

Appomattox River Water Authority

Board of Directors Meeting

DATE: March 12, 2020

TIME: 2:00 PM

LOCATION: South Central Wastewater Authority
Board Room, Administration Building
900 Magazine Road
Petersburg, VA 23803

AGENDA

1. Call to Order/Roll Call
2. Approval of Minutes: Minutes of the Board Meeting held on January 16, 2020 (Exhibit A, pages 2 to 3)
3. Public Comment
4. Public Hearing for FY2020/21 Operating Budget (Exhibit B, pages 4 to 35)
5. Executive Director's Report
 - Reservoir level update
 - Hydrilla Update Presentation (Exhibit C, pages 36 to 51)
 - Financial Policy Guidelines (Exhibit D, pages 52 to 63)
 - Operating and Financial Report (Exhibit E, pages 64 to 73)
 - Status Report: Ongoing Projects (Exhibit F, pages 74)
6. Items from Counsel
 - Discussion of Proposed Bylaws Amendment (Exhibit G, pages 75 to 85)
7. Closed Session
8. Other Items from Board Members/Staff not on agenda
9. Adjourn

EXHIBIT A
BOARD OF DIRECTORS MEETING
Appomattox River Water Authority
January 16, 2020 at 2:00 p.m.
Location: Appomattox River Water Authority
21300 Chesdin Road, S. Chesterfield, VA 23803

MEMBERS PRESENT:

Doug Smith, Chairman (Colonial Heights)
Kevin Massengill, Vice-Chairman (Dinwiddie)
Aretha Ferrell-Benavides, (Petersburg)
Joseph Casey, (Chesterfield)

ALTERNATES PRESENT:

George Hayes, Secretary/Treasurer (Alternate, Chesterfield)
Frank Haltom, (Alternate, Prince George)
Scott Morris, (Alternate, Chesterfield)
Lionel Lyons, (Alternate, Petersburg)

ABSENT:

Percy Ashcraft, (Prince George)
William Henley, (Alternate, Colonial Heights)

STAFF PRESENT:

Robert B. Wilson, 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:

Chris Tabor, (Hazen and Sawyer)
Andrew Barnes, (Petersburg)
Mike Wooden, (Arcadis)
Jay Ruffa, (Crater Planning District)

The ARWA meeting was called to order after the conclusion of the SCWWA Board meeting by Mr. Smith, Chairman, at 2:43 p.m.

1. Call to Order/Roll Call

The roll was called.

Mr. Smith welcomed Mr. Wilson as the new Executive Director of the Authority.

2. Approval of Minutes: Minutes of the Regular Meeting of the Board on November 14, 2019

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

RESOLVED, that the Minutes of the Regular Meeting of the Board on November 14, 2019 are hereby approved:

For: 5 Against: 0 Abstain: 0

3. Public Comment

There were no Public Comments.

4. Executive Director's Report

- **Current Reservoir Status**

Mr. Wilson stated there were eight inches of water going over the dam.

- **Annual Flushing Notice**

Mr. Wilson stated he had one revision to the Annual Flushing Notice, which will be provided to members in a word document if you want to post it to your website. The same notice will be posted on the ARWA website.

- **Presentation of Proposed FY 2020/21 Operating Budget**

Mr. Wilson reported on the Proposed FY 2020/21 Operating Budget. He stated the proposed budget was presented to the engineering group in November. He further stated the salary increases are the same as South Central's with a scale of 0% to 3% with the average employee getting 2%. The estimated total salary increase is 2.6%. He stated we have a surplus of vehicles and Mr. Gordon will get a list to members in February. After

review of the list, member jurisdictions will be allowed to bid on surplus equipment and vehicles. Surplus items not purchased will be sent to an auction house.

He reported that the ARWA budget does have a request for two positions. He stated this budget actually has a little bit of surplus built into it.

Mr. Wilson stated similar to South Central's budget, Counsel requested the Board approve a Resolution on the preliminary budget, which gives staff the ability to advertise it. He further stated that if Board members needed himself or the Assistant Director to come to any Council meetings, Board of Supervisor meetings or meet with financial staff, we would be happy to do it before the proposed Public Hearing.

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

RESOLVED, that the Board approves the Resolution of the Appomattox River Water Authority providing preliminary approval of the Budget for Fiscal Year 2021 and the related payment schedule:

For: 5 Against: 0 Abstain: 0

- **Status Report: Status Report: Ongoing Projects/Operations/Financials**

Mr. Gordon reported on Ongoing Projects/Operations/Financials. He reported that Harry Smith, Chief Operator of ARWA, will be retiring at the end of this month. He stated Mr. Smith is a Class 1 Operator and has been with the Authority for 33 years. Dr. Casey commented to let the Board know if there is ever anything they can do when someone retires after a long time.

5. Items from Counsel

Mr. Anderson stated we are one of the sponsoring members of the Virginia Water and Waste Authorities Association (VWWAA). He has been working with them and has followed the legislation closely. He stated he will be in a position to share some of that knowledge with members as we go through the General Assembly session. Mr. Wilson stated that both Authorities will be re-joining VWWAA.

6. Closed Session

There was no Closed Session.

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

Mr. Wilson reminded Board members to get their financial disclosures to Ms. Wilkins by the end of the month.

As in South Central's meeting, Mr. Wilson presented a Voluntary Disclosure for himself. He stated he looked at the Virginia Conflict of Interest Act. He further stated he is fortunate to have a daughter and son, who are both licensed civil engineers. He stated his son, Ryan, works for Whitman, Requardt and Associates, and his daughter, Rachel, works for Hazen & Sawyer. Both engineering firms are currently doing projects for the Authority and both will most likely submit on future requests for proposals. He stated he didn't have a personal interest in either firm and neither child is financially dependent on him. He further stated he asked Counsel, Mr. Anderson, to review the Act and he came to the same conclusion. Mr. Wilson requested the Voluntary Disclosure be part of the minutes.

Mr. Wilson stated in the future we are going to try to meet with the Engineers, make sure we capture everything that needs to be on the Agenda, go through an Agenda review with the Chairman, and try to get Board packages out a couple days earlier so that members can have more time to review them.

8. Adjourn

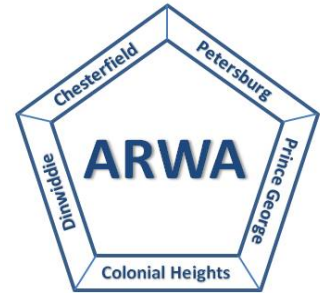
Mr. Smith stated, if there's no other business, and asked for motion to adjourn.

Upon a motion made by Mr. Lyons and seconded by Mr. Massengill the meeting was adjourned at 3:06 p.m.

MINUTES APPROVED BY:

George Hayes
Secretary/Treasurer

Appomattox River Water Authority



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

EXHIBIT B

TO: Appomattox River Water Authority Board of Directors

FROM: Robert B. Wilson, P.E., Executive Director
James C. Gordon, Assistant Executive Director

DATE: March 12, 2020

SUBJECT: Fiscal Year 2020-21 Proposed Budget

At the January 16, 2020 meeting we presented the proposed FY2020-21 budget for consideration. A copy of the budget summary, highlights and proposed budget is included as Attachment #1. At the same meeting the Board approved a resolution authorizing staff to advertise the budget and set a public hearing date of March 12, 2020 at the South Central Wastewater Authority. A copy of the resolution accepting the proposed budget and authorizing advertisement is included as Attachment #2.

After the January 16th budget presentation staff discovered an issue with the debt service for the 2010 Issuance that was being refinanced. Even though the 2010 Issuance was closed in October 2019 and replaced with the 2019 Issuance, the debt service for the 2010 Issuance for FY2020-21 would still need to be paid. This adjustment was made to the budget as well as a reduction to the AWIA project appropriation request that resulted in a reduction in revenue of approximately \$3,400. I provided an email to members dated January 24th with an explanation for the addition of the debt service and revised budget for the AWIA line item. The explanation also included a table illustrating the impact, in \$/1,000 gallons, to each jurisdiction for these changes. This email is included as Attachment #3.

In my individual meetings with jurisdictional representatives, additional questions were raised about ARWA's outstanding debt and cash balances in reserves. Therefore, we have decided to use the annual budget process as an opportunity to provide updates for outstanding debt as well as review the reserve policies and balances.

ARWA currently has four outstanding bonds:

- | | | |
|-----------------|-------------------|--------------------|
| ○ 2010 Issuance | Hypochlorite | Final Payment 2021 |
| ○ 2012 Issuance | SCADA, Roofs | Final Payment 2027 |
| ○ 2017 Issuance | In-plant projects | Final Payment 2033 |
| ○ 2019 Issuance | 2010 Refinance | Final Payment 2032 |

A copy of the outstanding principal and interest payments for ARWA's outstanding debt is included as Attachment #4. If refinancing options become available, we will advise the Board at that time and pursue potential cost savings.

ARWA maintains two reserve accounts with respect to operations and maintenance, the Reserve Account and the Replacement Account. By policy, the Reserve Account is set at 50% of the current Operations and Maintenance budget. For FY2020-21 the O&M budget is \$7,722,800 (total operating expenses without equipment replacement). Therefore, the corresponding 50% reserve would be \$3,737,500. This calculation is shown on the last page of the budget (Revenues) at the bottom of the page. For the Replacement Account, we must maintain a minimum balance of \$500K. The current balance is \$598,191.39. A copy of the balance sheet is included as Attachment #5. This sheet illustrates the Authority's reserves for the two accounts described above plus the reserves that U. S. Bank, as trustee, requires the Authority to maintain.

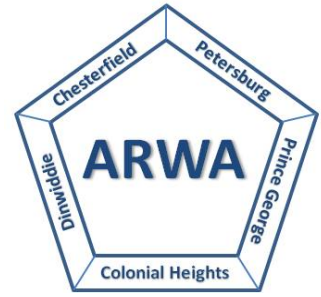
The last question asked was to provide a comparison of the previous three years budget with budget expenses versus actual expenses. A spreadsheet illustrating budget versus actual and the current and proposed budget is included as Attachment #6.

The budget was posted on the ARWA website, exterior bulletin board adjacent to the main entrance and posted in the Progress Index on February 23rd and March 1st. A copy of the advertisement is included as Attachment #7.

Board action requested:

Attachment #8 is the proposed budget for FY2020-21. To date, Authority staff has not received any additional requests for information or explanations. We request the Board review the attached budget, conduct the public hearing on March 12, 2020 at the South Central Wastewater Authority as advertised, discuss any comments raised and take action based on your findings from the public hearing. Staff's recommendation is for approval of the FY2020-21 budget as revised on January 24th, included as Attachment #8 and advertised on February 23rd and March 1st.

