application, they would go through the site review committee with the  
10 County, and they sat on the committee. He explained that as part of the  
11 review of zoning map amendments, special use permits, or proposed  
12 developments, they identified red flags with service provisions. He noted  
13 that there were steps throughout the process where they could identify  
14 capacity issues. He explained that with larger developments, there was  
15 typically master planning prior to the zoning map amendment, and they  
16 were able to identify at that point any larger scale projects that may  
17 require offsite easements or involve RWSA.

18 Dr. Palmer noted that there was always a line in the Board of  
19 Supervisors and Planning Commission documents stating that RWSA  
20 and the ACSA had signed off on the project. Mr. Roberts noted that  
21 impact statements had to be made at the General Assembly when he  
22 was working because he had to write them. Dr. Palmer said she did not  
23 know about the impact statements, but the Board of Supervisors often  
24 asked for more information about the impact statements. She noted that  
25 many years ago, Stonefield had a different name, and that was a  
26 debacle of communication between the ACSA and the County of  
27 Albemarle.<sup>1</sup> Mr. Roberts noted that the growth was considered in the  
28 approval process of North Point. Dr. Palmer said she had become more  
29 comfortable with the process over the years as things had improved.

30 Mr. Tolbert asked what an E/1 system was as mentioned on page  
31 91. Mr. Morrison replied that an E/1 system was an alternative to a public

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1 pump station. He explained that there was a common force-main  
2 generally located in the right-of-way or along the road owned and  
3 operated by the ACSA. He said each individual home had a collection  
4 tank and grinder pump which connected to the force-main. He explained  
5 that the homeowner owned, operated, and maintained a tank, pump,  
6 and small-diameter force-main which connected to the pipe in the right-  
7 of-way. He said that it was a large-scale pump system to collect sewage  
8 from homes in lieu of a larger public pump station and gravity collection.  
9 Mr. Tolbert asked whether it was a common way to deal with it in a  
10 subdivision. Mr. Morrison replied that it would be one of the first they had  
11 in the ACSA system, but it was a common system in other municipalities.

12 ***c. CIP Authorizations***

13 ***d. Monthly Maintenance Update***

14 ***e. Rivanna Water and Sewer Authority (RWSA) Monthly Update***

15 ***f. ACSA Board Policy Future Issues Agenda 2023***

16 ***g. Advanced Metering Infrastructure (AMI) Project Update***

17 ***Mr. Parcels moved to approve the consent agenda, seconded***  
18 ***by Mr. Tolbert. All members voted aye.***

19  
20 7. **Request for Approval – Annual Year-End Appropriations**

21 Mr. Lunsford said he would speak to the matter briefly. He said that it  
22 was something they did each and every year as part of the new fiscal year  
23 budget process. He explained that any items from the prior fiscal year that  
24 they budgeted for were requested for reappropriation. He said that a list of  
25 items in detail was provided to the Board. He said they were requesting  
26 reappropriation of \$237,211.

27 ***Mr. Parcels moved to approve the reappropriation, seconded by Dr.***  
28 ***Palmer. The Chair asked for a roll-call vote: Mr. Parcels, aye; Dr.***  
29 ***Palmer, aye; Mr. Tolbert, aye; Mr. Armstrong, aye; Mr. Roberts, aye.***

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1           8.       Operations Presentation – Employee Training & Biz Library

2           Mr. Lunsford stated that Ms. Roach and Ms. Walker would give a  
3 presentation on employee training and the online training suite called Biz  
4 Library.

5           Ms. Roach said they would provide a high-level presentation on  
6 various training tools and training provided to ACSA employees. She said  
7 Malcolm X said it best, that growing is the result of learning. She said they  
8 strongly believed in investing in employees to help them grow. She said they  
9 offered multiple trainings throughout the Authority which were required by  
10 law or regulation. She said the Authority believed in thinking of employees  
11 holistically, and research had proven that employees faced many challenges  
12 outside of work that could impact their ability to perform work. She said that  
13 they often included training that was not necessarily work related, but it could  
14 be impactful for employees. She said that there was an employee assistance  
15 program where they partnered with UVA. She said those were free and  
16 confidential services for employees and household members.

