Appomattox River Water Authority



21300 Chesdin Rd. - Petersburg, VA 23803 - Phone (804) 590-1145 - Fax (804) 590-9285

Appomattox River Water Authority

Board of Directors Meeting

DATE: November 14, 2019

TIME: 2:00 PM

LOCATION: South Central Wastewater Authority

Board Room, Administration Building

900 Magazine Road

Petersburg, Virginia 23803

AGENDA

- 1. Call to Order/Roll Call
- 2. Approval of Minutes: Minutes of the Regular Board Meeting on September 12, 2019
- 3. Public Comment
- 4. Executive Director's Report:
 - Reservoir Status Update for October/November 2019
 - Continuation of review, consideration and discussion of Hunt Club recommendations made at the September 12 Board Meeting
 - Citizen request for a winter maintenance reservoir drawdown
 - Presentation by HydroLogics/Hazen on 2019 Chesdin Reservoir Modeling Results
 - Annual Financial Report Year Ended June 2019: Robinson, Farmer, Cox Associates
 - Award of In-Plant Phase 2 Improvement Projects
 - Update on Refunding Series 2010 VRA Loan
 - Proposed 2020 Board Meeting Dates
 - Status Report: Ongoing Projects/Operational/Financial
- 5. Items from Counsel
- 6. Closed Session / Discussion of New Executive Director 2.2-3711.A.1
- 7. Other Items from Board Members/Staff Not on Agenda
- 8. Adjourn

Cc: G. Hayes / S. Morris, Chesterfield

L. Lyons, Petersburg

W. Henley, Colonial Heights

F. Haltom, Prince George

R. Wilson, Dinwiddie Water Authority

A. Anderson, McGuire Woods

2.	Approval of Minutes: Minutes of the Regular Board Meeting on September 12, 2019 Following are minutes of the Regular Scheduled Board Meeting held on September 12, 2019.

Absent any corrections or revisions, we recommend approval of the minutes as submitted.

1. Call to Order/Roll Call

BOARD OF DIRECTORS MEETING

Appomattox River Water Authority September 12, 2019 at 2:00 p.m. Location: South Central Wastewater Authority 900 Magazine Road, Petersburg, VA 23803

MEMBERS PRESENT:

Doug Smith, Chairman (Colonial Heights) Aretha Ferrell-Benavides, Vice-Chairman (Petersburg) Joseph Casey, (Chesterfield) Percy Ashcraft, (Prince George)

ALTERNATES PRESENT:

George Hayes, Secretary/Treasurer (Alternate, Chesterfield) Frank Haltom, (Alternate, Prince George) Kevin Massengill, (Alternate, Dinwiddie) Lionel Lyons, (Alternate, Petersburg)

ABSENT:

Robert B. Wilson, (Dinwiddie) William Henley, (Alternate, Colonial Heights)

STAFF PRESENT:

Robert C. Wichser, Executive Director, (ARWA & SCWWA)
James C. Gordon, Asst. Executive Director (ARWA & SCWWA)
Arthur Anderson, (McGuire Woods)
Melissa Wilkins, Accounting/HR/Business Manager/FOIA
(ARWA & SCWWA)
Kathy Summerson, Administrative Assistant (SCWWA)

OTHERS PRESENT:

Ted Cole, (Davenport)
Chris Tabor, (Hazen and Sawyer)
Keith Boswell, (VGR)
Mary Martin-Selby, Director of Human Resources (Chesterfield)
Andrew Barnes, (Petersburg)
Craig Stariha, (Citizen)
Scott Camp, (Citizen)
Mark Conner, (Citizen)
Michael Callen, (ARWA Manager of Water Operations)
Harry A. Smith, (ARWA Chief of Operations)

Mr. Smith, Chairman, called the meeting to order at 3:00 p.m.

1. Call to Order/Roll Call

The roll was called.

Mr. Smith asked for consensus from the Board that after we complete the Closed Session Item #6, that the Board has an opportunity to discuss any aspects of the interview process for the Executive Director's recruitment that needs to be discussed in open session such as the interview panel, members, process and anything of that nature.

Upon a motion made by Dr. Casey and seconded by Mr. Massengill the Board approved discussion of this item after the Closed Session.

2. Approval of Minutes: Minutes of the Regular Meeting of the Board on July 25, 2019

Upon a motion made by Mr. Massengill and seconded by Dr. Casey the following resolution was adopted:

RESOLVED, that the Minutes of the Regular Meeting of the Board on July 25, 2019 are hereby approved:

For: 5 Against: 0 Abstain: 0

3. Public Comment

Craig Stariha stated he is a resident of Chesterfield, but also a member of Hickory Road Hunt Club in Chesterfield and is a stakeholder who leases property from companies that are neighbors of ARWA. He gave a presentation about his concerns of hunting around the reservoir.

Scott Camp stated he is a resident of Chesterfield and spoke about his concerns on residential security.

Mr. Smith closed the Public Comment period. Dr. Casey requested a copy of the Power Point presentation for all Board members. Mr. Smith stated this would be turned over along with the recommendations to Staff and Counsel for them to review, and to provide a response back to the Board. He further stated the Board can take any appropriate actions as needed, citizens would be briefed and informed of any Board discussions coming up in the future. He stated our next regular meeting is November 14, 2019.

Dr. Casey left at 3:30 p.m., and Mr. Hayes took his place on the Board.

4. Executive Director's Report

• Reservoir Status Update for July/August 2019

Dr. Wichser reported on the reservoir status update for July/August 2019. He stated pool level is down 5.5 inches. He further stated that the NOAA Computer model is projecting that for the upcoming months of September/October/November we could expect temperatures above normal and precipitation somewhat above normal.

• Davenport Review/Recommendation on Refunding Series 2010 VRA Loan

Dr. Wichser stated we were contacted on August 28, 2019 by Peter D'Alema, Director of Program Management at the Virginia Resources Authority who brought to our attention that our 2010 Bond for \$9.6 million could be refunded with a cost savings over the next twelve years. He further stated he contacted our bond Attorney, Mr. Anderson, and our financial advisor, Ted Cole, of Davenport.

Mr. Cole gave a presentation on the advantage of re-financing with the VRA Refunding Summary – 2010C VRA Bonds. He stated that October 30, 2019 is the day you would lock in interest rates and for a refunding that's the date you would lock in the savings.

Mr. Anderson stated in the Board package is a Resolution to authorize the ARWA Board to move forward with this refunding.