Appomattox River Water Authority



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

MEMORANDUM

**TO: APPOMATTOX RIVER WATER AUTHORITY
BOARD OF DIRECTORS**

**FROM: ROBERT B. WILSON, P.E., EXECUTIVE DIRECTOR
JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR**

SUBJECT: FISCAL YEAR 2020-21 PROPOSED BUDGET

DATE: JANUARY 16, 2020

We are pleased to present to you the Appomattox River Water Authority fiscal year 2020-2021 proposed budget for your review and consideration. The total expenses for the Proposed FY2020-21 Appomattox River Water Authority Budget are \$10,948,786. The Board is not requested to approve the proposed budget at today's meeting; however, we request that you review and advise staff to ready the proposed budget to advertise for a public hearing at the March 12, 2020 Board Meeting by the required 14-day period in advance of the scheduled public hearing. Any Board requested changes to the proposed budget can be made on or before the May 14, 2020 Board Meeting where we will request approval of the budget.

A review of the proposed budget changes follows for your consideration.

Cost items increasing are:

- Salary: \$160,000 – due to an average pay for performance increase of 2.6% (\$45,000) and the addition of 2 new maintenance position (Maintenance Manager and Mechanic).
- Employee Benefits: \$69,500 – Increase is primarily due to Hospitalization Insurance (\$40,000) with the addition of 2 new maintenance positions.
- Materials and Supplies: \$31,000 – Repairs and Maintenance-IT increased \$60,000 due to the transfer of Electrical responsibilities from Repairs and Maintenance-Shop (which decreased \$60,000). There are several line items that have minor budget increases the main ones are Purification Process and Janitorial Supplies (\$13,000), Vehicle and Equipment Supplies (\$7,000), Vehicle and Equipment Fuels (\$5,000), and Operation Supplies and Maintenance (\$5,000)
- Other Charges: \$4,100 – increase is primarily due to electricity.
- Equipment Replacement: \$694,500 – The increase is related to the purchase of long lead time spares; Motors for Raw and Finished pumps stations (\$200,000) and a Lightning Mixer for Rapid Mix (\$175,000). Also included are projects for upgrading the SCADA system (\$250,000) and Security infrastructure improvements as outlined in the FY 2019-20 American Water Infrastructure Act assessment (\$500,000).

Cost items reducing are:

- Contractual Services: \$16,500 – Some areas of this budget are increasing but due to decreases in Reservoir Management – Invasive Control Program (\$100,000), Legal Services (\$75,000), Other Consulting Services (\$10,000), and Samples and Testing (\$8,500) the budget over all is decreasing.

Debt Service:

- 2012 & 2017 *bond debt service will be covered from the base rate* in FY 2020/21.
- 2019 bond debt (2010 Refunded) will be split between the base rate (54.38%) and the expansion rate (45.62%).
- FY 2020/21 Bond payments are set at \$1,639,436.
- The bond splits were validated with the 2019 Chesterfield Audit.

Reserve Fund:

FY 2020/21 *reserve contributions will be covered from the base rate*. The total to be funded is \$124,050 which is a \$64,700 decrease from FY 2019/20 funding.

Salaries & Wages:

It is important to understand the maintenance and operations of our water infrastructure, not only by implementing the latest technologies, but also by continuing to invest in a skilled workforce. Thus, we are requesting an average performance-based salary increase of 2.6%. As you are aware, a significant portion of the Authority's workforce will exit the field in the next three to five years (Hazen and Sawyer Merger Analysis), depleting the pool of experienced certified and licensed professionals. The job sector in the water field is necessitating a more skilled workforce. The upcoming retirement of experienced Operators and Maintenance staff who can train new personnel further exacerbates the problem. Competition will continue for certified and licensed employees between other local utilities and will force the Authority to make cost related decisions to attract and retain new employees. We must continue to invest in our skilled employees and maintain market competitive salaries.

As part of staff's annual performance evaluation, each employee will be reviewed and rated in May 2020 on the following elements:

- Knowledge & Ability
- Productivity
- Initiative
- Interpersonal Relationships
- Time Management
- Communication
- Attendance
- Judgment

- Adaptability
- Meeting defined goals

An average employee would receive a 2% salary increase with only the higher scoring employees eligible for up to 3%. Non-performing employees will receive less than 2% with certain employees with a lower score being placed into a required performance improvement probation period.

Replacement Fund

The Replacement Fund is being increased from \$768,000 to \$1,462,500 (increase of \$694,500). The following additions and/or adjustments have been made:

- \$15,000 to continuing the replace of old filter flow meters.
- \$200,000 to purchase spare pump motors for Raw and Finished Water pumps not upgraded in the In-Plant Project
- \$175,000 for a spare Lightning Rapid Mixer for the alum and lime feed mixer
- \$15,000 to install HMI (Human-Machine Interface) screens on Raw and Chlorine PLCs
- \$25,000 for a replacement laboratory Atomic Absorption Analyzer
- \$12,500 to upgrade the SANs (Storage Area Network) array.
- \$40,000 to replace one vehicle
- \$100,000 to replace critical valves
- \$500,000 to address security Infrastructure upgrade as outlined in the 2019 assessment for the American Water Infrastructure Act

Construction Fund

The Construction Fund (Capital Projects) supports the implementation of the May 2016 Board approved “In-Plant” project (Upgrades to: Finished Water Pump Station No. 1, Raw Water Pump Station No. 1, Raw and Finished Water Pump Station electrical upgrades, and a new Emergency Generator). Additional project included in Phase II of the “In Plant” project include a cover over the Chlorine Dioxide Tank Farm, rerouting the electrical feed to the Pre-Chemical side of the plant so it does not go through the “tunnel”, and adding two new tanks for Sodium Hypochlorite storage. Phase II projects are schedule to begin and be completed by December 2020.

Rate Consideration:

The table below illustrates the proposed FY2020/21 rates:

ARWA Member	FY2019/20	Proposed FY2020/21	Proposed % Rate Diff / \$ Diff
Chesterfield	0.9797	1.0294	5.07% / \$435,010
Colonial Heights	1.0083	1.0566	4.79% / \$17,771
Dinwiddie	1.4522	1.4755	1.60% / \$577
Petersburg	0.9760	1.0260	5.12% / \$115,690
Prince George	1.3698	1.3837	1.02% / \$11,789

BOARD ACTION REQUESTED:

Board approval to advertise the 2020-2021 proposed budget is requested. The public hearing on the proposed budget will be at the March 12, 2020 Board of Directors meeting held at SCWWA. Final Board consideration on the budget is scheduled for the May 14, 2020 Board of Directors meeting held at ARWA. Any budget changes or edits required or requested by the Board can be taken before or during the May Board of Directors meeting.

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 16, 2020

Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2020/2021

			Change	
	<u>2019/2020</u> Budget	<u>2020/2021</u> Budget	Increase/ (Decrease) FY19/20 to FY20/21	Reason for Changes
<u>O&M EXPENSES</u>				
41000 · Salary	\$1,700,000	\$1,860,000	\$160,000	<i>Includes an average pay for performance increase of 2.6% and salaries for a new mechanic and maintenance manager. The maintenance manager will be a shared 50/50 employee with the SCWWA</i>
42000 · Employee Benefits	\$747,600	\$817,100	\$69,500	<i>Increase primarily due to FICA and VRS due to salary budget increase and estimated increase in Hospitalization Insurance.</i>
42100 · Employer FICA	\$125,000	\$141,000		
42200 · Virginia Retirement System	\$97,500	\$107,000		
42210 · Deferred Comp 457	\$6,300	\$7,500		
42300 · Hospitalization Insurance	\$490,000	\$530,000		
42400 · VRS Group Life Insurance	\$21,300	\$22,000		
42500 · Group Term Life	\$2,000	\$2,100		
42600 · Unemployment Insurance	\$0	\$2,000		
42800 · Employee Promotions	\$3,500	\$3,500		
42900 · Other Fringe Benefits - EAP	\$2,000	\$2,000		
42950 · OPEB Health Insurance Adj	\$0	\$0		
42952 · Net Pension Adjustment				
43000 · Contractual Services	\$1,204,500	\$1,188,000	-\$16,500	<i>Reclassified concrete repair from replacement budget to Service Contracts</i>
43121 · Auditing Services	\$8,000	\$8,000		
43122 · Accounting Services	\$14,000	\$16,000		
43130 · Legal/Engineering and Reservoir Studies	\$100,000	\$100,000		
43140 · Consulting Engineers	\$75,000	\$85,000		
43150 · Legal Services	\$100,000	\$75,000		
43152 · Medical - Testing	\$7,500	\$2,500		
43155 · Other Consulting Services	\$25,000	\$15,000		
43156 · Admin and Maintenance Svc-SCWWA	-\$37,000	\$0		
43160 · Trustee Services	\$9,500	\$9,500		
43162 · Bank Service Charges	\$2,500	\$2,500		
43170 · Research	\$17,500	\$17,500		
43180 · Potable Water Contract	\$500,000	\$510,000		
43190 · Samples and Tests	\$48,500	\$40,000		
43200 · Lake Patrol	\$4,000	\$4,000		

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 16, 2020

Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2020/2021

			Change	
			Increase/ (Decrease) FY19/20 to FY20/21	Reason for Changes
	<u>2019/2020</u> Budget	<u>2020/2021</u> Budget		
43201 · Reservoir Management - Invasive Control Program	\$150,000	\$50,000		
43210 · Software Support	\$20,000	\$40,000		
43220 · VPDES Permit Fee	\$10,000	\$30,000		
43310 · Repair Services	\$40,000	\$25,000		
43320 · Service Contracts	\$75,000	\$125,000		
43500 · Printing and Binding	\$0	\$3,000		
43600 · Grounds Maintenance	\$35,000	\$30,000		
45000 · Other Charges	\$1,051,600	\$1,055,700	\$4,100	
45110 · Electricity - Pumping	\$475,000	\$500,000		
45111 · Electricity - Purification	\$270,000	\$275,000		
45120 · Heating Fuel	\$100,000	\$65,000		
45130 · Trash Pickup	\$5,000	\$5,500		
45210 · Postal Services	\$2,200	\$1,200		
45220 · Freight	\$15,000	\$15,000		
45230 · Telecommunications	\$30,000	\$35,000		
45308 · General Liability Insurance	\$90,000	\$96,000		
45410 · Lease/Rent of Equipment	\$20,000	\$20,000		
45530 · Meals and Lodging	\$10,000	\$5,000		
45540 · Education and Training	\$16,400	\$20,000		
45550 · Safety Supplies	\$18,000	\$18,000		
46000 · Materials and Supplies	\$2,771,000	\$2,802,000	\$31,000	<i>Electrical responsibilities have been transferred from the shop to IT and the respective budgets reflect this change.</i>
46001 · Office Supplies	\$12,000	\$12,000		
46004 · Laboratory Supplies	\$74,000	\$75,000		
46005 · Purification Chemicals	\$2,300,000	\$2,300,000		
46006 · Purification Process and Janitorial Supplies	\$12,000	\$25,000		
46007 · Repair & Maint Supplies-Shop	\$175,000	\$115,000		
46008 · Vehicle and Equipment Fuels	\$20,000	\$25,000		
46009 · Vehicle and Equipment Supplies	\$13,000	\$20,000		
46010 · Equipment Parts and Small Equipment Purchases	\$60,000	\$55,000		
46011 · Uniforms	\$8,000	\$10,000		
46012 · Dues and Subscriptions	\$22,000	\$25,000		
46014 · Repair & Maint Supplies-IT	\$65,000	\$125,000		