17          Ms. Roach stated they worked with external organizations. She said  
18 the lead team and supervisors had participated in Darden's Leadership  
19 Development Training Program. She said they were working with PVCC's  
20 Shippers Choice CDL Program because of a new regulation. She said  
21 students had to participate in a required number of classroom trainings  
22 before obtaining a CDL. She said they worked with PVCC for first aid and  
23 CPR training. She said they used various coaches for leadership  
24 development training for supervisors and potential supervisors.

25          Ms. Roach highlighted that there was a course, certificate, and  
26 degree program available to all employees who wished to pursue training on  
27 their own time. She said employees who completed trainings were eligible  
28 for a cash bonus or base pay increase if they received a C or better in the  
29 course. She noted that COVID-19 caused the Authority to reconsider how it  
30 performed trainings. She said that during the pandemic, they implemented a  
31 new learning management system called Biz Library.



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1 Ms. Roach stated Biz Library allowed them to rethink the training  
2 approach. She explained it was a single platform to track employee training.  
3 She said they were seeing the benefits of Biz Library immediately. She said  
4 that supervisors had the ability to assign trainings to a group of employees  
5 or as individuals. She said employees received notifications as soon as the  
6 course was assigned and when it was completed or overdue. She said  
7 supervisors also received notifications. She said over the next few slides,  
8 there would be an overview of different trainings, and later on, there would  
9 be reports that supervisors and employees were able to see for courses.

10 Ms. Roach said Biz Library offered various training categories, and  
11 there were over 1,000 available offerings. She said that employees were  
12 able to take trainings on their own time. She said some trainings were broken  
13 up into sections, and within each section, there was a quiz on the content.  
14 She explained that Biz Library allowed the Authority to upload organization-  
15 specific trainings, so employees could review the training or make up missed  
16 sessions.

17 Mr. Parcels said he liked the approach which was taken in terms of  
18 providing the opportunities to the employees. He asked how the employees  
19 perceived and responded to the Biz Library program. Ms. Roach responded  
20 that employees appreciated the optional trainings, which were well-received.  
21 She said employees had requested or suggested trainings to include. She  
22 said that normally, a minimum of 10 people participated in the training. She  
23 said that last week, a company had discussed navigating Medicare and  
24 preparing for future events. She said they tried to think of employees in  
25 different aspects of their life and career.

26 Dr. Palmer noted that on slide 10, there were categories, and under  
27 software, there were 3,037. She asked if the numbers referred to the number  
28 of course available in the program. Ms. Roach replied yes. Dr. Palmer  
29 assumed that many of the trainings were not relevant to the organization.  
30 Ms. Roach said they would not be utilizing all of the trainings because some  
31 may not be relevant to the organization. Dr. Palmer asked what type of

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1 training was not covered by the Biz Library. Ms. Roach responded that Biz  
2 Library was not intended to replace other required training, and it was meant  
3 to be supplemental. She said that confined space training or asbestos  
4 training was not completed within Biz Library, among other trainings. Dr.  
5 Palmer asked if there were non-hands-on trainings that were not included.  
6 Ms. Roach said she could not think of anything. Mr. Lunsford responded that  
7 the Darden Leadership Program was not through the Biz Library. He noted  
8 staff took advantage of conferences around the country, and those programs  
9 continued. He said that Biz Library served as a supplement to many of the  
10 specific trainings offered by the Authority.

11 Mr. Tolbert asked if all the sessions were computer oriented. Ms.  
12 Roach said yes, most were videos, and they could range from 2 minutes to  
13 a couple of hours. Mr. Tolbert asked how they addressed employees who  
14 spent most of their time away from the office. He asked how those  
15 employees would get time to spend at a computer for the training. Ms. Roach  
16 responded that most employees had access to an iPad or a phone. She said  
17 that there were computers upstairs employees were able to utilize, and most  
18 had access to laptops or an Authority phone. She noted that the training was  
19 accessible on mobile devices. Mr. Tolbert mentioned that iPads and laptops  
20 seemed to be fine, but a phone was not an appropriate way to review the  
21 training.

22 Mr. Armstrong thanked Ms. Roach for putting the presentation  
23 together.

24  
25 9. Advanced Metering Infrastructure (AMI) Project Update

26 Mr. Lunsford stated that they continued to make progress on the AMI project.  
27 He said they prepared a short presentation to give a general overview of  
28 where they were, and they would focus on a few critical successes specific  
29 to customers. He stated that Ms. Knight, Mr. Barrow, and Ms. Vest would  
30 provide a presentation.