Upon a motion made by Ms. Ferrell-Benavides and seconded by Mr. Hayes the following resolution was adopted:

RESOLVED, that the Board approves the Resolution of the Board of the Appomattox River Water Authority, authorizing the issuance and sale of a water revenue refunding bond, Series 2019, in a principal amount not to exceed \$7,250,000 and providing for the form and details thereof:

For: 5 Against: 0 Abstain: 0

Award of American Water Works Association Partnership of Safe Water 20 Year Directors Award for Constant Vigilance to Improve Water Quality

Dr. Wichser presented the Award of American Water Works Association Partnership of Safe Water 20 Year Directors Award for Constant Vigilance to Improve Water Quality to Michael Callen, ARWA Manager of Water Operations, and Harry A. Smith, ARWA Chief of Operations. He stated that Mr. Smith is retiring in January 2020 after 33 years of service.

• Board Discussion on Alum Litigation Refunding

Dr. Wichser stated a table was sent out this week to the Board for their review on the funds we have received related to the alum settlement. He further stated the Authority Board has a decision to make based on ARWA's part of the alum litigation settlement. He stated the estimated refund to the Authority is about \$860,000. He asked how do we refund this money, based on allocation, based on consumption or take this money and put into Authority's reserves for future projects? Mr. Hayes stated Chesterfield would support reimbursement to the members through consumption calculation that's shown on page fifty-five of the Board package. Mr. Massengill stated he concurred with what Chesterfield is saying.

Mr. Smith stated he could see a couple of options here another one being if we wanted to wait until the securities study to see what those costs are, but he could go with one or the other.

Upon a motion made by Mr. Hayes and seconded by Mr. Massengill the following resolution was adopted:

RESOLVED, that the Board approves the Executive Director to refund members with the proceeds from the alum litigation based on FY99 – FY16 consumption percentages as presented on Page fifty-five of the Board package:

For: 5 Against: 0 Abstain: 0

Dr. Wichser asked how Board wanted us to do the refunds and Mr. Smith replied as they come in.

Mr. Ashcraft left at 4:09 p.m. and Mr. Haltom took his place on the Board.

• Board Discussion on Requirement for Irrigation Permit to Withdrawal Water

Ms. Wilkins reported that as directed at the July 2019 Board meeting Staff went back and drafted a reminder letter to our current irrigation withdrawal permit holders with assistance from Dinwiddie County and Chesterfield County. She stated letters went out on August 28, 2019 that included a reminder letter, opt-out form, the application and the permit license. She further stated as of today we have seven opt-out forms, one deceased permit holder and two new applications. She stated there are roughly thirty-three outstanding. Dr. Wichser stated we are asking for some direction from the Board as a resolution was passed by the Board that stated after June 30, 2019 all irrigation withdrawals for which a license has not been renewed shall cease.

Mr. Smith stated he thought we needed to do some follow-up but would like input from the two localities most affected to see what their thoughts are. Mr. Massengill stated he thought there should be a follow-up and send another letter. Mr. Hayes stated Chesterfield County would support a follow-up to a point of how much time and effort of that Staff is going to spend on something. He further stated that maybe once a year send out postcards just so you're making an effort to notify the landowners that there is a policy out there. Mr. Smith asked about the way the current Agreement is about somebody that is not withdrawing water any longer, are they allowed to have the equipment in the water, and Dr. Wichser replied that existing written policy wasn't clear. Ms. Wilkins stated the opt-out people have systems but they have chosen to no longer use them, and we are going out to inspect. Dr. Wichser stated we will draft a follow-up letter and send it to Mr. Hayes and Mr. Massengill for review, comments and finalize it and get it back out to the non-responders.

• Information Requested related to ARWA on-going "In-Plant" upgrade project

Dr. Wichser reported on the information requested related to the In-Plant" upgrade project. He stated we were able to clearly show by pre-purchasing equipment that we saved \$1 million. He further stated his recommendation to the Board is that ARWA continue to investigate the benefit of using the equipment pre-purchase option on future capital projects.

• Status Report: Status Report: Ongoing Projects/Financials

Mr. Gordon reported on Ongoing Projects/Financials.

5. Items from Counsel

There were no items from Counsel.

6. Closed Session

Mr. Anderson read the Resolution to go into Closed Session (attached).

Upon a motion made by Mr. Hayes and seconded by Ms. Ferrell-Benavides the Board went into Closed Session at 4:26 p.m.

For: 5 Against: 0 Abstain: 0

Upon a motion made by Ms. Ferrell-Benavides and seconded by Mr. Hayes the Board came out of Closed Session at 5:12 p.m.

Mr. Anderson read the Certification regarding the Closed Session and, upon a motion made by Mr. Haltom and seconded by Mr. Massengill, it was approved by a unanimous roll call vote (attached).

For: 5 Against: 0 Abstain: 0

Mr. Smith stated that coming out of Closed Session with the Board that there was an action item.

Upon a motion made by Mr. Massengill and seconded by Ms. Ferrell-Benavides the following resolution was adopted:

RESOLVED, that the Board authorizes a one-time bonus payment in recognition of performance of the Executive Director in the amount of six thousand dollars to be paid on the next available pay period:

For: 5 Against: 0 Abstain: 0

7. Other Items from Board Members/Staff Not on Agenda

Mr. Smith introduced Ms. Mary Martin-Selby, Director of Human Resources in Chesterfield, who reported on the job interviewees for the Executive Director position. She stated there were four things to be decided today; 1) select dates for the first and second interviews with a full day for first round interviews and a half day for second round, 2) decide who will serve on first round and second round; 3) decide on location, and 4) how you want to take care of any travel associated costs for candidates.

Upon a motion made by Ms. Ferrell-Benavides and seconded by Mr. Massengill the following will serve on first round: Mr. Massengill, Mr. Smith, Mr. Lyons, Mr. Hayes and Mr. Haltom.

For: 5 Against: 0 Abstain: 0

The first round date will be October 2, 2019 and the location will be at the Chesterfield Airport. The Board decided for reimbursement for hotel, air, rental car, etc. We will provide lunch around interview times.

The following will serve on second round: Mr. Massengill, Mr. Smith, Ms. Ferrell-Benavides, Dr. Casey and Mr. Ashcraft. During the second round interviews the candidates will have a tour of both ARWA and SCWWA sites. Mr. Smith will work with Ms. Martin-Selby on the interview questions. The interviews should take approximately one hour with a fifteen minute break in-between.

8. Adjourn

Mr. Smith stated, if there's no other business, and asked for motion to adjourn.

Upon a motion made by Mr. Haltom and seconded by Mr. Massengill the meeting was adjourned at 5:26 p.m.