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 16, 2020

Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2020/2021

	<u>2019/2020</u> Budget	<u>2020/2021</u> Budget	Change	
			Increase/ (Decrease) FY19/20 to FY20/21	Reason for Changes
46015 · Small Equipment Purchases	\$0	\$0		
46016 · Operations Supplies and Maintenance	\$10,000	\$15,000		
Total Operating Expenses	\$7,474,700	\$7,722,800	\$248,100	
58000 · Equipment Replacement	\$768,000	\$1,462,500	\$694,500	
Debt - 2010 Issue	\$759,123	\$0	(\$759,123)	2010 Series refunded as 2019
Debt - 2012 Issue	\$301,936	\$301,636	(\$300)	
Debt - 2017 Issue	\$1,080,116	\$1,080,517	\$401	
Debt - 2019 Issue (2010 Refunded)		\$257,283	\$257,283	Refunded 2010 series bond.
Total Debt	\$2,141,175	\$1,639,436	(\$501,739)	Decrease due to 2019 primarily interest payment this FY
Reserve Fund	\$188,750	\$124,050	(\$64,700)	
Total Expenses	\$10,572,625	\$10,948,786	\$376,161	

APPOMATTOX RIVER WATER AUTHORITY
Replacement Fund Budget - 58000

		FY20/21		INFORMATIONAL & PLANNING						
Acct#	Proposed FY ITEM	Current Budget 19/20	Proposed Budget 20/21	21/22	22/23	23/24	24/25	Totals		
58010 - Machinery and Motors	Emergency/ Miscellaneous Repairs	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 600,000		
	Replace filter actuators and valves		\$ -	\$ 34,000	\$ 34,000	\$ -	\$ -	\$ 68,000		
	HVAC Replacement	\$ 15,000						\$ 15,000		
	Dual Polymer Feed System	\$ 30,000						\$ 30,000		
	Filter 1-16 flow meter upgrade	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000			\$ 60,000		
	Spare RW and FW motors		\$ 200,000					\$ 200,000		
	Lightning Rapix Mix - Spare		\$ 175,000					\$ 175,000		
	Interior/Exterior Actuator Replacement	\$ 15,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000		\$ 135,000		
58020 - Instrumentation	Verizon RTU modem mandatory upgrade	\$ 30,000						\$ 30,000		
	YSI ProDSS Meter and Sonde	\$ 10,000						\$ 10,000		
	Chesdin East PLC Swap Out	\$ 12,000						\$ 12,000		
	Replace Sedimentation Basin sludge PLCs			\$ 90,000	\$ 90,000			\$ 180,000		
	PLC HMI @ Raw Water and Chlorine		\$ 15,000					\$ 15,000		
	Replacement AA		\$ 25,000					\$ 25,000		
58030 - SCADA	IFIX Upgrade		\$ 250,000					\$ 250,000		
58040 - Computer Equipment	>\$5,000 per items (server)	\$ 10,000	\$ 12,500	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 62,500		
58050 - Furniture and Fixtures	Upgrade Facility Lighting	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,000		
58060 - Motor Vehicles	2003 Maintenance Supervisors 4x4	\$ 35,000						\$ 35,000		
	2005 Lab Ford Explorer	\$ 35,000						\$ 35,000		
	Fleet 4dr 4x4 (Replace 1998 GMC)	\$ 35,000						\$ 35,000		
	Fork Lift - small telescopic	\$ 45,000						\$ 45,000		
	4dr 4x4 Pick Up		\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000		
	Telescopic forklift	\$ 85,000						\$ 85,000		
	Tractor 50 hp			\$ 75,000				\$ 75,000		

58070 - Special Studies (Moved to O&M)	Groundwater Quality Monitoring Plan			\$ -					
	Legal/Engineering analysis and studies	\$ -		\$ -					
58090 - Construction	Valve Replacement	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 600,000	
	PG Meter Vault Upgrade (16")	\$ 30,000		\$ 30,000					
	General Concrete Repairs	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,000	
	Install Bollards and Security Fences at Remote Sites	\$ 10,000		\$ 10,000					
	Matoaca Meter and Meter Box	\$ 125,000		\$ 125,000					
	Security Infrastructure Upgrades (Federal Water Infrastructure Act study recommendations)		\$ 500,000	\$ 500,000					
	Replace Cone Valve			\$ 500,000					
	Replacement of Single pane windows			\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 400,000	
	TOTALS:		\$ 768,000	\$ 1,462,500	\$ 519,000	\$ 594,000	\$ 380,000	\$ 850,000	\$ 4,573,500

Construction Fund (Capital Projects)
FY20/21

ITEM	Budget	Proposed Budget	INFORMATIONAL & PLANNING								Totals	>10 years
	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29		
Finished Water Pump Stations No. 1 Upgrade - see note 2	\$ 3,886,983										\$ 3,886,983	
Raw Water Pump Station No. 1 Upgrade - see note 2	\$ 2,321,263										\$ 2,321,263	
Clearwell #4											\$ -	\$ 8,750,000
PAC Feed System					\$ 2,500,000						\$ 2,500,000	
Rebuild Filters 1-8					\$ 5,500,000							
Lagoon Liners					\$ 5,500,000							
Transmission Main - Chesdin Rd. to Pickett Rd											\$ -	\$ 10,369,000.00
Transmission Main - Pickett Ave. to Matoaca Tank											\$ -	\$ 10,369,000.00
Transmission Main - Matoaca Tank to Branders Bridge											\$ -	\$ 11,946,000.00
Transmission Main - Branders Bridge to Lakeview											\$ -	\$ 3,526,000.00
Totals	\$ 6,208,245	\$ -	\$ -	\$ -	\$ 13,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,708,245	

- 1) The above items for information only. Approval required from BOD at time of project award.
- 2) Bond Funding will be required for these Proposed Capital Project.
- 3) The PAC feed system and Lagoon lining would be regulatory driven

Revenues

Appomattox River Water Authority

FY Budget Year

2020/2021

Proposed

Jan. 16, 2020

Adopted

Revised

		<u>Chesterfield</u>	<u>Colonial Heights</u>	<u>Dinwiddie</u>	<u>Petersburg</u>	<u>Prince George</u>	<u>Total</u>
1) Operations and Maintenance Base Rate							
O&M Rate							
	\$/1000 gallons	\$ 1.0260	\$ 1.0260	\$ 1.0260	\$ 1.0260	\$ 1.0260	\$ 1.0260
Estimated (\$/quarter)	\$	1,921,172	\$ 155,471.20	\$ 105,824	\$ 451,402	\$ 66,485	\$ 2,700,353.37
Total annual allocation	\$	7,684,686	\$ 621,885	\$ 423,295	\$ 1,805,609	\$ 265,939	\$ 10,801,413
% of flows		71.15%	5.76%	3.92%	16.72%	2.46%	100.00%
Estimated (mgd)		20.521	1.661	1.130	4.822	0.710	28.843
Calc. annual usage (bg)		7.490	0.606	0.413	1.760	0.259	10.528
O&M =	\$	7,722,800	Replacement \$ 1,462,500	54.38% 2019 Debt (maintenance)	\$	139,910	
Int./Misc. Income	\$	30,000	100% 2012 Debt \$ 301,636	100% 2017 Debt \$ 1,080,517	Reserve Funding		\$124,050
BASE RATE	\$/1000gals	\$ 1.0260	\$ 1.0260	\$ 1.0260	\$ 1.0260	\$ 1.0260	
2) Expansion Rate							
Bonds	% Financed						
Rate (cents/1000 gals)		\$ 0.0034	\$ 0.0306	\$ 0.4495	\$ -	\$ 0.3577	
2019 expansion (\$/year)	45.62%	\$ 25,345	\$ 18,550	\$ 185,436	\$ -	\$ 92,718	\$ 322,050
% allocation		7.87%	5.76%	57.58%	0.00%	28.79%	100.00%
FY20/21 Bond Payments	2019 refunding = \$ 257,283						
	2019 refunding for FY2022 =	\$ 705,940					
TOTAL DEBT SERVICE RATE	\$/1000 gals	\$ 0.0034	\$ 0.0306	\$ 0.4495	\$ -	\$ 0.3577	\$ 322,050
	\$/year	\$ 25,345	\$ 18,550	\$ 185,436	\$ -	\$ 92,718	\$ 322,050
3) Total Rate							
TOTAL RATE (BASE + EXPANSION)	\$/1000gals	\$ 1.0294	1.0566	1.4755	1.0260	1.3837	\$ 1.1942
Estimated annual charges	\$/year	\$ 7,710,032	\$ 640,435	\$ 608,731	\$ 1,805,609	\$ 358,657	\$ 11,123,463
4) Budget Comparison (see note 1)							
Proposed FY20/21 Total Rate	\$/1000 gals	\$ 1.0294	\$ 1.0566	\$ 1.4755	\$ 1.0260	\$ 1.3837	\$ 1.1942
Approved FY 19/20 Total Rate	\$/1000 gals	\$ 0.9797	\$ 1.0083	\$ 1.4522	\$ 0.9760	\$ 1.3698	\$ 1.1572
Total Rate Difference	\$/1000 gals	0.0497	0.0483	0.0233	0.0500	0.0139	0.0370
Total Rate Difference	%	5.07%	4.79%	1.60%	5.12%	1.02%	3.20%
Proposed FY20/21 Revenues	\$/year	\$ 7,710,032	\$ 640,435	\$ 608,731	\$ 1,805,609	\$ 358,657	\$ 11,123,463
Total FY19/20 Approved Budget	\$/year	\$ 7,275,021	\$ 622,663	\$ 608,154	\$ 1,689,919	\$ 346,867	\$ 10,542,625
Annual Cash Difference	\$/year	\$ 435,010	\$ 17,771	\$ 577	\$ 115,690	\$ 11,789	\$ 580,838
Annual Revenue Difference	%	5.98%	2.85%	0.09%	6.85%	3.40%	5.51%
FY 20/21 Expenses	\$	10,948,786	FY 19/20 Income Revenue \$ 11,153,463	Actual 2019 Expansion Bond payment \$ 117,373.00			
			Adj FY19/20 Income Revenue \$ 10,948,786				

NOTES:

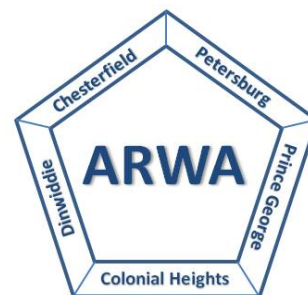
Reserve Policy:

Appomattox River Water Authority FY20/21

Reserve Fund Calculation

ARWA O&M Budget	Reserves as of 6/30/2019	Revenue for FY2019/2020	Total expected reserves on 6/30/2020	Recommended 50% O&M Reserves	Annual Charge to achieve 50% Reserves
\$7,722,800	\$3,548,600	\$188,750	\$3,737,350	\$3,861,400	\$124,050

Appomattox River Water Authority



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

RESOLUTION

OF THE APPOMATTOX RIVER WATER AUTHORITY PROVIDING PRELIMINARY APPROVAL OF THE BUDGET FOR FISCAL YEAR 2021 AND THE RELATED WATER RATES

WHEREAS, in October, November and December of 2019 the staff of the Appomattox River Water Authority (the "Authority") developed the Authority's proposed budget and water rates for Fiscal Year 2021 and has at this meeting held on January 16, 2020, presented the proposed budget and water rates to the Authority Board; and

WHEREAS, Section 10.2 of the Authority's Bylaws and Virginia Code Section 15.2-5136(G) require the preliminary approval of the proposed budget and water rates for notification of a public hearing prior to the final adoption of the budget and water rates for any fiscal year.