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1 Ms. Knight stated that they worked daily to review the software and  
2 infrastructure. She said that they would begin with the project status. She  
3 said that through three years of planning, the project was well underway.  
4 She said that as of that morning, over 36% of the system was deployed and  
5 fully operational. She said the presentation would provide an overview of the  
6 information the team reviewed daily to best serve the customers. She said  
7 as far as upgraded and operational systems, the graph on the slide showed  
8 7,591, but as of that morning, they were up to 8,019. She said that as far as  
9 scheduled meter change outs, there were down to 3,700 left. She said that  
10 in terms of retrofits, they were over 10k left to be completed, but those were  
11 less disruptive to customers. She explained the contractor installed an MXU  
12 device so the meter would communicate to the towers, and she noted  
13 customers did not experience service disruptions. She said that in terms of  
14 the meter changeouts, there had been very few customer complaints.

15 Ms. Knight said every morning, they sent an email to staff with a daily  
16 update and a weekly projection graph of where they were and what the  
17 contractor had done. She said they were retrofitting about 100 meters per  
18 day, and they were pleased with the numbers.

19 Dr. Palmer asked what "no read" and "bad read" meant. Mr. Barrow  
20 replied that the data came directly from the PMI portal, and "no read" meant  
21 they had not received any readings from the meter, and he did not know  
22 what a "bad read" meant. He said that PMI used the data to track the devices  
23 they installed. Dr. Palmer asked what a stale read was. Mr. Barrow  
24 responded that a stale read was when no readings had been gathered from  
25 a meter in three days. He said that there could be various reasons for a stale  
26 read, such as the antenna being cut off. Dr. Palmer asked if the property  
27 owners were informed if stale reads occurred. Mr. Barrow said no. He said  
28 they handled it by replacing the lids that were cut off with recessed lids, and  
29 if it happened again, they notified the homeowner that they would have to  
30 pay for replacements. He hoped that the recessed lids would address most  
31 of the problems.

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1 Ms. Knight stated that they were happy with the system and the  
2 contractor. She said they uploaded to the billing system daily, and files came  
3 in accurately.

4 Mr. Parcels asked at what point the contractor turned the meter over  
5 to the Authority. He asked if there was a requirement for the contractor to  
6 have a good meter reading to provide the Authority before turning it over.  
7 Mr. Barrow replied that so far for the project, if there was any work that  
8 needed redone, the contractors were sent back out to take care of the work.  
9 He said that until the project was complete and fulfilled, any problems would  
10 be corrected. He said that stale meters were different because there could  
11 be other causes. Mr. Parcels clarified that when they replaced the meter  
12 tops with recessed lids, they were sending PMI to do the replacement. Mr.  
13 Barrow replied no because the damage was often done by the customer. He  
14 said that PMI would not use its inventory since the meter had been  
15 functioning.

16 Ms. Knight stated that as they were installing new meters, the new  
17 meters had the MXU devices already installed, and they were AMI-ready.  
18 She said that Mr. Barrow and Ms. Vest would tag-team and discuss daily  
19 review and consumption.

20 Mr. Barrow stated that when the project first started, they did not  
21 have many in the ground, and he was the only one reviewing it. He said  
22 various alerts would come in, and he would investigate the issues. He said  
23 that when they reached full deployment, he was unable to keep up with the  
24 reports on his own. He explained that the customer service team had access  
25 to census analytics and to the RNI, and they were monitoring the system.  
26 He said he primarily focused on the infrastructure, and he had delegated  
27 customer notification of leaks to the customer service team.