MINUTES APPROVED BY	Y:
George Hayes Secretary/Treasurer	

CLOSED MEETING RESOLUTION

APPOMATTOX RIVER WATER AUTHORITY

September 12, 2019

I move that we go into a closed meeting for (i) discussion and consideration of the performance and salaries of specific public officers of the Authority, specifically regarding the Executive Director's annual review and retirement, as permitted by Section 2.2-3711A.1. of the Virginia Freedom of Information Act ("FOIA"), and (ii) discussion and consideration of prospective candidates for employment as the new Executive Director for the Authority, as permitted by Section 2.2-3711A.1. of FOIA:

MOTION: Hayes

SECOND: Ferrell-Benavides

<u>VOTE</u>

Haltom Aye
Hayes Aye
Ferrell-Benavides Aye
Massengill Aye
Smith Aye

ABSENT DURING VOTE: None.

ABSENT DURING CLOSED MEETING: None.

SESSION DATE: September 12, 2019

CERTIFICATION OF CLOSED MEETING

WHEREAS, the Board of the Appomattox River Water Authority (the "Authority") convened a closed meeting on September 12, 2019, pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

WHEREAS, Section 2.2-3712 of the Code of Virginia requires a certification by this Board that such closed meeting was conducted in conformity with Virginia law;

NOW THEREFORE, BE IT RESOLVED that the Board of the Authority hereby certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements by the Virginia Freedom of Information Act were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed or considered by the Board.

MOTION: Haltom

SECOND: Massengill

VOTE

Haltom Aye
Hayes Aye
Ferrell-Benavides Aye
Massengill Aye
Smith Aye

ABSENT DURING VOTE: None.

ABSENT DURING CLOSED MEETING: None.

3. Public Comment

The Guidelines for Public Comment are:

GUIDELINES FOR PUBLIC COMMENT AT SCWWA/ARWA BOARD OF DIRECTORS MEETINGS

If you wish to address the SCWWA/ARWA Board of Directors during the time allocated for public comment, please raise your hand or stand when the Chairman asks for public comments.

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for "Public Comment Period." Each person will be allowed to speak for up to three minutes.

When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

During the Public Comment Period, the Board will attempt to hear all members of the public who wish to speak on a subject, but it must be recognized that on rare occasion presentations may have to be limited because of time constraints. If a previous speaker has articulated your position, it is recommended that you not fully repeat the comments and instead advise the Board of your agreement. The time allocated for speakers at public hearings are the same as for regular Board meeting, although the Board can allow exceptions at its discretion.

Speakers should keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. For that reason, speakers are requested to speak from the podium and wait to be recognized by the Chairman. In order to give all speakers proper respect and courtesy, the Board requests that speakers follow the following guidelines:

- Wait at your seat until recognized by the Chairman;
- Come forward and state your full name and address. If speaking for a group, state your organizational affiliation;
- Address your comments to the Board as a whole;
- State your position clearly and succinctly and give facts and data to support your position;
- Summarize your key points and provide the Board with a written statement or supporting rationale, when possible;
- If you represent a group, you may ask others at the meeting to be recognized by raising their hand or standing;
- Be respectful and civil in all interactions at Board meetings;
- The Board may ask speakers questions or seek clarification, but recognize that Board meetings are not a forum
 for public debate; Board Members will not recognize comments made from the audience and ask that members
 of the audience not interrupt the comments of speakers and remain silent while others are speaking so that
 other members in the audience can hear the speaker;
- The Board will have the opportunity to address public comments after the Public Comment Period has been closed;
- At the request of the Chairman, the Executive Director may address public comments after the session has been closed as well; and
- As appropriate, staff will research questions by the public and respond through a report back to the Board at the
 next regular meeting of the full Board. It is suggested that citizens who have questions for the Board or staff
 submit those questions in advance of the meeting to permit the opportunity for some research before the
 meeting.

4.	Executive Director's Report:
	Reservoir Status Update for September/October 2019
	 Continuation of review, consideration and discussion of Hunt Club recommendations made at the September 12 Board Meeting
	av and opposition == 5 can a mooning

Following is a letter from a citizen with property on the Chesdin Reservoir requesting a maintenance winter pool drawdown.

YEAGER

9260 Eagle Cove Circle South Chesterfield, Va. 23803 (804) 590-2627

October 28, 2019

Dr. Robert Wichser Executive Director Appomattox River Water Authority 21300 Chesdin Rd. South Chesterfield, VA 23803

Dear Bob:

Thank you for your recent phone call about the idea of dropping the water level of the lake during the winter for a defined period in order to make shoreline repairs and cleanup. When you called, the lake level was down about 1.5 feet and you were concerned about the Board's possible reaction to dropping the lake during drought conditions. Now that the lake has returned to full pool after the recent rains, I assume that concern is mitigated.

As we discussed, for the past several years, the lake has remained at virtually full pool, and has experienced several periods of excess levels. This extended blessing of a full pool has inhibited lakeside property owners from being able to make customary repairs/improvements to bulkheads, docks and shorelines. When we discussed the idea of a scheduled "draw down" during the slower winter months to facilitate shoreline/property improvements and cleanup, you were supportive of the idea which you said you would add it to the ARWA Board's November meeting agenda. I hope that this idea is still appropriate. I was planning on attending the November meeting, but I now have an out of town commitment that prohibits my attendance.

Specifically what I would propose is this. "That the ARWA Board approve a scheduled draw down of the Lake Chesdin for a defined period to permit shoreline repairs and cleanup".

The amount and timing of the draw down would be at the discretion of ARWA with the idea of providing the greatest opportunity for work, while not triggering other regulations that would complicate the request. A publicized draw down schedule in advance would allow for engagement of contractors for work and provide a definite timeline for project completion. The neighbors with whom I have spoken were very enthusiastic about the prospect of being able to complete repairs and projects and wholeheartedly support whatever action the ARWA Board would approve. We also talked about organizing a general lake "clean up" when the lake would be down further improving the condition of the lake.

On behalf of many lake front property owners, we appreciate the Board's consideration of this proposal. We also join in wishing you well on your upcoming retirement and thank you for your excellent stewardship of the lake during your tenure. Please feel free to contact me if I can provide any additional information.

Sincerely,

ARWA BOD Page 11 of 40

•	Presentation by HydroLogics/Hazen on 2019 Chesdin Reservoir Modeling Results					
Following is the Hydrologics/Hazen presentation with the 2019 Chesdin Reserve Results.						