NOW, THEREFORE, BE IT RESOLVED that the Board of the Appomattox River Water Authority hereby (a) provides preliminary approval of (i) the proposed Fiscal Year 2021 budget submitted as an attachment to this resolution and (ii) the proposed water rates for Fiscal Year 2021 as set forth below, (b) schedules a public hearing on the proposed Fiscal Year 2021 budget and water rates at the Authority's next scheduled Board meeting on March 12, 2020, and (c) directs Authority staff to provide for the publication of the notices of such public hearing in accordance with Section 10.2 of the Authority's Bylaws and Virginia Code Section 15.2-5136(G):

RATES (cents/1,000 gallons)

	FY2021
Chesterfield County	1.0294
City of Colonial Heights	1.0566
Dinwiddie County	1.4755
City of Petersburg	1.0260
Prince George County	1.3837

BE IT FURTHER RESOLVED that the Authority Board acknowledges that the above-stated water rates will be subject to change in accordance with the Authority's water service agreement in effect between the Authority and each of its five member jurisdictions, based on, among other things, the amount of water actually purchased by each member jurisdiction and the amounts of revenues received and expenses incurred by the Authority during Fiscal Year 2021.

Robert Wilson

From: Robert Wilson
Sent: Friday, January 24, 2020 3:13 PM
To: Andrew Barnes (abarnes@petersburg-va.org); Aretha Ferrell-Benavides - City of Petersburg (city.manager@petersburg-va.org); Casey (caseyjoe@chesterfield.gov); 'Kevin Massengill'; 'Percy Ashcraft'; smithd@colonialheightsva.gov; Frank Haltom (fhaltom@princegeorgecountyva.gov); 'George Hayes'; henleyc@colonialheightsva.gov; llyons@petersburg-va.org; MorrisSc@chesterfield.gov
Cc: James Gordon; Melissa Wilkins
Subject: Proposed FY2020/2021 ARWA revised
Attachments: Rev. Proposed_FY20-21 ARWA_Budget_2020-1-22_2010bond.pdf; Budget_revision_notes_01242020 (002).xlsx

Attached is a copy of the revised FY2020/2021 budget for ARWA. The budget presented at the January 16th Board meeting did not include the FY2020/2021 debt service and interest payment for the Series 2010 Bond. This bond is currently being refinanced for a savings of \$711K (refinancing approved at September 12th meeting). Through the accounting process of closing out the Series 2010 Bond on the balance sheet and booking the Series 2019C Bond, Ms. Wilkins identified the debt service and interest payment we needed to add to the proposed FY2020/2021 ARWA budget. The addition of the debt service payment is identified on page 3 of 6 of the attached budget – delineated by the red arrow and box. In addition, I stated we needed to review the projects for the AWIA place holder we had in the budget, \$500K. I have reviewed these projects with Mr. Gordon and we are comfortable reducing the request for the AWIA projects from \$500K to \$250K shown on page 5 of 6 of the budget, delineated the same as before. I will be meeting with the engineers and reviewing the proposed AWIA projects.

Overall this reduces the revenues for the budget by approximately \$3,400. The reason for the small influence on the overall budget is that the original budget proposed a surplus to keep from changing the rates significantly – down this year and back up next year. The attached budget spreadsheet illustrates the impact on each jurisdiction.

Please let me know if you need any additional information or explanation.

Thanks

Robert B. Wilson, P.E.
Executive Director ARWA/SCWWA
21300 Chesdin Road
Petersburg, VA 23803
(804) 590-1145 ext. 101 (office)
(804) 586-7420 (mobile)
rwilson@arwava.org

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 16, 2020

Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2020/2021

			Change	
	<u>2019/2020</u> Budget	<u>2020/2021</u> Budget	Increase/ (Decrease) FY19/20 to FY20/21	Reason for Changes
<u>O&M EXPENSES</u>				
41000 · Salary	\$1,700,000	\$1,860,000	\$160,000	<i>Includes an average pay for performance increase of 2.6% and salaries for a new mechanic and maintenance manager. The maintenance manager will be a shared 50/50 employee with the SCWWA</i>
42000 · Employee Benefits	\$747,600	\$817,100	\$69,500	<i>Increase primarily due to FICA and VRS due to salary budget increase and estimated increase in Hospitalization Insurance.</i>
42100 · Employer FICA	\$125,000	\$141,000		
42200 · Virginia Retirement System	\$97,500	\$107,000		
42210 · Deferred Comp 457	\$6,300	\$7,500		
42300 · Hospitalization Insurance	\$490,000	\$530,000		
42400 · VRS Group Life Insurance	\$21,300	\$22,000		
42500 · Group Term Life	\$2,000	\$2,100		
42600 · Unemployment Insurance	\$0	\$2,000		
42800 · Employee Promotions	\$3,500	\$3,500		
42900 · Other Fringe Benefits - EAP	\$2,000	\$2,000		
42950 · OPEB Health Insurance Adj	\$0	\$0		
42952 · Net Pension Adjustment				
43000 · Contractual Services	\$1,204,500	\$1,188,000	-\$16,500	<i>Reclassified concrete repair from replacement budget to Service Contracts</i>
43121 · Auditing Services	\$8,000	\$8,000		
43122 · Accounting Services	\$14,000	\$16,000		
43130 · Legal/Engineering and Reservoir Studies	\$100,000	\$100,000		
43140 · Consulting Engineers	\$75,000	\$85,000		
43150 · Legal Services	\$100,000	\$75,000		
43152 · Medical - Testing	\$7,500	\$2,500		
43155 · Other Consulting Services	\$25,000	\$15,000		
43156 · Admin and Maintenance Svc-SCWWA	-\$37,000	\$0		
43160 · Trustee Services	\$9,500	\$9,500		
43162 · Bank Service Charges	\$2,500	\$2,500		
43170 · Research	\$17,500	\$17,500		
43180 · Potable Water Contract	\$500,000	\$510,000		
43190 · Samples and Tests	\$48,500	\$40,000		
43200 · Lake Patrol	\$4,000	\$4,000		

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 16, 2020

Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2020/2021

			Change	
			Increase/ (Decrease) FY19/20 to FY20/21	Reason for Changes
	<u>2019/2020</u> Budget	<u>2020/2021</u> Budget		
43201 · Reservoir Management - Invasive Control Program	\$150,000	\$50,000		
43210 · Software Support	\$20,000	\$40,000		
43220 · VPDES Permit Fee	\$10,000	\$30,000		
43310 · Repair Services	\$40,000	\$25,000		
43320 · Service Contracts	\$75,000	\$125,000		
43500 · Printing and Binding	\$0	\$3,000		
43600 · Grounds Maintenance	\$35,000	\$30,000		
45000 · Other Charges	\$1,051,600	\$1,055,700	\$4,100	
45110 · Electricity - Pumping	\$475,000	\$500,000		
45111 · Electricity - Purification	\$270,000	\$275,000		
45120 · Heating Fuel	\$100,000	\$65,000		
45130 · Trash Pickup	\$5,000	\$5,500		
45210 · Postal Services	\$2,200	\$1,200		
45220 · Freight	\$15,000	\$15,000		
45230 · Telecommunications	\$30,000	\$35,000		
45308 · General Liability Insurance	\$90,000	\$96,000		
45410 · Lease/Rent of Equipment	\$20,000	\$20,000		
45530 · Meals and Lodging	\$10,000	\$5,000		
45540 · Education and Training	\$16,400	\$20,000		
45550 · Safety Supplies	\$18,000	\$18,000		
46000 · Materials and Supplies	\$2,771,000	\$2,802,000	\$31,000	<i>Electrical responsibilities have been transferred from the shop to IT and the respective budgets reflect this change.</i>
46001 · Office Supplies	\$12,000	\$12,000		
46004 · Laboratory Supplies	\$74,000	\$75,000		
46005 · Purification Chemicals	\$2,300,000	\$2,300,000		
46006 · Purification Process and Janitorial Supplies	\$12,000	\$25,000		
46007 · Repair & Maint Supplies-Shop	\$175,000	\$115,000		
46008 · Vehicle and Equipment Fuels	\$20,000	\$25,000		
46009 · Vehicle and Equipment Supplies	\$13,000	\$20,000		
46010 · Equipment Parts and Small Equipment Purchases	\$60,000	\$55,000		
46011 · Uniforms	\$8,000	\$10,000		
46012 · Dues and Subscriptions	\$22,000	\$25,000		
46014 · Repair & Maint Supplies-IT	\$65,000	\$125,000		

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 16, 2020

Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2020/2021

	<u>2019/2020</u> Budget	<u>2020/2021</u> Budget	Change	
			Increase/ (Decrease) FY19/20 to FY20/21	Reason for Changes
46015 · Small Equipment Purchases	\$0	\$0		
46016 · Operations Supplies and Maintenance	\$10,000	\$15,000		
Total Operating Expenses	\$7,474,700	\$7,722,800	\$248,100	
58000 · Equipment Replacement	\$768,000	\$1,212,500	\$444,500	
Debt - 2010 Issue	\$759,123	\$451,220	(\$307,903)	2010 Series refunded as 2019
Debt - 2012 Issue	\$301,936	\$301,636	(\$300)	
Debt - 2017 Issue	\$1,080,116	\$1,080,517	\$401	
Debt - 2019 Issue (2010 Refunded)		\$257,283	\$257,283	Refunded 2010 series bond.
Total Debt	\$2,141,175	\$2,090,656	(\$50,519)	Decrease due to 2019 primarily interest payment this FY
Reserve Fund	\$188,750	\$124,050	(\$64,700)	
Total Expenses	\$10,572,625	\$11,150,006	\$577,381	