28 Mr. Barrow gestured to the screenshot shown on the screen, which  
29 was of the main dashboard of the Regional Network Interface (RNI). He  
30 explained that basically, the meters were communicating and sending the  
31 data to the radio units, the MXUs, the MXUs were communicating to all of

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1 their tower sites, and all of that raw meter data, including readings, alerts,  
2 and alarms, was coming into the RNI, and this dashboard was where they  
3 would see that. He said that they could see the main dashboard and the pie  
4 chart, and the various alerts they received. He said that they broke it down  
5 into critical alerts, major alerts, minor alerts, and information alerts. He stated  
6 that they considered a continuous flow or a customer leak being a minor  
7 alert, and while to him that was not a minor thing for a customer. That was  
8 how they did it. He said that the major alerts that they considered were the  
9 really extreme high flows, such as if a pipe burst. He said that they had a few  
10 ally meters in the system, and he believed they had about 50 of those  
11 deployed. He said that an ally meter was a meter capable of being remotely  
12 turned on and off, which was not a function that they planned to use, but the  
13 meter also monitored water temperature and pressure. He said that so, the  
14 engineering team got together and said that they wanted to measure  
15 pressure in certain areas of their system, so they bought about 50 of these  
16 meters and deployed them out to monitor the pressures. He said that when  
17 they set the parameters of the pressure alerts, if the low pressure and high  
18 pressure exceeded this pressure, they wanted an alert, which was what the  
19 critical alert was. He said displayed on the screen was what the alert page  
20 would look like. He said that when he first got into work in the morning, he  
21 would look at the overall system and make sure the towers were up and  
22 running, everything was working the way it was supposed to work, and then  
23 he looked primarily at the high flow alert. He said that Ms. Vest would talk in  
24 a minute about how she looked at the continuous flow, but he had gotten  
25 away from that and looked at high flow first because that was where a  
26 customer may have a pipe that had burst. He explained that a high flow was  
27 500 gallons per hour, so if the meter was going 500 gallons per hour, he  
28 would get that high flow alert. He said they were getting a lot of them now  
29 because customers' irrigation systems were turning on in the middle of the  
30 night and were using a lot of water. He said that he was weeding through the

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1 irrigation systems to find what was not an irrigation system that was having  
2 a really high flow.

3 Dr. Palmer remarked that she was surprised there was that much  
4 water coming out of irrigation systems. She asked if it was out of very large  
5 irrigation systems.

6 Mr. Barrow replied no, it could be like residential in Glenmore. He  
7 said that installers were currently working in the Glenmore subdivision and  
8 they were seeing a lot of high flow alarms come in overnight. He said that  
9 they would run 500, 600, or 700 gallons per hour for two or three hours.

10 Ms. Vest said with the high flow yesterday, out of the list she had,  
11 only one was a question and everything else was irrigation.

12 Mr. O'Connell asked how it was known that it was irrigation an issue.

13 Mr. Barrow said that it would be on their irrigation meter because  
14 they had auxiliary meters. He said that if it was a customer that had an  
15 exclusion meter behind it, they were making an assumption, because the  
16 rest of the day looked normal and it was just high for like two or three hours,  
17 so they were going on the assumption that the irrigation system was running  
18 even though the exclusion meter was not already in the system, but the  
19 primary meter was.

20 Ms. Vest said that when she had the list, she followed up in Bill  
21 Master. She said that if it was a resident that had an exclusion or auxiliary,  
22 such as a customer she looked up yesterday that used 17,000 gallons last  
23 month, but if it was a customer that rarely used their system, it was  
24 something they needed to look at.

25 Mr. Roberts asked if they had towers to accommodate all of their AMI  
26 systems, and he asked approximately how they determined the cost that  
27 they had to pay to use the tower.

28 Mr. Barrow said that he would let Mr. Lunsford talk about the cost,  
29 but they did not have everything built out yet. He said that they had one tower  
30 to go, which was at the UVA site. He said that they ran into difficulty up there  
31 because they originally wanted to put it on the Observatory tank but UVA did