Hazen





Chesdin Reservoir Water Supply Reliability Analysis

November 14, 2019

Casey Caldwell Steven Nebiker

Summary

• 2019 assessment

Overall reliability assessment

Alternative drawdown assessment



2019 Assessment

- Use OASIS model of the reservoir; model was initially developed in 2012 to support development of the new permit
 - For this analysis, used updated raw water demand and process water return patterns
- Use model to develop drawdown percentiles for the entire hydrologic record (1926 – 2019)
- Compare 2019 drawdown to period-of-record percentiles

Demand & Return Patterns

- For average annual withdrawal use 2015-2019 average of <u>33.0 mgd</u>
- Monthly patterns in the model based on average 2014 2018

Year	Avg. Annual Raw Water Demand (mgd)
2015	31.6
2016	31.2
2017	32.6
2018	33.8
2019*	36.0
Average	33.0

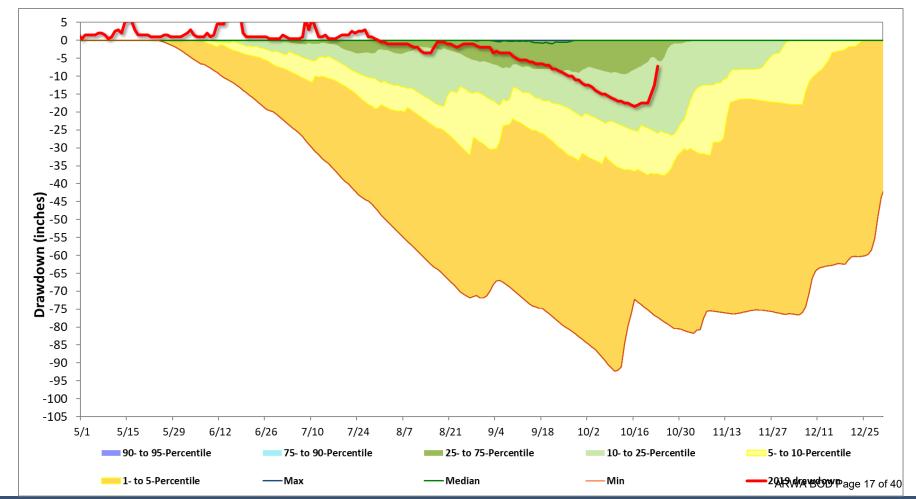
^{*2019} uses actual production data through 10/22 and production would average the same as 2018 through the end of the year.



Hazen

ARWA BOD Page 16 of 40

2019 Chesdin Drawdown (inches) vs. Percentiles from Simulated Record





Hazen

Overall Reliability Assessment

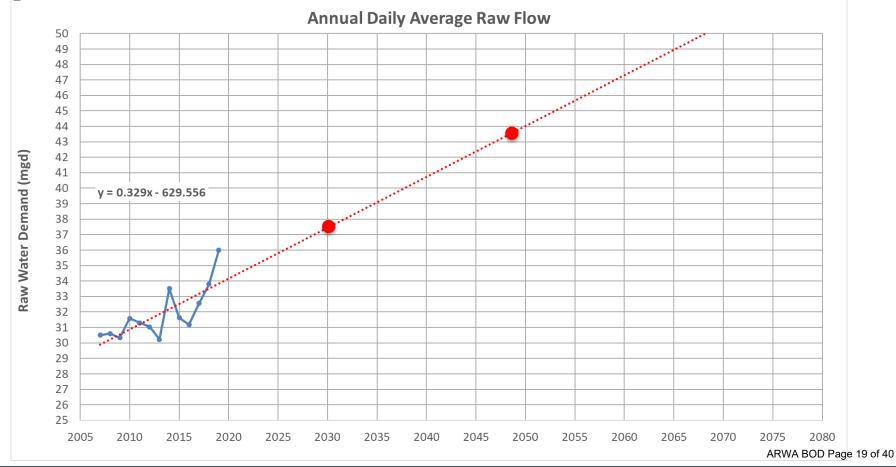
- With record updated through Oct. 2019, show the reliability metrics that were used in 2013 to support the approval of the current minimum release permit
 - Metrics were developed with ARWA and VA DEQ
- These metrics assess water supply reliability (including how often the drought plan would be activated), and also environmental (fish habitat) and recreational goals
- Assess future demands using linear projections based on production data since 2007



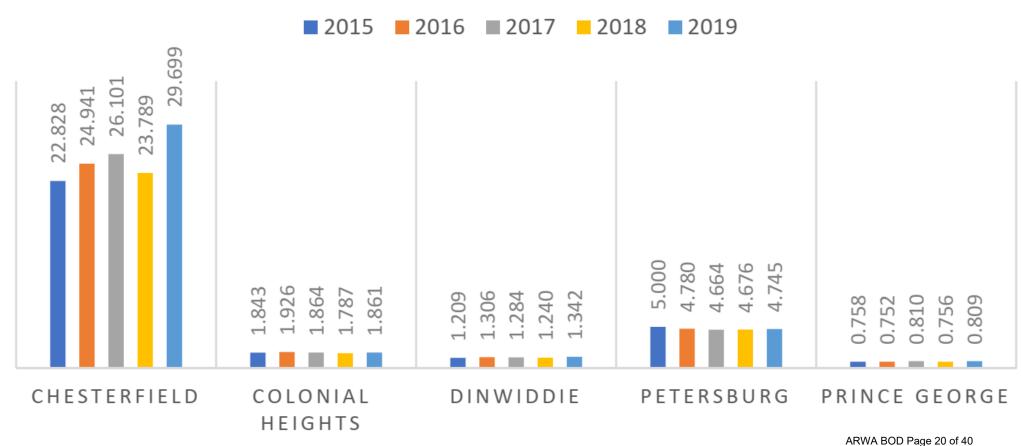
Hazen

Linear Raw Water Demand Projections

interpolated from 2007-2019 data



AVERAGE DAY SUMMER DEMANDS (JULY-SEPT) MGD





System Performance Goals

- Drought plan activation frequency
 - Voluntary 1 in 5 years
 - Mandatory 1 in 25 years
 - Emergency 1 in 94 years (hydrologic period of record)
- Drawdown frequency
 - Recreation > 2 ft (May 15 Sep 30) 1 in 5 years
 - Recreation > 4 ft (May 15 Sep 30) 1 in 10 years
 - Out-Migration > 3.5 ft, 45+ consecutive days (Sep 1 Nov 30) 1 in 17 years
- Maintain minimum storage 60 days of supply
- Preservation of downstream habitat (determined by DEQ)