Final 2010 debt service
requirement

APPOMATTOX RIVER WATER AUTHORITY
Replacement Fund Budget - 58000

		FY20/21		INFORMATIONAL & PLANNING						
Acct#	Proposed FY ITEM	Current Budget 19/20	Proposed Budget 20/21	21/22	22/23	23/24	24/25	Totals		
58010 - Machinery and Motors	Emergency/ Miscellaneous Repairs	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 600,000		
	Replace filter actuators and valves		\$ -	\$ 34,000	\$ 34,000	\$ -	\$ -	\$ 68,000		
	HVAC Replacement	\$ 15,000						\$ 15,000		
	Dual Polymer Feed System	\$ 30,000						\$ 30,000		
	Filter 1-16 flow meter upgrade	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000			\$ 60,000		
	Spare RW and FW motors		\$ 200,000					\$ 200,000		
	Lightning Rapix Mix - Spare		\$ 175,000					\$ 175,000		
	Interior/Exterior Actuator Replacement	\$ 15,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000		\$ 135,000		
58020 - Instrumentation	Verizon RTU modem mandatory upgrade	\$ 30,000						\$ 30,000		
	YSI ProDSS Meter and Sonde	\$ 10,000						\$ 10,000		
	Chesdin East PLC Swap Out	\$ 12,000						\$ 12,000		
	Replace Sedimentation Basin sludge PLCs			\$ 90,000	\$ 90,000			\$ 180,000		
	PLC HMI @ Raw Water and Chlorine		\$ 15,000					\$ 15,000		
	Replacement AA		\$ 25,000					\$ 25,000		
58030 - SCADA	IFIX Upgrade		\$ 250,000					\$ 250,000		
58040 - Computer Equipment	>\$5,000 per items (server)	\$ 10,000	\$ 12,500	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 62,500		
58050 - Furniture and Fixtures	Upgrade Facility Lighting	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,000		
58060 - Motor Vehicles	2003 Maintenance Supervisors 4x4	\$ 35,000						\$ 35,000		
	2005 Lab Ford Explorer	\$ 35,000						\$ 35,000		
	Fleet 4dr 4x4 (Replace 1998 GMC)	\$ 35,000						\$ 35,000		
	Fork Lift - small telescopic	\$ 45,000						\$ 45,000		
	4dr 4x4 Pick Up		\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000		
	Telescopic forklift	\$ 85,000						\$ 85,000		
	Tractor 50 hp			\$ 75,000				\$ 75,000		

Revenues

Appomattox River Water Authority

FY Budget Year

2020/2021

Proposed

Jan. 16, 2020

Adopted

Revised

		<u>Chesterfield</u>	<u>Colonial Heights</u>	<u>Dinwiddie</u>	<u>Petersburg</u>	<u>Prince George</u>	<u>Total</u>
1) Operations and Maintenance Base Rate							
O&M Rate							
	\$/1000 gallons	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255
Estimated (\$/quarter)	\$	1,920,349	\$ 155,404.60	\$ 105,778	\$ 451,209	\$ 66,456	\$ 2,699,196.73
Total annual allocation	\$	7,681,395	\$ 621,618	\$ 423,113	\$ 1,804,836	\$ 265,825	\$ 10,796,787
% of flows		71.15%	5.76%	3.92%	16.72%	2.46%	100.00%
Estimated (mgd)		20.521	1.661	1.130	4.822	0.710	28.843
Calc. annual usage (bg)		7.490	0.606	0.413	1.760	0.259	10.528
O&M =	\$	7,722,800	Replacement \$ 1,212,500	54.38% 2019 Debt (maintenance)	\$	385,284	
Int./Misc. Income	\$	30,000	100% 2012 Debt \$ 301,636	100% 2017 Debt \$ 1,080,517	Reserve Funding		\$124,050
BASE RATE	\$/1000gals	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	
2) Expansion Rate							
Bonds	% Financed						
Rate (cents/1000 gals)		\$ 0.0034	\$ 0.0307	\$ 0.4511	\$ -	\$ 0.3590	
2019 expansion (\$/year)	45.62%	\$ 25,437	\$ 18,617	\$ 186,110	\$ -	\$ 93,055	\$ 323,219
% allocation		7.87%	5.76%	57.58%	0.00%	28.79%	100.00%
FY20/21 Bond Payments	2019 refunding =	\$ 708,503					
TOTAL DEBT SERVICE RATE	\$/1000 gals	\$ 0.0034	\$ 0.0307	\$ 0.4511	\$ -	\$ 0.3590	
	\$/year	\$ 25,437	\$ 18,617	\$ 186,110	\$ -	\$ 93,055	\$ 323,219
3) Total Rate							
TOTAL RATE (BASE + EXPANSION)	\$/1000gals	\$ 1.0289	1.0563	1.4766	1.0255	1.3846	\$ 1.1944
Estimated annual charges	\$/year	\$ 7,706,832	\$ 640,236	\$ 609,223	\$ 1,804,836	\$ 358,879	\$ 11,120,006
4) Budget Comparison (see note 1)							
Proposed FY20/21 Total Rate	\$/1000 gals	\$ 1.0289	\$ 1.0563	\$ 1.4766	\$ 1.0255	\$ 1.3846	\$ 1.1944
Approved FY 19/20 Total Rate	\$/1000 gals	\$ 0.9797	\$ 1.0083	\$ 1.4522	\$ 0.9760	\$ 1.3698	\$ 1.1572
Total Rate Difference	\$/1000 gals	0.0492	0.0479	0.0245	0.0495	0.0148	0.0372
Total Rate Difference	%	5.03%	4.75%	1.68%	5.07%	1.08%	3.21%
Proposed FY20/21 Revenues	\$/year	\$ 7,706,832	\$ 640,236	\$ 609,223	\$ 1,804,836	\$ 358,879	\$ 11,120,006
Total FY19/20 Approved Budget	\$/year	\$ 7,275,021	\$ 622,663	\$ 608,154	\$ 1,689,919	\$ 346,867	\$ 10,542,625
Annual Cash Difference	\$/year	\$ 431,811	\$ 17,572	\$ 1,069	\$ 114,917	\$ 12,012	\$ 577,381
Annual Revenue Difference	%	5.94%	2.82%	0.18%	6.80%	3.46%	5.48%
FY 20/21 Expenses	\$	11,150,006	FY 19/20 Income Revenue	\$	11,150,006		

NOTES:

Reserve Policy:

Appomattox River Water Authority FY20/21

Reserve Fund Calculation

ARWA O&M Budget	Reserves as of 6/30/2019	Revenue for FY2019/2020	Total expected reserves on 6/30/2020	Recommended 50% O&M Reserves	Annual Charge to achieve 50% Reserves
\$7,722,800	\$3,548,600	\$188,750	\$3,737,350	\$3,861,400	\$124,050

Jurisdiction	Proposed January 12th Budget	Revised January 24th Budget	Difference		Proposed Budget \$/1000	Revised Budget \$/1000	Rate Difference \$/1000
Chesterfield County	\$ 7,710,032	\$ 7,706,832	\$ (3,200)		\$ 1.0294	\$ 1.0289	\$ (0.0005)
City of Petersburg	\$ 1,805,609	\$ 1,804,836	\$ (773)		\$ 1.0260	\$ 1.0255	\$ (0.0005)
City of Colonial Heights	\$ 640,435	\$ 640,236	\$ (199)		\$ 1.0566	\$ 1.0563	\$ (0.0003)
Dinwiddie County	\$ 608,731	\$ 609,223	\$ 492		\$ 1.4755	\$ 1.4766	\$ 0.0011
Prince George County	\$ 358,657	\$ 358,879	\$ 222		\$ 1.3837	\$ 1.3846	\$ 0.0009
Revenue	\$ 11,123,464	\$ 11,120,006	\$ (3,458)				
Interest/Misc. Income	\$ 30,000	\$ 30,000					
Total Revenue	\$ 11,153,464	\$ 11,150,006					

Notes:

- (1) The revised budget has the last debt service payment for the 2010 Bond added to the budget.
This expense was not included on the January 16th budget. Ms. Wilkins identified this issue when she closed out the 2010 Bond on the balance sheet and booked the 2019C bond. The addition of the debt service for FY2020/2021 is shown on the attached budget on page 3 of 6.
- (2) We also discussed the AWIA projects for FY2020/2021 and determined we could reduce the \$500,000 request to \$250,000. This is illustrated on the attached budget on page 5 of 6.

ATTACHMENT #4

2010	Principal	Interest	Total	2012	Principal	Interest	Total	2017	Principal	Interest	Total	2019	Principal	Interest	Total
Year Ended June 30				Year Ended June 30				Year Ended June 30				Year Ended June 30			
				2012 \$ - \$ 93,906.15 \$ 93,906.15											
				2013 \$ 193,000.00 \$ 109,321.50 \$ 302,321.50											
				2014 \$ 199,000.00 \$ 103,245.50 \$ 302,245.50											
				2015 \$ 205,000.00 \$ 96,983.50 \$ 301,983.50											
				2016 \$ 211,000.00 \$ 90,535.50 \$ 301,535.50											
				2017 \$ 218,000.00 \$ 83,886.00 \$ 301,886.00											
				2018 \$ 225,000.00 \$ 77,019.50 \$ 302,019.50				2018 \$ 94,350.00 \$ 94,350.00							
				2019 \$ 232,000.00 \$ 69,936.00 \$ 301,936.00				2019 \$ 750,000.00 \$ 330,225.00 \$ 1,080,225.00							
				2020 \$ 239,000.00 \$ 62,635.50 \$ 301,635.50				2020 \$ 769,000.00 \$ 311,115.98 \$ 1,080,115.98				2020 \$ - \$ 75,205.83 \$ 75,205.83			
2020 \$ - \$ 11,220.00 \$ 11,220.00				2021 \$ 247,000.00 \$ 55,102.50 \$ 302,102.50				2021 \$ 789,000.00 \$ 291,516.34 \$ 1,080,516.34				2021 \$ 90,000.00 \$ 167,283.25 \$ 257,283.25			
2021 \$ 440,000.00 \$ 11,220.00 \$ 451,220.00				2022 \$ 255,000.00 \$ 47,321.50 \$ 302,321.50				2022 \$ 809,000.00 \$ 271,413.50 \$ 1,080,413.50				2022 \$ 545,000.00 \$ 160,940.03 \$ 705,940.03			
\$ 440,000.00 \$ 22,440.00 \$ 462,440.00				2023 \$ 263,000.00 \$ 39,292.50 \$ 302,292.50				2023 \$ 830,000.00 \$ 250,794.88 \$ 1,080,794.88				2023 \$ 555,000.00 \$ 149,759.83 \$ 704,759.83			
This was both an expansion and maintenance project				2024 \$ 271,000.00 \$ 31,015.50 \$ 302,015.50				2024 \$ 851,000.00 \$ 229,647.90 \$ 1,080,647.90				2024 \$ 565,000.00 \$ 138,011.18 \$ 703,011.18			
Charged as follows: (45.62%-expansion, 54.38%-allocation				2025 \$ 280,000.00 \$ 22,475.00 \$ 302,475.00				2025 \$ 872,000.00 \$ 207,972.56 \$ 1,079,972.56				2025 \$ 580,000.00 \$ 125,495.06 \$ 705,495.06			
				2026 \$ 288,000.00 \$ 13,671.00 \$ 301,671.00				2026 \$ 895,000.00 \$ 185,743.70 \$ 1,080,743.70				2026 \$ 595,000.00 \$ 111,887.68 \$ 706,887.68			
				2027 \$ 297,000.00 \$ 4,603.50 \$ 301,603.50				2027 \$ 918,000.00 \$ 162,936.16 \$ 1,080,936.16				2027 \$ 615,000.00 \$ 97,223.93 \$ 712,223.93			
				\$ 3,623,000.00 \$ 1,000,950.65 \$ 4,623,950.65				2028 \$ 941,000.00 \$ 139,549.94 \$ 1,080,549.94				2028 \$ 620,000.00 \$ 81,701.76 \$ 701,701.76			
				Maintenance Projects*				2029 \$ 965,000.00 \$ 115,572.46 \$ 1,080,572.46				2029 \$ 640,000.00 \$ 65,204.26 \$ 705,204.26			
				charged to members based on Allocations				2030 \$ 989,000.00 \$ 90,991.14 \$ 1,079,991.14				2030 \$ 655,000.00 \$ 47,762.13 \$ 702,762.13			
								2031 \$ 1,015,000.00 \$ 65,780.82 \$ 1,080,780.82				2031 \$ 670,000.00 \$ 29,438.75 \$ 699,438.75			
								2032 \$ 1,040,000.00 \$ 39,928.92 \$ 1,079,928.92				2032 \$ 690,000.00 \$ 10,021.25 \$ 700,021.25			
								2033 \$ 1,067,000.00 \$ 13,422.86 \$ 1,080,422.86							
								\$ 13,500,000.00 \$ 2,800,962.16 \$ 16,300,962.16				\$ 6,820,000.00 \$ 1,259,934.94 \$ 8,079,934.94			
								Maintenance Projects*				***This was both an expansion and maintenance project***			
								charged to members based on Allocations				***Charged as follows: (45.62%-expansion, 54.38%-allocation***			