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1 not want anything put on their tank, so they offered an alternative site fairly  
2 close to the tank for them to use. He said that it was a supply yard they had  
3 near Scott Stadium. He said they were going to put a wooden telephone pole  
4 to put the antenna on it, but they drilled and hit rock, and they even hired a  
5 special company to come in and try to drill it out, but that did not work. He  
6 said that they pursued an alternate plan where they were going to pour a  
7 concrete pad and put their own tower, which was a triangular metal structure  
8 like they had with their Ashcroft tank. He said that it took some time to get  
9 that designed and given to the UVA team, and UVA had reviewed it and  
10 signed off on it, so now they were going back to the contractor who was  
11 going to build all of that and get that up. He said that the UVA tower was the  
12 last one that needed to be put up. He said that there were pockets within the  
13 County where there was no cell phone signal, and the same thing was true  
14 of their radio. He said that they were finding now when they were in full  
15 deployment that radios and meters were going in certain areas but they were  
16 not hearing them and the signal was not getting out. He said they knew there  
17 were going to be pockets like that, and there was a smaller version of a tower  
18 called an R-100 that they knew they would need about 5 or 6 of those  
19 deployed around the County in strategic areas to pick up the others. He said  
20 that would not be done until the end of the project when they could identify  
21 exactly where they needed to go. He said that they had one that was installed  
22 on the roof of the Red Hill School because the school was an outlier, and it  
23 was just 12 meters there so they put the R-100 there and were reading all of  
24 those. He said that all of the infrastructure was not quite in as far as the  
25 towers go and the R-100s, but the bulk of it was.

26 Mr. Lunsford said that to piggyback on what Kenny said, the  
27 propagation study process was an evaluation of what they were  
28 communicating to where and was incredibly educational for them. He said  
29 that interestingly, the UVA site was only covering 100 unique meters, so it  
30 had an incredibly amount of redundancy to other antennas, but there was  
31 only about 100 meters that that was the only tower that it would communicate

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1 with. He said that while it was critical from a redundancy standpoint, that one  
2 site being the site being delayed was not a dealbreaker, and it was fortunate  
3 in that perspective. He said that related to costs, they had been fortunate  
4 that a lot of ACSA assets were strategically elevated, as were Rivanna's,  
5 and they had been able to co-locate on those assets, the water tanks  
6 throughout the County. He said that they did have two lease agreements, a  
7 site within the City, the Norfolk Southern tower where their consultants  
8 helped them negotiate an annual lease, as well as a site east of the urban  
9 area with a cell tower that they were able to co-locate on, so there was a  
10 monthly charge associated with that. He said that that tower in particular was  
11 \$550. He said that having one or two of those was not cost prohibitive, but it  
12 gave them an incredible amount of redundancy having those antennas up  
13 throughout the service area.

14 Mr. Roberts asked if they paid those costs with the service fee bonds  
15 that were collected.

16 Mr. Lunsford said sure, that was included in the service charge. He  
17 said that they were recouping those types of costs, meter costs, and things  
18 of that nature.

19 Dr. Palmer asked Mr. Barrow if they were seeing a lot more irrigation  
20 systems put in.

21 Mr. Barrow said that they were seeing the AMI components being  
22 added to the existing irrigation systems.

23 Ms. Knight said yes, pretty much every new development was  
24 coming along with an underground irrigation system that was separately  
25 metered.

26 Dr. Palmer said that she recognized that this was not a discussion  
27 for right now, and she knew that it was problematic, but she was listening to  
28 these numbers and wondering if they should be thinking about adding a level  
29 five to the rate structure for water.

30 Ms. Knight said they were seeing it a lot more now because they  
31 were actually working in cycle 3, which was Glenmore. She said that before,



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1 they were not seeing all these high flows and continuous flows where they  
2 had to dig a little deeper, so now they were seeing that now that they were  
3 doing the channel exclusions.

4 Ms. Knight said that to help Dr. Palmer understand, the North Point  
5 development's developer put in two taps for every lot, one for the domestic  
6 meter and one was for the irrigation.

7 Mr. Parcels said that in terms of future planning, it was one thing to  
8 be planning for human consumption kinds of uses, but the irrigation was a  
9 big unknown in a lot of cases.

10 Dr. Palmer said that people wanted green lawns.

11 Mr. Parcels asked if there could be a different rate structure for  
12 irrigation.

13 Mr. Lunsford said that there was, which was the tiered structure. He  
14 said that there were four levels currently, and 1000 gallons in level 4 was  
15 incredibly expensive compared to level 2.

16 Dr. Palmer said that they then got into all kinds of issues with  
17 commercial, institutional, and multifamily. She said that it got really  
18 complicated, and she recognized that, but it did make her wonder if this could  
19 be altered or looked at again.

20 Mr. Roberts asked if connection with an irrigation meter was billed  
21 separately.

22 Ms. Knight said that it was recorded separately because it was a  
23 separate meter for that irrigation usage.

24 Mr. Tolbert asked how they billed for irrigation.

25 Ms. Knight said that it was billed to one bill because they combined  
26 the two meters to the one account, but yes consumption was recorded  
27 separately.