Reliability Metrics

Drought Plan	Trigger	Current Conditions 33.0 MGD	Linear 2030 Projection 37.5 MGD	Linear ~2048 Projection 43.5 MGD
	Stage 1 (Voluntary)	1 in 19 yrs	1 in 9 yrs	1 in 6 yrs
Frequency of Trigger Activation	Stage 2 (Mandatory)	1 in 93 yrs	1 in 47 yrs	1 in 31 yrs
	Stage 3 (Emergency)	< 1 in 94 yrs	< 1 in 94 yrs	1 in 94 yrs
	Rec > 2 ft	1 in 7 yrs	1 in 5 yrs	1 in 4 yrs
Frequency of Drawdown Event	Rec > 4 ft	1 in 31 yrs	1 in 16 yrs	1 in 9 yrs
	Mig > 3.5 ft, 45+ days	1 in 47 yrs	1 in 31 yrs	1 in 16 yrs
Preserves 60	-day supply?*	Yes (142 days)	Yes (108 days)	Yes (80 days)

Red = goal not met Yellow = within 1 event of goal Green = goal met

* Days of supply remaining based on supply above the lowest intake (125 ft MSL).

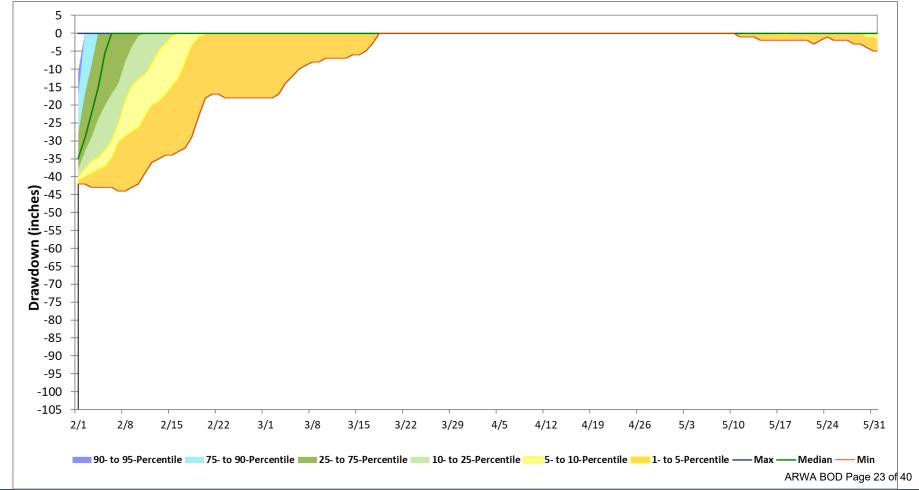
Recreation statistics are for May 15 – Sep 30

Out-Migration statistics are for Sep 1 – Nov 30

ARWA BOD Page 22 of 40



Alternative Drawdown Assessment: Refill Probability if Chesdin is drawn down 3.5' on Feb 1





Conclusions

- Chesdin Reservoir is very reliable at current system demand levels
- 2019 experienced higher-than average-demands and low inflows, resulting in moderate drawdown, but the system refilled quickly
- The new permit for minimum releases added a significant amount of reliability over the old release requirement (previously presented)
- Under linear demand growth projections, the reservoir will be able to meet all metrics for the next 30 years.
 - Using a linear trend to estimate raw water demand growth is likely conservative
- Probability of refill if Chesdin is drawn down 3.5 ft on Feb 1 is very high
 - Projected to be full by 3/18 under average inflow conditions



•	Annual Financial Report Year Ended June 2019: Robinson, Farmer, Cox Associates
	Robinson, Farmer, Cox Associates will present the Annual Comprehensive Financial Report
•	Award of In-Plant Phase 2 Improvement Projects
	Following is a memo regarding the award of the In-Plant Phase 2 Improvement Projects.

Appomattox River Water Authority



21300 Chesdin Rd. - S. Chesterfield, VA 23803 - Phone (804) 590-1145 - Fax (804) 590-9285

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR

JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR

SUBJECT: AWARD OF "IN-PLANT" PHASE 2 IMPROVEMENTS

DATE: NOVEMBER 14, 2019

Based on the need for additional critical "In-Plant" electrical/mechanical replacement items, the Authority moved forward with In-Plant Capital Upgrade Project Phase 2. Public advertisements for bids from contractors were issued on August 25, 2019 with a mandatory pre-bid meeting held on September 5, 2019. Bids were opened on September 25, 2019. This project is designed to provide for upgrading specific electrical conduits, power panelboards, transformers and electrical power distribution equipment. This project also includes providing for two new sodium hypochlorite tanks and a metal building roof system for the chlorine dioxide tank farm.

Bid Item Results for In-Plant Phase 2

MEB General Contractors, Inc.: \$ 1,389,600 Southwood Builders \$ 1,655,300

Project Costs:

Engineer's 2019 estimate for the project: \$ 1,300,000

Project Engineers Hazen & Sawyer and WW Associates: design, bidding service and construction administration fees are \$ 109,700 (current contract) and additional \$25,000 for construction inspection fees

Instrumentation Controls/PLC System Integration by E-Merge: \$ 1,000

Construction contractor costs: \$ 1,389,600 Total estimated project costs: \$ 1,525,300

This project is to be funded from remaining 2017 "In-Plant" bond funds

MEB General Contractors, Inc. bid met all required submittals for bid bond and insurance. Project Engineer WW Associates has recommended to the Authority to award the construction contract and Notice to Proceed to MEB General Contractors, Inc. of Richmond/Chesapeake, Virginia.

Board Action Requested:

ARWA staff recommends that the Board of Directors award the "In-Plant" Phase 2 Improvement Project construction contract to MEB General Contractors, Inc. for \$1,389,600. Staff also requests a five percent (\$76,265) contingency for this work, to be used only if the Executive Director considers it necessary and authorizes in writing any increase from the original amount. Additionally, staff requests utilization of \$25,000 "In-Plant" Phase 2 project funds towards construction inspection by Hazen & Sawyer engineers.