ATTACHMENT #5

2:00 PM
02/10/20
Accrual Basis

Appomattox River Water Authority Balance Sheet As of January 31, 2020

Highlights: ARWA Cash Positions		30-Jun-19		31-Jan-20		Change	Explanation
Unrestricted Cash & Investments:							
Petty Cash	\$	400.00	\$	400.00	\$	-	On-Hand Petty Cash for incidental expenses
SunTrust Operating Account	\$	1,381,040.52	\$	2,550,087.51	\$	1,169,046.99	Financial Policy: Based on next four months of O&M expense
SunTrust Replacement Fund	\$	119,436.99	\$	119,536.99	\$	100.00	Pass-through account: From US Bank to SunTrust Bank for Replacement Fund Requisitions
Restricted Cash and Investments:							
Water Revenue	\$	3,153,267.05	\$	6,215,668.85	\$	3,062,401.80	Financial Policy: Held by Trustee for all operating water revenues
Reserve Account	\$	3,132,730.67	\$	3,918,403.32	\$	785,672.65	Financial Policy: 50% of current FY O&M Budget
Replacement Account	\$	808,255.92	\$	598,191.39	\$	(210,064.53)	Financial Policy: Must maintain a minimum of \$500K
Debt Service Reserve	\$	1,063,861.74	\$	2,147,465.16	\$	1,083,603.42	Financial Policy: Held by Trustee, funded at such amount as may be necessary.
2010 Bond	Principal/Interest	\$	415,515.42	\$	196,157.37	\$	(219,358.05)
2012 Bond	Principal/Interest	\$	315,282.10	\$	77,409.76	\$	(237,872.34)
2017 Bond	Principal/Interest	\$	2,793,958.46	\$	276,021.53	\$	(2,517,936.93)
2019 Bond	Principal/Interest	\$	-	\$	87,056.46	\$	87,056.46
2017 Construction		\$	6,067,230.84	\$	3,813,618.15	\$	(2,253,612.69)
Total Cash and Investments		\$	19,250,979.71	\$	20,000,016.49	\$	749,036.78
Highlights: ARWA Outstanding Bonds		30-Jun-19		31-Jan-20		Change	
2010 Bond	\$	7,330,000.00	\$	440,000.00	\$	(6,890,000.00)	
2010 Bond-Def Amt on Refund	\$	(571,535.58)		-	\$	571,535.58	
2010 Bond-Premium	\$	646,567.70	\$	-	\$	(646,567.70)	
2012 Bond	\$	2,372,000.00	\$	2,372,000.00	\$	-	
2017 Bond	\$	12,750,000.00	\$	11,981,000.00	\$	(769,000.00)	
2019 Bond	\$	-	\$	6,820,000.00	\$	6,820,000.00	
2019 Bond-Def Amt on Refund	\$	-	\$	(82,816.11)	\$	(82,816.11)	
Total Bonds Outstanding		\$	22,527,032.12	\$	21,530,183.89	\$	(996,848.23)

ATTACHMENT #6

APPOMATTOX RIVER WATER AUTHORITY

	Fiscal Year 2016/2017		Fiscal Year 2017/2018		Fiscal Year 2018/2019		Current Year	Proposed	Proposed/Current	Comments
	Budget	Actual	Budget	Actual	Budget	Actuals	2019/2020 Budget	2020/2021 Budget	Increase/Decrease	
O&M EXPENSES										
41000 · Salary	\$1,610,000	\$1,593,971	\$1,610,000	\$1,601,561	\$1,655,000	\$1,668,605	\$ 1,700,000	\$ 1,860,000	\$ 160,000	2.6% salary increase and two positions
42000 · Employee Benefits	\$623,400	\$663,905	\$630,100	\$581,701	\$723,100	\$537,355	\$ 747,500	\$ 817,100	\$ 69,600	majority of increase due to 2 new positions
42100 · Employer FICA	\$123,000	\$116,116	\$123,000	\$116,030	\$123,000	\$122,460	\$ 125,000	\$ 141,000	\$ 16,000	
42200 · Virginia Retirement System	\$96,000	\$87,746	\$96,000	\$88,689	\$96,000	\$78,362	\$ 97,500	\$ 107,000	\$ 9,500	
42210 · Deferred Comp 457	\$5,000	\$6,557	\$6,300	\$5,799	\$6,300	\$5,673	\$ 6,300	\$ 7,500	\$ 1,200	
42300 · Hospitalization Insurance	\$370,000	\$368,549	\$370,000	\$373,411	\$400,000	\$422,310	\$ 490,000	\$ 530,000	\$ 40,000	
42400 · VRS Group Life Insurance	\$21,300	\$19,166	\$21,300	\$19,330	\$21,300	\$20,420	\$ 21,300	\$ 22,000	\$ 700	
42500 · Group Term Life	\$1,500	\$1,716	\$2,000	\$761	\$2,000	\$1,793	\$ 2,000	\$ 2,100	\$ 100	
42600 · Unemployment Insurance	\$1,500	\$0	\$1,500	\$1,456	\$0	\$1,820	\$ -	\$ 2,000	\$ 2,000	
42800 · Employee Promotions	\$5,100	\$3,800	\$3,500	\$2,802	\$3,500	\$3,028	\$ 3,500	\$ 3,500	\$ -	
42900 · Other Fringe Benefits - EAP	\$0	\$1,800	\$2,000	\$1,556	\$2,000	\$1,825	\$ 2,000	\$ 2,000	\$ -	
42950 · OPEB Health Insurance Adj	\$0	-\$1,700	\$4,500	-\$10,257	\$69,000	-\$16,151	\$ -	\$ -	\$ -	
42952 · Net Pension Adjustment	\$0	\$60,155	\$0	-\$17,875	\$0	-\$104,185	\$ -	\$ -	\$ -	
43000 · Contractual Services	\$806,000	\$1,043,633	\$809,200	\$1,079,610	\$937,500	\$878,784	\$ 1,204,500	\$ 1,063,000	\$ (141,500)	Reclassified concrete repair from replacement budget to service contracts
43121 · Auditing Services	\$10,000	\$7,250	\$10,000	\$7,500	\$8,000	\$7,700	\$ 8,000	\$ 8,000	\$ -	
43122 · Accounting Services	\$12,000	\$10,407	\$7,500	\$12,268	\$9,000	\$14,682	\$ 14,000	\$ 16,000	\$ 2,000	
43130 · Legal/Engineering and Reservoir Studies	\$0	\$0	\$0	\$0	\$0	\$0	\$ 100,000	\$ 100,000	\$ -	
43140 · Consulting Engineers	\$75,000	\$36,025	\$75,000	\$35,360	\$75,000	\$80,108	\$ 75,000	\$ 85,000	\$ 10,000	
43150 · Legal Services	\$75,000	\$164,621	\$75,000	\$123,369	\$75,000	\$65,244	\$ 100,000	\$ 75,000	\$ (25,000)	
43152 · Medical - Testing	\$0	\$1,615	\$2,000	\$2,400	\$2,500	\$1,240	\$ 7,500	\$ 2,500	\$ (5,000)	
43155 · Other Consulting Services	\$0	\$0	\$0	\$193,387	\$50,000	\$7,959	\$ 25,000	\$ 15,000	\$ (10,000)	
43156 · Admin and Maintenance Svc-SCWWA	\$0	\$218,859	\$1,700	\$21,670	\$5,000	-\$39,720	\$ (37,000)	\$ -	\$ 37,000	
43160 · Trustee Services	\$10,000	\$5,280	\$10,000	\$9,444	\$7,500	\$8,458	\$ 9,500	\$ 9,500	\$ -	
43162 · Bank Service Charges	\$1,500	\$2,235	\$1,500	\$1,900	\$2,500	\$2,029	\$ 2,500	\$ 2,500	\$ -	
43170 · Research	\$15,000	\$16,674	\$15,000	\$16,685	\$17,500	\$14,653	\$ 17,500	\$ 17,500	\$ -	
43180 · Potable Water Contract	\$500,000	\$380,760	\$500,000	\$444,405	\$500,000	\$496,107	\$ 500,000	\$ 510,000	\$ 10,000	
43190 · Samples and Tests	\$25,000	\$34,459	\$25,000	\$18,830	\$25,000	\$19,482	\$ 48,500	\$ 40,000	\$ (8,500)	
43200 · Lake Patrol	\$4,000	\$3,000	\$4,000	\$3,532	\$4,000	\$3,000	\$ 4,000	\$ 4,000	\$ -	
43201 · Reservoir Management - Invasive Control Program	\$0	\$0	\$0	\$0	\$0	\$18,153	\$ 150,000	\$ 50,000	\$ (100,000)	
43210 · Software Support	\$20,000	\$14,624	\$15,000	\$14,745	\$20,000	\$33,792	\$ 20,000	\$ 40,000	\$ 20,000	
43220 · VPDES Permit Fee	\$0	\$300	\$500	\$0	\$500	\$9,857	\$ 10,000	\$ 30,000	\$ 20,000	
43310 · Repair Services	\$0	\$49,795	\$6,000	\$31,641	\$50,000	\$17,135	\$ 40,000	\$ 25,000	\$ (15,000)	
43320 · Service Contracts	\$25,000	\$64,785	\$25,000	\$113,247	\$50,000	\$94,301	\$ 75,000	\$ 3,000	\$ (72,000)	
43500 · Printing and Binding	\$1,500	\$828	\$1,000	\$278	\$1,000	\$2,155	\$ -	\$ -	\$ -	
43600 · Grounds Maintenance	\$32,000	\$31,542	\$35,000	\$28,950	\$35,000	\$22,450	\$ 35,000	\$ 30,000	\$ (5,000)	
43000 · Contractual Service - Other	\$0	\$575	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ 0	
45000 · Other Charges	\$967,400	\$997,510	\$977,600	\$940,383	\$1,017,600	\$987,799	\$ 1,051,600	\$ 1,055,700	\$ 4,100	
45110 · Electricity - Pumping	\$450,000	\$424,162	\$450,000	\$458,342	\$450,000	\$488,982	\$ 475,000	\$ 500,000	\$ 25,000	
45111 · Electricity - Purification	\$270,000	\$244,294	\$270,000	\$240,856	\$270,000	\$263,654	\$ 270,000	\$ 275,000	\$ 5,000	
45120 · Heating Fuel	\$75,000	\$119,091	\$75,000	\$69,309	\$100,000	\$61,291	\$ 100,000	\$ 65,000	\$ (35,000)	
45130 · Trash Pickup	\$8,000	\$3,983	\$3,000	\$3,269	\$4,000	\$4,673	\$ 5,000	\$ 5,500	\$ 500	
45210 · Postal Services	\$2,000	\$1,947	\$2,200	\$707	\$2,200	\$945	\$ 2,200	\$ 1,200	\$ (1,000)	
45220 · Freight		\$14,350	\$5,000	\$11,463	\$12,000	\$11,983	\$ 15,000	\$ 15,000	\$ -	
45230 · Telecommunications	\$27,500	\$28,013	\$25,000	\$27,643	\$25,000	\$26,077	\$ 30,000	\$ 35,000	\$ 5,000	
45308 · General Liability Insurance	\$90,000	\$94,321	\$90,000	\$88,011	\$90,000	\$85,804	\$ 90,000	\$ 96,000	\$ 6,000	
45410 · Lease/Rent of Equipment	\$7,500	\$34,869	\$20,000	\$12,498	\$20,000	\$15,207	\$ 20,000	\$ 20,000	\$ -	
45510 · Mileage Allowance	\$0	\$600	\$0	\$245	\$0	\$31	\$ -	\$ -	\$ 0	
45530 · Meals and Lodging	\$5,000	\$7,328	\$5,000	\$4,979	\$10,000	\$2,710	\$ 10,000	\$ 5,000	\$ (5,000)	
45540 · Education and Training	\$16,400	\$8,680	\$16,400	\$11,418	\$16,400	\$9,656	\$ 16,400	\$ 20,000	\$ 3,600	
45550 · Safety Supplies	\$16,000	\$16,883	\$16,000	\$12,382	\$18,000	\$16,786	\$ 18,000	\$ 18,000	\$ -	
45810 · Miscellaneous	\$0	-\$1,009	\$0	-\$737	\$0	\$0	\$ -	\$ -	\$ 0	