28 Mr. Tolbert said that it could be billed separately.

29 Mr. Parcels said that he was wondering if they would not want to  
30 create that sort of category.

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1           Mr. Lunsford said that maybe this was an opportunity, as they were  
2 in a slower month, to prepare a presentation to illustrate this, so everybody  
3 could see exactly how exactly it was handled.

4           Mr. Barrow said that there were still quite a few private exclusion  
5 meters out there that would not be on their AMI system until they figured out  
6 what they were going to do with them. He asked if there were any more  
7 questions before they continued with the next slides. He said that the slide  
8 on the screen displayed Sensus Analytics (SA). He said the RNI was  
9 collecting all the raw data, and that raw data from the RNI was combined  
10 with the files that come from their billing system, and it married all that raw  
11 data to the customers' accounts. He said that was what was went into the  
12 Sensus Analytics system, and it was one of the main dashboards they looked  
13 at to see what was going on with how many active meters they had, how  
14 many orphaned meters they had, and how many stale and almost stale. He  
15 said that where it said 15 no reads, those were all primarily out in the Ivy  
16 area, because they knew Ivy was going to be a problem area as far as  
17 coverage. He said that there were a couple of R-100s proposed in that area  
18 and they were hoping that when UVA came online that the number would go  
19 down. He said that they talked about what stale was, which was when they  
20 had not heard from them, almost stale was two days, and an orphaned meter  
21 was a meter that they were getting data in the field from but there was  
22 nothing in their billing system that matched. He said that typically what that  
23 was if they went out and installed a new meter, it would start communicating  
24 right away, and it may take a couple of days for them to put a work order into  
25 the billing system to marry that data off, so that was what the orphaned  
26 meters were.

27           Mr. Lunsford said that the 288 number right now reflects most of what  
28 PMI, the AMI contractor, has installed. He said that they haven't had the  
29 opportunity to marry that yet, but when the project was finished the orphaned  
30 meters would probably in the 5 to 10 range.

31           Ms. Knight said absolutely.

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1           Mr. Barrow said yes, it would basically just be new construction. He  
2 said that he would let Ms. Vest speak to the next slide as she was the one  
3 doing most of the customer contact.

4           Ms. Vest said that first thing in the morning, one of the things she  
5 worked on was high flow. She said that Mr. Barrow was there before her, so  
6 he was looking at that and she was following up, so she was sort of learning.  
7 She said that she downloaded a report and looked at that individual meter to  
8 see if it was still ongoing or it stopped. She said that probably 95% of them  
9 had stopped, where it had happened overnight and the high flow was gone.  
10 She said that she had one where they were using over 500 gallons an hour,  
11 she called them and they said that it was the toilet and that they would get  
12 it, and the next day it stopped and was not on the list when they looked again.  
13 She said that continuous flow was sort of looked at in the same way they did  
14 with the meter readers, so if there was high consumption they sent them  
15 back out to double check for possible signs of a leak. She said that if there  
16 were no signs of a leak, they contacted the customer and they could check  
17 the property, and if there was a possible leak, they were reached out to when  
18 they knew there was a possible leak to let them know what was going on.  
19 She said that they were doing that with AMI as well. She said that for  
20 continuous flow, if they had a continuous flow and now it was back to their  
21 norm, to her that was the same as if the guys were out checking and it went  
22 back down, and there was no sign of a leak. She said that at first they were  
23 calling the customers, but then they could not locate it because it had  
24 stopped, so they did ongoing continuous flows. She said that she and  
25 another co-worker had reached out to customers and they had had people  
26 say that their water hose was going outside and they had forgotten it and left  
27 it on. She said that they had a lot of customers who they called about ongoing  
28 flow that could tell them right then and there what it was and it stopped. She  
29 said that they noticed it had been helping as far as adjustments in the bill,  
30 because if the readings were coming in through the meter reader, they were  
31 not seeing it for a whole month compared to seeing it in real time right then

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1 and there. She said that it had cut down on adjustments because they were  
2 getting these before they even got to that point where they had a \$5,000  
3 water bill. She said that it was really helping, and a lot of customers had  
4 asked when they would be able to look themselves, which they were looking  
5 into.