• Update on Refunding Series 2010 VRA Loan

Following are the final numbers for the Virginia Resource Authority – 2019 Final Numbers for the refunding of the ARWA 2010C Bonds

Refunding Summary – 2010C VRA Bonds

Appomattox River Water Authority



November 1, 2019



Refunding of Series 2010C VRA Bonds

Final Pricing – VRA Public Sale



	Summary of Refunding Results						
1	Bonds Refunded						
2	Par Refunded	\$	6,475,000				
3	Coupon		3.15% - 5.00%				
4	Call Date		11/1/2020				
5	Call Price		100.00%				
6	Maturities Refunded	11/	1/21 - 11/1/31				
7							
8	Refunding Bonds						
9	Bond Par Amount	\$	6,820,000				
10	Final Maturity		11/1/2031				
11	True Interest Cost		2.531%				
12	All-In TIC		2.915%				
13	Assumed Call Date		11/1/2029				
14							
15	Savings						
16	Gross Savings	\$	711,115				
17	Net PV Savings	\$	614,863				
18	Net PV Savings %		9.496%				
19	Average Annual Savings	\$	54,701				
20							
21	Key Escrow Statistics						
22	Escrow Maturity Date		11/1/2020				
23	Average Coupon of Escrowed Bonds		4.690%				
24	Earnings Rate on Escrowed Bonds		1.586%				

Annual Savings						
Net Prior Bond Net Refunding Annu						
Year	Debt Service	Debt Service	Savings			
6/30/2020	155,550	75,206	80,344			
6/30/2021	311,100	257,283	53,817			
6/30/2022	759,370	705,940	53,430			
6/30/2023	755,400	704,760	50,640			
6/30/2024	756,670	703,011	53,659			
6/30/2025	758,065	705,495	52,570			
6/30/2026	757,623	706,888	50,735			
6/30/2027	765,125	712,224	52,901			
6/30/2028	756,300	701,702	54,598			
6/30/2029	756,300	705,204	51,096			
6/30/2030	754,895	702,762	52,133			
6/30/2031	752,035	699,439	52,596			
6/30/2032	752,618	700,021	52,596			
Total	\$ 8.791.050	\$ 8.079.935	\$ 711,115			

Notes:

- Savings net of estimated Fixed Cost of Issuance of \$110,500 and Underwriter's Discount of \$27,464.
- Interest rates as of final pricing on 10/30/2019.
- Assumes a closing date of 11/20/2019.

Refunding of Series 2010C VRA Bonds—Resulting Debt Service APPOMATTOX RIVER



	Unrefunded 2010C Debt Service					Refunding 2019 Debt Service				Total				
Date*	Principal	Interest	Total	FY Total	Date*	Principal	Interest	Total	FY Total	Date*	Principal	Interest	Total	FY Total
4/1/2020 \$	- \$	11,220.00 \$	11,220.00 \$	11,220.00	4/1/2020	\$ -	\$ 75,205.83	\$ 75,205.83	\$ 75,205.83	4/1/2020	\$ -	\$ 86,425.83	\$ 86,425.83	\$ 86,425.83
10/1/2020	440,000.00	11,220.00	451,220.00		10/1/2020	90,000.00	84,081.05	174,081.05		10/1/2020	530,000.00	95,301.05	625,301.05	
4/1/2021	-	-	-	451,220.00	4/1/2021	-	83,202.20	83,202.20	257,283.25	4/1/2021	-	83,202.20	83,202.20	708,503.25
10/1/2021	-	-	-		10/1/2021	545,000.00	83,202.20	628,202.20		10/1/2021	545,000.00	83,202.20	628,202.20	
4/1/2022	-	-	-	-	4/1/2022	-	77,737.83	77,737.83	705,940.03	4/1/2022	-	77,737.83	77,737.83	705,940.03
10/1/2022	-	-	-		10/1/2022	555,000.00	77,737.83	632,737.83		10/1/2022	555,000.00	77,737.83	632,737.83	
4/1/2023	-	-	-	-	4/1/2023	-	72,022.00	72,022.00	704,759.83	4/1/2023	-	72,022.00	72,022.00	704,759.83
10/1/2023	-	-	-		10/1/2023	565,000.00	72,022.00	637,022.00		10/1/2023	565,000.00	72,022.00	637,022.00	
4/1/2024	-	-	-	-	4/1/2024	-	65,989.18	65,989.18	703,011.18	4/1/2024	-	65,989.18	65,989.18	703,011.18
10/1/2024	-	-	-		10/1/2024	580,000.00	65,989.18	645,989.18		10/1/2024	580,000.00	65,989.18	645,989.18	
4/1/2025	-	-	-	-	4/1/2025	-	59,505.88	59,505.88	705,495.06	4/1/2025	-	59,505.88	59,505.88	705,495.06
10/1/2025	-	-	-		10/1/2025	595,000.00	59,505.88	654,505.88		10/1/2025	595,000.00	59,505.88	654,505.88	
4/1/2026	-	-	-	-	4/1/2026	-	52,381.80	52,381.80	706,887.68	4/1/2026	-	52,381.80	52,381.80	706,887.68
10/1/2026	-	-	-		10/1/2026	615,000.00	52,381.80	667,381.80		10/1/2026	615,000.00	52,381.80	667,381.80	
4/1/2027	-	-	-	-	4/1/2027	-	44,842.13	44,842.13	712,223.93	4/1/2027	-	44,842.13	44,842.13	712,223.93
10/1/2027	-	-	-		10/1/2027	620,000.00	44,842.13	664,842.13		10/1/2027	620,000.00	44,842.13	664,842.13	
4/1/2028	-	-	-	-	4/1/2028	-	36,859.63	36,859.63	701,701.76	4/1/2028	-	36,859.63	36,859.63	701,701.76
10/1/2028	-	-	-		10/1/2028	640,000.00	36,859.63	676,859.63		10/1/2028	640,000.00	36,859.63	676,859.63	
4/1/2029	-	-	-	-	4/1/2029	-	28,344.63	28,344.63	705,204.26	4/1/2029	-	28,344.63	28,344.63	705,204.26
10/1/2029	-	-	-		10/1/2029	655,000.00	28,344.63	683,344.63		10/1/2029	655,000.00	28,344.63	683,344.63	
4/1/2030	-	-	-	-	4/1/2030	-	19,417.50	19,417.50	702,762.13	4/1/2030	-	19,417.50	19,417.50	702,762.13
10/1/2030	-	-	-		10/1/2030	670,000.00	19,417.50	689,417.50		10/1/2030	670,000.00	19,417.50	689,417.50	
4/1/2031	-	-	-	-	4/1/2031	-	10,021.25	10,021.25	699,438.75	4/1/2031	-	10,021.25	10,021.25	699,438.75
10/1/2031	-	-	-	-	10/1/2031	690,000.00	10,021.25	700,021.25	700,021.25	10/1/2031	690,000.00	10,021.25	700,021.25	700,021.25
Total \$	\$ 440,000.00 \$	22,440.00 \$	462,440.00 \$	462,440.00	Total	\$6,820,000.00	\$1,259,934.94	\$8,079,934.94	\$8,079,934.94	Total	\$7,260,000.00	\$1,282,374.94	\$8,542,374.94	\$8,542,374.94

^{*}Local payments are due to VRA on April 1 and October 1, which is 1 month prior to the VRA Bond Payments.