46000 · Materials and Supplies	\$2,555,500	\$2,620,851	\$2,752,500	\$2,379,191	\$2,764,000	\$2,462,439	\$ 2,771,000	\$ 2,802,000	\$ 31,000	Electrical responsibilities have been transferred from the shop to IT and respective line items
46001 · Office Supplies	\$12,000	\$11,947	\$12,000	\$10,433	\$12,000	\$9,325	\$ 12,000	\$ 12,000	\$ -	
46004 · Laboratory Supplies	\$72,000	\$63,411	\$74,000	\$81,925	\$74,000	\$74,015	\$ 74,000	\$ 75,000	\$ 1,000	
46005 · Purification Chemicals	\$2,200,000	\$2,270,869	\$2,200,000	\$1,946,183	\$2,300,000	\$2,095,977	\$ 2,300,000	\$ 2,300,000	\$ -	
46006 · Purification Process and Janitorial Supplies	\$10,500	\$15,816	\$10,500	\$8,847	\$15,000	\$20,253	\$ 12,000	\$ 25,000	\$ 13,000	
46007 · Repair & Maint Supplies-Shop	\$100,000	\$111,519	\$220,000	\$164,577	\$150,000	\$82,894	\$ 175,000	\$ 115,000	\$ (60,000)	
46008 · Vehicle and Equipment Fuels	\$35,000	\$14,843	\$35,000	\$14,875	\$20,000	\$23,475	\$ 20,000	\$ 25,000	\$ 5,000	
46009 · Vehicle and Equipment Supplies		\$10,519	\$10,000	\$12,500	\$10,000	\$17,713	\$ 13,000	\$ 20,000	\$ 7,000	
46010 · Equipment Parts and Small Equipment Purchases	\$75,000	\$20,383	\$75,000	\$23,703	\$65,000	\$22,376	\$ 60,000	\$ 55,000	\$ (5,000)	
46011 · Uniforms	\$6,000	\$6,749	\$6,000	\$8,745	\$8,000	\$7,300	\$ 8,000	\$ 10,000	\$ 2,000	
46012 · Dues and Subscriptions	\$25,000	\$20,763	\$25,000	\$16,790	\$25,000	\$24,663	\$ 22,000	\$ 25,000	\$ 3,000	
46014 · Repair & Maint Supplies-IT		\$13,560	\$65,000	\$60,587	\$65,000	\$74,745	\$ 65,000	\$ 125,000	\$ 60,000	
46015 · Small Equipment Purchases	\$10,000	\$50,166	\$10,000	\$24,439	\$10,000	\$1,284	\$ -	\$ -	\$ -	
46016 · Operations Supplies and Maintenance	\$10,000	\$9,429	\$10,000	\$5,587	\$10,000	\$8,419	\$ 10,000	\$ 15,000	\$ 5,000	
46000 · Materials and Supplies - Other	\$0	\$876	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	
Total Operating Expenses	\$6,562,300	\$6,919,871	\$6,779,400	\$6,582,446	\$7,097,200	\$6,534,982	\$ 7,474,700	\$ 7,722,800	\$ 248,100	
Depreciation Expense	\$0	\$2,562,514	\$0	\$2,590,177	\$0	\$2,566,020	\$ -			
Amortization Expense	\$0	\$1,395	\$0	\$1,395	\$0	\$697	\$ -			
Loss on Disposal of Assets	\$0	\$0	\$0	\$0	\$0	\$344,194	\$ -			
Total Other Expenses	\$0	\$2,563,909	\$0	\$2,591,572	\$0	\$2,910,912	\$ -			
58000 · Equipment Replacement	\$1,220,000	\$1,150,774	\$851,000	\$617,962	\$784,000	\$401,147	\$ 768,000	\$ 1,212,500	\$ 444,500	
Debt - 2007 Issue (retired in FY17)	\$474,071	\$474,071	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	
Debt - 2010 Issue	\$757,058	\$757,058	\$764,540	\$764,540	\$759,778	\$759,778	\$ 759,123	\$ 451,220	\$ (307,903)	Last 2010 payment, balance refinanced on 2019 issuance
Debt - 2012 Issue	\$301,536	\$301,536	\$301,886	\$301,886	\$302,020	\$302,020	\$ 301,936	\$ 301,636	\$ (301)	
Debt - 2017 Issue	\$504,575		\$510,000	\$94,350	\$1,080,225	\$1,080,225	\$ 1,080,116	\$ 1,080,116	\$ (0)	
Debt - 2019 Issue (2010 Refunded)	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ 257,283	\$ 257,283	
Total Debt	\$2,037,240	\$1,532,664	\$1,576,426	\$1,160,776	\$2,142,022	\$2,142,022	\$ 2,141,175	\$ 2,090,254	\$ (50,921)	
Reserve Fund	\$439,214	\$439,214	\$475,397	\$475,397	\$169,694	\$169,694	\$ 188,750	\$ 124,050	\$ (64,700)	
Total Expenses	\$10,258,754	\$12,606,433	\$9,682,223	\$11,428,152	\$10,192,916	\$12,158,757	\$ 10,572,625	\$ 11,150,006	\$ 577,381	overall 5.5% increase
Without Depreciation	\$10,258,754	\$10,043,919	\$9,682,223	\$8,837,975	\$10,192,916	\$9,592,736				

APPOMATTOX RIVER WATER AUTHORITY
PROPOSED BUDGET AND ESTIMATED RATES FOR THE FISCAL YEAR ENDING JUNE 30, 2021

Notice is hereby given that the Board of the Appomattox River Water Authority (the "Authority") will hold a public hearing for informative and fiscal planning purposes to consider the following proposed budget and the estimated rates for the fiscal year ending June 30, 2021 ("FY2021"). The public hearing allows the public to question and comment on the proposed budget and estimated rates.

The meeting, which may be continued or adjourned, will be held at 2:00 o'clock p.m. on March 12, 2020, before the Board, in the South Central Wastewater Authority Board Room, at 900 Magazine Road, in Petersburg, Virginia. Any person interested may appear at the meeting and present their views. Information regarding the proposed budget and estimated rates is on file and is open for inspection at the Appomattox River Water Authority's office at 21300 Chesdin Road, South Chesterfield, Virginia, during business hours.

PROPOSED BUDGET

REVENUES

Chesterfield County	\$7,706,832
City of Colonial Heights	640,236
Dinwiddie County	609,223
City of Petersburg	1,804,836
Prince George County	358,879
<u>Interest & Miscellaneous Income</u>	<u>30,000</u>
TOTAL REVENUES	\$11,150,006

EXPENSES

Operating and Maintenance Expenses

Salaries & Wages.....	\$1,860,000
Employee Benefits	817,100
Contractual Services.....	1,188,000
Other Charges (Utilities, Insurance, Fuel, Training)	1,055,700
Materials & Supplies	2,802,000
Debt Service	2,090,656
Reserve Policy.....	124,050
<u>Replacement Fund Expenditures</u>	<u>1,212,500</u>
TOTAL EXPENSES	\$11,150,006

Pursuant to the water service agreement in effect between the Authority and each of its five participating jurisdictions, the proposed budget set forth above will result in an estimated rate per 1000 gallons of finished water purchased during FY2021 by each of the participating jurisdictions as set forth below:

	RATES (\$/1,000 gallons)		
	FY2020	FY2021	% Difference
Chesterfield County	0.9797	1.0289	5.03%
City of Colonial Heights	1.0083	1.0563	4.75%
Dinwiddie County	1.4522	1.4766	1.68%
City of Petersburg	0.9760	1.0255	5.07%
Prince George County	1.3698	1.3846	1.08%

The rates are subject to change in accordance with the water service agreement based on, among other things, the amount of water actually purchased by each member jurisdiction and the amounts of revenues received and expenses incurred by the Authority during FY2021.