6 Ms. Knight said that it was also important for water conservation  
7 because they did not have all that leakage soaking into the ground or going  
8 into the sewer system. She said that it was amazing how many people knew  
9 right offhand that they had a toilet malfunctioning, but until they called them,  
10 they did not think of turning it off or getting it fixed.

11 Mr. Barrow indicated the graph on the screen that showed one  
12 particular customer. He said that they could see there were periods when  
13 there was nothing being used, then there were spikes, and then there was  
14 normal consumption. He said that then, they had this happen. He said that  
15 he came in one morning, the high flow alert came in around 6:00, and she  
16 was using over 600 gallons per hour and went as high as 1,300 gallons per  
17 hour. He said that based on the previous consumption, he knew that  
18 something was wrong and asked the meter technicians to go out there and  
19 verify that this was right and what they were seeing was correct. He said that  
20 the technician went out there and said that the meter was compliant, so he  
21 asked the technician to knock on the door and talk to the customer. He said  
22 that the customer came to the door and said that they did not have anything  
23 running. He said that the technician said the meter was showing that they  
24 were using a whole lot of water, and asked them to turn their main valve off  
25 while he checked the meter to see if it was outside or inside. He said that  
26 they went down to the basement to turn off the main valve and the basement  
27 was flooded. He said that they had not heard it, and the elderly resident had  
28 her daughter go down to check it, and found the basement flooded.

29 Ms. Vest said that once they got that turned off, they reached out to  
30 the plumber, Mr. Gentry, and she got the bill in an email, did the adjustment,  
31 and it was not even \$30 compared to what could have been hundreds of

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1 dollars or even \$1000 a month later. She said that it was fixed within two  
2 hours.

3 Mr. Barrow said that it was very quick, and especially with the  
4 situation of her being elderly and not doing very well, her basement could  
5 have run a lot harder than it did and a lot more damage than it did, so this  
6 was a pretty good success story for their project.

7 Ms. Vest said that she got a plumber out there that day and they got the bill  
8 showing it was repaired.

9 Ms. Knight asked if there were any other stories they wanted to  
10 share, as they had a lot of customers.

11 Ms. Vest said that it was nice that they had this, and it was coming  
12 more online each day where they could see more and more. She said that  
13 since she worked with the meter reading, she could see all of it. She said  
14 that it was really good that they could go right then and there and say they  
15 had something going on, and for a customer to say they knew what it was a  
16 great experience, and the customers were happy that they were reaching  
17 out to them.

18 Dr. Palmer said that she could remember a story that she heard here  
19 many, many years ago about an elderly couple whose basement flooded for  
20 a month. She said that it was really good to hear, because there were a lot  
21 of people who just did not hear well out there.

22 Ms. Knight said that the AMI project continued to progress. She said  
23 that they anticipated significant completion by the spring of 2024. She said  
24 that the ACSA staff, including meter reading staff, customer service staff,  
25 engineering, maintenance, everyone had embraced the additional  
26 information that the software made available, and they continued to refine  
27 and improve internal processes. She said that early communications of  
28 potential water-related issues to customers had been well-received and  
29 contributed to the improving of their customers' experiences.

30 Mr. Lunsford said that it gave their team an opportunity to have an  
31 entirely different conversation with the customers the day of and the day

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1 after. He said that he knew the team really appreciated that. He said that one  
2 of the added benefits of this installation right now was that they had asked  
3 their contractor doing the work on their pipe material in to present in  
4 conjunction with the new lead and copper identification stuff that they were  
5 required to do. He said that they were providing the information to the teams  
6 to analyze that, and that was an added benefit. He said that one thing that  
7 he wanted to be sure of was that finance got to use this tool right now a lot,  
8 one largely because maintenance was jumping on issues that were identified  
9 in this project incredibly quickly, so the contractors were there and shared  
10 that there were not metered operations or a center needed to be lowered or  
11 an old, fragile, galvanized pipe, the maintenance team was jumping on that.  
12 He said that they had been successful because of different departments  
13 supporting this endeavor.

14 Mr. Barrow said that while they used it primarily in their engineering  
15 department, it had been seeing some value that Mr. Morrison could talk  
16 about because he had some reports automated to keep track of all the auto-  
17 flushers they had out there and how they were operating.