Municipal Advisor Disclosure



The U.S. Securities and Exchange Commission (the "SEC") has clarified that a broker, dealer or municipal securities dealer engaging in municipal advisory activities outside the scope of underwriting a particular issuance of municipal securities should be subject to municipal advisor registration. Davenport & Company LLC ("Davenport") has registered as a municipal advisor with the SEC. As a registered municipal advisor Davenport may provide advice to a municipal entity or obligated person. An obligated person is an entity other than a municipal entity, such as a not for profit corporation, that has commenced an application or negotiation with an entity to issue municipal securities on its behalf and for which it will provide support. If and when an issuer engages Davenport to provide financial advisory or consultant services with respect to the issuance of municipal securities, Davenport is obligated to evidence such a financial advisory relationship with a written agreement.

When acting as a registered municipal advisor Davenport is a fiduciary required by federal law to act in the best interest of a municipal entity without regard to its own financial or other interests. Davenport is not a fiduciary when it acts as a registered investment advisor, when advising an obligated person, or when acting as an underwriter, though it is required to deal fairly with such persons.

This material was prepared by public finance, or other non-research personnel of Davenport. This material was not produced by a research analyst, although it may refer to a Davenport research analyst or research report. Unless otherwise indicated, these views (if any) are the author's and may differ from those of the Davenport fixed income or research department or others in the firm. Davenport may perform or seek to perform financial advisory services for the issuers of the securities and instruments mentioned herein.

This material has been prepared for information purposes only and is not a solicitation of any offer to buy or sell any security/instrument or to participate in any trading strategy. Any such offer would be made only after a prospective participant had completed its own independent investigation of the securities, instruments or transactions and received all information it required to make its own investment decision, including, where applicable, a review of any offering circular or memorandum describing such security or instrument. That information would contain material information not contained herein and to which prospective participants are referred. This material is based on public information as of the specified date, and may be stale thereafter. We have no obligation to tell you when information herein may change. We make no representation or warranty with respect to the completeness of this material. Davenport has no obligation to continue to publish information on the securities/instruments mentioned herein. Recipients are required to comply with any legal or contractual restrictions on their purchase, holding, sale, exercise of rights or performance of obligations under any securities/instruments transaction.

The securities/instruments discussed in this material may not be suitable for all investors or issuers. Recipients should seek independent financial advice prior to making any investment decision based on this material. This material does not provide individually tailored investment advice or offer tax, regulatory, accounting or legal advice. Prior to entering into any proposed transaction, recipients should determine, in consultation with their own investment, legal, tax, regulatory and accounting advisors, the economic risks and merits, as well as the legal, tax, regulatory and accounting characteristics and consequences, of the transaction. You should consider this material as only a single factor in making an investment decision.

The value of and income from investments and the cost of borrowing may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions or companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance and estimates of future performance are based on assumptions that may not be realized. Actual events may differ from those assumed and changes to any assumptions may have a material impact on any projections or estimates. Other events not taken into account may occur and may significantly affect the projections or estimates. Certain assumptions may have been made for modeling purposes or to simplify the presentation and/or calculation of any projections or estimates, and Davenport does not represent that any such assumptions will reflect actual future events. Accordingly, there can be no assurance that estimated returns or projections will be realized or that actual returns or performance results will not materially differ from those estimated herein. This material may not be sold or redistributed without the prior written consent of Davenport.

Version 1.13.14 BD | MB | TC

•	Proposed	2020	Board	Meeting	Dates
---	-----------------	------	--------------	---------	--------------

Following are the proposed 2020 Board Meeting Dates

Appomattox River Water Authority



21300 Chesdin Rd. - S. Chesterfield, VA 23803 - Phone (804) 590-1145 - Fax (804) 590-9285

MEMORANDUM

TO: SOUTH CENTRALWASTEWATER AUTHORITY: BOARD OF DIRECTORS

APPOMATTOX RIVER WATER AUTHORITY: BOARD OF DIRECTORS

FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR

JAMES GORDON, ASSISTANT EXECUTIVE DIRECTOR

SUBJECT: PROPOSED SCHEDULE FOR 2020 BOARD OF DIRECTORS:

SOUTH CENTRAL WASTEWATER AUTHORITY MEETINGS APPOMATTOX RIVER WATER AUTHORITY MEETINGS

DATE: NOVEMBER 14, 2019

Staff is proposing a similar schedule as followed in 2019 for the Board of Directors meetings. The South Central Wastewater Authority based meetings are held at 900 Magazine Road, Petersburg, Virginia unless otherwise notified as to an alternative location. The Appomattox River Water Authority-based meetings will be held in the Appomattox River Water Authority Board Room located at 21300 Chesdin Road, Petersburg, Virginia unless otherwise notified as to an alternative location. Special Board Meetings may be called based on specific needs. The proposed 2020 Board meeting schedule is as follows:

MONTH/DAY	LOCATION
January 16	Appomattox River Water Authority
March 12	South Central Wastewater Authority
May 14	Appomattox River Water Authority
July 16	Appomattox River Water Authority
September 10	South Central Wastewater Authority
November 19	South Central Wastewater Authority

Note: VML Annual Conference: October 9-14, 2020 Norfolk

VLGMA Winter Conference: February 12-14, 2020 Charlottesville

BOARD ACTION REQUESTED:

Staff recommends that the Board approve the proposed schedule of regular meeting dates for 2020 as presented above.

 Statu 	s Report:	Ongoing	Projects	/Operational	/Financial
---------------------------	-----------	---------	----------	--------------	------------

Following are status reports concerning the Ongoing Projects, Operation, and Financials for the ARWA.

Appomattox River Water Authority



21300 Chesdin Rd. - S. Chesterfield, VA 23803 - Phone (804) 590-1145 - Fax (804) 590-9285

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY: BOARD OF DIRECTORS

FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR

JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR

SUBJECT: STATUS REPORT – ON-GOING PROJECTS

DATE: NOVEMBER 14, 2019

The following projects are underway. This report includes sections on Capital projects and large replacement projects.