18 Mr. Morrison said that this had been an incredible tool. He said that  
19 he personally had three reports that he got every morning between 6:00 a.m.  
20 and 6:30 a.m., one was their automatic flushing assemblies. He said that Mr.  
21 Barrow's group was able to deploy the AMI on all those assemblies early, so  
22 it gave them real-time data that the assembly did correctly operate the day  
23 before, the programming changes were considered, the nodes, and they had  
24 no issues to address. He said that they used to check them once a week, so  
25 if there was an issue where a panel was unable to open or got stuck open,  
26 there could be significant consequences for that. He said that they also got  
27 a report for a group that covered all of the meters in Scottsville, as well as all  
28 of the meters for Red Hill. He said that those being smaller systems, a  
29 significant leak in a residential home could have pretty big impacts on the  
30 system as a whole. He said that being able to identify those quickly and in  
31 conjunction with what customer service was looking at allowed them to

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1 reduce the impacts to Rivanna, who was running the treatment plants there.  
2 He said that a good example was right after Christmas this year when they  
3 had the hard freeze, there was a leak that developed at a store in Scottsville  
4 that was closed and was flowing 22,000 gallons per day, essentially double  
5 the daily demand at Scottsville. He said they were able to quickly get down  
6 there and isolate the meter and contact the owners who had not been in the  
7 store to see this so they could reduce the damage that occurred there and  
8 work with that customer. He said that also with the smaller systems it helped  
9 their environmental department when looking at water quality. He said that  
10 the Red Hill system was a prime example in that when the elementary school  
11 was not in session there, the demand in that system dropped significantly,  
12 so they could monitor that daily demand and see if they needed to go down  
13 there and do any proactive flushing to ensure they had adequate chlorine  
14 residual levels and had no higher water age. He said that it was an incredibly  
15 great tool to have, and with the growth in the system, the AMI would help  
16 them that much more in the future.

17 Dr. Palmer asked if most of Scottsville was done.

18 Mr. Morrison said that all of Scottsville was on AMI.

19 Mr. Barrow said that it had been in for over a year.

20 Dr. Palmer asked if that was where they got a lot of leaks because  
21 the system was old.

22 Mr. Morrison said that it was not a high leak rate, but with it being a  
23 more remote part of their system, the ability to identify that quickly and  
24 communicate to customers if there was a response necessary to dispatch to  
25 employee to Scottsville helped them out.

26 Mr. Parcels said that he had asked a long time ago about fire  
27 hydrants, which he knows there are many. He said that he guessed that it  
28 was probably not economically viable, but he wondered if perhaps they were  
29 having second thoughts.

30 Mr. Lunsford said that they had not considered that yet. He said that  
31 their hydrant meter program was something that they were constantly talking

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1 about, trying to think about the best way to meet the needs and protect the  
2 system.

3 Mr. Parcels said that his understanding was that it would be very  
4 expensive to retrofit something like that. He said asked if water haulers,  
5 which were fewer in cases, were worth attaching meters to. He corrected  
6 himself and said they had a mechanical meter.

7 Mr. Lunsford said that one of the future items that would be added to  
8 the system is additional pressure recording devices, not on meters, but on  
9 pipes to detect leaks and things that were important for them to have. He  
10 said that the backbone was there and the structure was there.

11 Mr. Barrow said that they had been able to monitor the Glenmore  
12 water plant that was flushing a lot of water.

13 Mr. Lunsford said that was correct.

14  
15 10. Items Not on the Agenda

16 There were none.

17  
18 11. Adjourn

19 ***There being no further business, Mr. Parcels moved that the***  
20 ***meeting be adjourned, seconded by Mr. Tolbert. All members voted***  
21 ***aye.***

22  
23 \_\_\_\_\_  
24 Gary B. O'Connell, Secretary-Treasurer  
25  
26

\_\_\_\_\_

<sup>i</sup> Dr. Palmer stated that when she first joined the ACSA Board of Directors', there was a miscommunication between the ACSA and the County of Albemarle, which resulted in not having enough sewer capacity for Stonefield. She stated that the property was sold, which gave the ACSA time to increase the capacity. She noted that her comment meant that since that time, in her opinion, the ACSA has become much better at communicating with the County.