In-Plant Capital Projects:

Phase I

- Finished Water Pump No. 10 is scheduled for installation the first week of November. After its installation, all Finished Water Pumps have been installed.
- Square D inspected Finished Water Pump No. 8 due to the pumping tripping out.
- Raw Water Pump No.s 4 and 5 have been installed. Pump P4 is experiencing vibration. Awaiting resolution by the Contractor/Pentair.
- Domestic pumps in FWPS1 are scheduled for replacement in November.

Phase II

- Bids were opened on September 25, 2019. MEB Contractors was the low bidder.
- Based on a VE suggestion, it is recommended to revise the chlorine dioxide roofing to galvanized metal.
- We recommend an award to MEB Contractors in the amount of \$1,389,600

Annual Maintenance Inspection

- WW Associates has been contracted to perform the annual inspection.
- The AMI report is scheduled for submission by the end of November 2019.

Appomattox River Water Authority



21300 Chesdin Rd. - S. Chesterfield, VA 23803 - Phone (804) 590-1145 - Fax (804) 590-9285

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR

JAMES C. GORDON, ASST. EXECUTIVE DIRECTOR

SUBJECT: OPERATING AND FINANCIAL STATUS REPORT

DATE: NOVEMBER 14, 2019

Operating Status Report

General:

- The next scheduled normal Board of Directors Meeting is <u>Thursday January 16, 2020</u> at the Appomattox River Water Authority at 2:00 pm.
- Whitman, Requerdt, and Associates has completed the risk and resilience assessment. The final report is scheduled to be completed by November 18, 2019
- DEQ has approved the ARWA Ground Water Monitoring Plan and a new upgradient well has been installed.
- The fall field work related to the Hydrilla Management Plan was completed the week of October 21st.
- Kruger Energy had a survey of the dam performed and arranged for divers to perform the inspections of the face and toe of the dam. This work was requested as part of their FERC license and information will be shared with the ARWA.
- · Annual chemical bid packages will be going out in December

Operations:

- Finished water met all permit requirements for September and October 2019. Copies of the VDH monitoring reports are available if anyone would like to see them.
- The average daily finished water consumption for September was 40.2 mgd and for October was 37.5 mgd. Greater than 1 billion gallons was produced in both months (September = 1.206 bg; October = 1.163 bg)
- Staff continues to work with the In-Plant contractors to perform testing on the newly installed pumps.
- Fall cleaning of the sedimentation basins was completed.

Maintenance:

- Flocculator 2 has been repaired and is in service.
- The cone valve hydraulic operating system and the worm gear is being rebuilt. Discharges are being manually managed using the slide gate.

Instrumentation/IT:

The office trailer for the manager and advisor for instrumentation/IT department is now use.

- Staff and our instrumentation contractors are working with Verizon Wireless update our Remote Terminal communications.
- Rate of Flow meters of filters are being calibrated.

Laboratory:

• Whole effluent toxicity sampling took place the week of 11/4.

Financial Status Report:

Following is the Balance Sheet and Income Statement through October 31, 2019.

Alum Litigation Proceeds-Credited to Members YTD

#DIV/0!

792,877

Ś

792,877

Appomattox River Water Authority-Balance Sheet For Month Ending October 31, 2019

Δ	SS	e	t

Current Assets			
	Petty Cash	\$	400
	SunTrust Operating Fund	\$	2,504,965
	SunTrust Replacement Fund Total Unrestricted Cash	\$ \$	119,537 2,624,902
	Total omesticied cash		2,024,302
	Water Revenue	\$	5,970,623
	Reserve Account	\$	3,737,264
	Replacement Account Debt Service Reserve	\$ \$	715,265
	Bond Principal/Interest	\$	2,146,744 5,983
	Bond Construction	\$	4,128,164
	Total Restricted Cash	\$	16,704,044
	Total Checking/Savings	\$	19,328,946
	Accounts Receivable	\$	3,394
	Other Current Assets Inventory	\$ \$	26,701 264,923
Total Current Assets		\$	19,623,964
Fixed Assets			
	Land and Land Rights	\$	1,044,167
	Water System	\$	85,562,249
	Equipment Hydro	\$ \$	1,238,359
	Construction in Progress	\$	34,873 8,046,304
	Accumulated Amortization	\$	(34,873)
	Accumulated Depreciation	\$	(49,293,811)
Total Fixed Assets		\$	46,597,267
Other Assets			
	Def Out Res-Post ER Pension Costs	\$	63,920
	Deferred Outflow-OPEB GLI	\$	14,106
	Def Out Res-Net Dif Pension Inv	\$	-
	Total Other Assets	\$	78,026
otal Assets	otal Assets		66,299,257
abilities & Equity			
Current Liabilities			
	Accounts Payable	\$	364,125
	Retainage Payable	\$	261,600
	Accrued Interest Payable	\$	187,257
Total Current Liabilities	*	\$	812,982
Long Term Liabilities			
	Def Inf Res-Net Dif Pension Inv	\$	90,011
	Def Inf Res-Pen Chg Assumptions	\$	83,159
	Def Inf Res-Pens Dif Proj/Act E Net Pension Liability	\$ \$	51,052 (279,290)
	Def Infl-OPEB Chg of Assumptions	\$	2,956
	Deferred Inflow-OPEB GLI	\$	13,000
	Deferred Inflow-Expect & Actual	\$	23,971
	Bonds Payable-2010	\$	6,990,032
	Bonds Payable-2012	\$	2,372,000
	Bonds Payable-2017	\$	11,981,000
	Accrued Leave Payable Post Employment Benefit	\$ \$	180,705 77,443
	OPEB Liability-GLI	\$	118,000
Total Long-Term Liabilities		\$	21,704,039
otal Liabilities		\$	22,517,020
quity			
	Retained Earnings Reserve for Operations	\$ \$	(1,961,714) 3,461,292
	Reserve for Water Revenue	\$	5,870,467
	Reserve for Replacements	\$	500,000
	Reserve for Bond Interest	\$	187,257
	Reserve for Debt Service	\$	2,141,174
	Reserve for Bond Principal	\$	1,416,000
	Reserve for Reserve Fixed Assets, Net of Debt	\$ \$	3,138,533 30,127,850
	Net Income	\$	(1,098,623)
Total Equity	. rec meone	\$	43,782,236
otal Liabilities & Equity		\$	66,299,257
			•
		\$	-

5.	Items from Counsel
6.	Closed Session / Discussion of New Executive Director 2.2-3711.A.1
7.	Other Items from Board Members/Staff Not on Agenda:
8.	Adjourn