ATTACHMENT #8

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 16, 2020

Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2020/2021

			Change	
	<u>2019/2020</u> Budget	<u>2020/2021</u> Budget	<u>Increase/ (Decrease)</u> FY19/20 to FY20/21	Reason for Changes
<u>O&M EXPENSES</u>				
41000 · Salary	\$1,700,000	\$1,860,000	\$160,000	<i>Includes an average pay for performance increase of 2.6% and salaries for a new mechanic and maintenance manager. The maintenance manager will be a shared 50/50 employee with the SCWWA</i>
42000 · Employee Benefits	\$747,600	\$817,100	\$69,500	<i>Increase primarily due to FICA and VRS due to salary budget increase and estimated increase in Hospitalization Insurance.</i>
42100 · Employer FICA	\$125,000	\$141,000		
42200 · Virginia Retirement System	\$97,500	\$107,000		
42210 - Deferred Comp 457	\$6,300	\$7,500		
42300 · Hospitalization Insurance	\$490,000	\$530,000		
42400 · VRS Group Life Insurance	\$21,300	\$22,000		
42500 · Group Term Life	\$2,000	\$2,100		
42600 · Unemployment Insurance	\$0	\$2,000		
42800 · Employee Promotions	\$3,500	\$3,500		
42900 · Other Fringe Benefits - EAP	\$2,000	\$2,000		
42950 · OPEB Health Insurance Adj	\$0	\$0		
42952 · Net Pension Adjustment				
43000 · Contractual Services	\$1,204,500	\$1,188,000	-\$16,500	<i>Reclassified concrete repair from replacement budget to Service Contracts</i>
43121 · Auditing Services	\$8,000	\$8,000		
43122 · Accounting Services	\$14,000	\$16,000		
43130 · Legal/Engineering and Reservoir Studies	\$100,000	\$100,000		
43140 · Consulting Engineers	\$75,000	\$85,000		
43150 · Legal Services	\$100,000	\$75,000		
43152 · Medical - Testing	\$7,500	\$2,500		
43155 · Other Consulting Services	\$25,000	\$15,000		
43156 · Admin and Maintenance Svc-SCWWA	-\$37,000	\$0		
43160 · Trustee Services	\$9,500	\$9,500		
43162 - Bank Service Charges	\$2,500	\$2,500		
43170 · Research	\$17,500	\$17,500		
43180 · Potable Water Contract	\$500,000	\$510,000		
43190 · Samples and Tests	\$48,500	\$40,000		
43200 · Lake Patrol	\$4,000	\$4,000		
43201 · Reservoir Management - Invasive Control Program	\$150,000	\$50,000		

43210 · Software Support	\$20,000	\$40,000		
43220 · VPDES Permit Fee	\$10,000	\$30,000		
43310 · Repair Services	\$40,000	\$25,000		
43320 · Service Contracts	\$75,000	\$125,000		
43500 · Printing and Binding	\$0	\$3,000		
43600 · Grounds Maintenance	\$35,000	\$30,000		
45000 · Other Charges	\$1,051,600	\$1,055,700	\$4,100	
45110 · Electricity - Pumping	\$475,000	\$500,000		
45111 · Electricity - Purification	\$270,000	\$275,000		
45120 · Heating Fuel	\$100,000	\$65,000		
45130 · Trash Pickup	\$5,000	\$5,500		
45210 · Postal Services	\$2,200	\$1,200		
45220 · Freight	\$15,000	\$15,000		
45230 · Telecommunications	\$30,000	\$35,000		
45308 · General Liability Insurance	\$90,000	\$96,000		
45410 · Lease/Rent of Equipment	\$20,000	\$20,000		
45530 · Meals and Lodging	\$10,000	\$5,000		
45540 · Education and Training	\$16,400	\$20,000		
45550 · Safety Supplies	\$18,000	\$18,000		
46000 · Materials and Supplies	\$2,771,000	\$2,802,000	\$31,000	<i>Electrical responsibilities have been transferred from the shop to IT and the respective budgets reflect this change.</i>
46001 · Office Supplies	\$12,000	\$12,000		
46004 · Laboratory Supplies	\$74,000	\$75,000		
46005 · Purification Chemicals	\$2,300,000	\$2,300,000		
46006 · Purification Process and Janitorial Supplies	\$12,000	\$25,000		
46007 · Repair & Maint Supplies-Shop	\$175,000	\$115,000		
46008 · Vehicle and Equipment Fuels	\$20,000	\$25,000		
46009 · Vehicle and Equipment Supplies	\$13,000	\$20,000		
46010 · Equipment Parts and Small Equipment Purchases	\$60,000	\$55,000		
46011 · Uniforms	\$8,000	\$10,000		
46012 · Dues and Subscriptions	\$22,000	\$25,000		
46014 · Repair & Maint Supplies-IT	\$65,000	\$125,000		
46015 · Small Equipment Purchases	\$0	\$0		
46016 · Operations Supplies and Maintenance	\$10,000	\$15,000		
Total Operating Expenses	\$7,474,700	\$7,722,800	\$248,100	
58000 · Equipment Replacement	\$768,000	\$1,212,500	\$444,500	
Debt - 2010 Issue	\$759,123	\$451,220	(\$307,903)	<i>2010 Series refunded as 2019</i>
Debt - 2012 Issue	\$301,936	\$301,636	(\$300)	
Debt - 2017 Issue	\$1,080,116	\$1,080,517	\$401	
Debt - 2019 Issue (2010 Refunded)		\$257,283	\$257,283	<i>Refunded 2010 series bond.</i>
Total Debt	\$2,141,175	\$2,090,656	(\$50,519)	<i>Decrease due to 2019 primarily interest payment this FY</i>
Reserve Fund	\$188,750	\$124,050	(\$64,700)	
Total Expenses	\$10,572,625	\$11,150,006	\$577,381	

APPOMATTOX RIVER WATER AUTHORITY
Replacement Fund Budget - 58000

Acct#	Proposed FY ITEM	Current Budget 19/20	FY20/21 Proposed Budget 20/21	INFORMATIONAL & PLANNING				Totals
				21/22	22/23	23/24	24/25	
58010 - Machinery and Motors	Emergency/ Miscellaneous Repairs	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 600,000
	Replace filter actuators and valves		\$ -	\$ 34,000	\$ 34,000	\$ -	\$ -	\$ 68,000
	HVAC Replacement	\$ 15,000						\$ 15,000
	Dual Polymer Feed System	\$ 30,000						\$ 30,000
	Filter 1-16 flow meter upgrade	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000			\$ 60,000
	Spare RW and FW motors		\$ 200,000					\$ 200,000
	Lightning Rapix Mix - Spare		\$ 175,000					\$ 175,000
	Interior/Exterior Actuator Replacement	\$ 15,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000		\$ 135,000
58020 - Instrumentation	Verizon RTU modem mandatory upgrade	\$ 30,000						\$ 30,000
	YSI ProDSS Meter and Sonde	\$ 10,000						\$ 10,000
	Chesdin East PLC Swap Out	\$ 12,000						\$ 12,000
	Replace Sedimentation Basin sludge PLCs			\$ 90,000	\$ 90,000			\$ 180,000
	PLC HMI @ Raw Water and Chlorine		\$ 15,000					\$ 15,000
	Replacement AA		\$ 25,000					\$ 25,000
58030 - SCADA	IFIX Upgrade		\$ 250,000					\$ 250,000
58040 - Computer Equipmment	>\$5,000 per items (server)	\$ 10,000	\$ 12,500	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 62,500
58050 - Furniture and Fixtures	Upgrade Facility Lighting	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,000
58060 - Motor Vehicles	2003 Maintenance Supervisors 4x4	\$ 35,000						\$ 35,000
	2005 Lab Ford Explorer	\$ 35,000						\$ 35,000
	Fleet 4dr 4x4 (Replace 1998 GMC)	\$ 35,000						\$ 35,000
	Fork Lift - small telescopic	\$ 45,000						\$ 45,000
	4dr 4x4 Pick Up		\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000
	Telescopic forklift	\$ 85,000						\$ 85,000

	Tractor 50 hp			\$	75,000		\$	75,000							
58070 - Special Studies (Moved to O&M)	Groundwater Quality Monitoring Plan						\$	-							
	Legal/Engineering analysis and studies	\$	-				\$	-							
58090 - Construction	Valve Replacement	\$	100,000	\$	100,000	\$	100,000	\$	600,000						
	PG Meter Vault Upgrade (16")	\$	30,000					\$	30,000						
	General Concrete Repairs	\$	25,000	\$	-	\$	-	\$	25,000						
	Install Bollards and Security Fences at Remote Sites	\$	10,000					\$	10,000						
	Matoaca Meter and Meter Box	\$	125,000					\$	125,000						
	Security Infrastructure Upgrades (Federal Water Infrastructure Act study recommendations)			\$	250,000			\$	250,000						
	Replace Cone Valve							\$	500,000						
	Replacement of Single pane windows			\$	100,000	\$	100,000	\$	400,000						
TOTALS:		\$	768,000	\$	1,212,500	\$	519,000	\$	594,000	\$	380,000	\$	850,000	\$	4,323,500

NOTE: FY 19/20 TO BE APPROVED WITH BUDGET

Construction Fund (Capital Projects)
FY20/21

ITEM	Budget	Proposed Budget	INFORMATIONAL & PLANNING								Totals	>10 years
	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29		
Finished Water Pump Stations No. 1 Upgrade - see note 2	\$ 3,886,983										\$ 3,886,983	
Raw Water Pump Station No. 1 Upgrade - see note 2	\$ 2,321,263										\$ 2,321,263	
Clearwell #4											\$ -	\$ 8,750,000
PAC Feed System					\$ 2,500,000						\$ 2,500,000	
Rebuild Filters 1-8					\$ 5,500,000							
Lagoon Liners					\$ 5,500,000							
Transmission Main - Chesdin Rd. to Pickett Rd											\$ -	\$ 10,369,000.00
Transmission Main - Pickett Ave. to Matoaca Tank											\$ -	\$ 10,369,000.00
Transmission Main - Matoaca Tank to Branders Bridge											\$ -	\$ 11,946,000.00
Transmission Main - Branders Bridge to Lakeview											\$ -	\$ 3,526,000.00
Totals	\$ 6,208,245	\$ -	\$ -	\$ -	\$ 13,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,708,245	

NOTE:

- 1) The above items for information only. Approval required from BOD at time of project award.
- 2) Bond Funding will be required for these Proposed Capital Project.
- 3) The PAC feed system and Lagoon lining would be regulatory driven

Revenues

Appomattox River Water Authority

FY Budget Year

2020/2021

Proposed

Jan. 16, 2020

Adopted

Revised

		<u>Chesterfield</u>	<u>Colonial Heights</u>	<u>Dinwiddie</u>	<u>Petersburg</u>	<u>Prince George</u>	<u>Total</u>
1) Operations and Maintenance Base Rate							
O&M Rate							
	\$/1000 gallons	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255
Estimated (\$/quarter)	\$	1,920,349	\$ 155,404.60	\$ 105,778	\$ 451,209	\$ 66,456	\$ 2,699,196.73
Total annual allocation	\$	7,681,395	\$ 621,618	\$ 423,113	\$ 1,804,836	\$ 265,825	\$ 10,796,787
% of flows		71.15%	5.76%	3.92%	16.72%	2.46%	100.00%
Estimated (mgd)		20.521	1.661	1.130	4.822	0.710	28.843
Calc. annual usage (bg)		7.490	0.606	0.413	1.760	0.259	10.528
O&M =	\$	7,722,800	Replacement \$ 1,212,500	54.38% 2019 Debt (maintenance)	\$	385,284	
Int./Misc. Income	\$	30,000	100% 2012 Debt \$ 301,636	100% 2017 Debt \$ 1,080,517	Reserve Funding		\$124,050
BASE RATE	\$/1000gals	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	\$ 1.0255	
2) Expansion Rate							
Bonds	% Financed						
Rate (cents/1000 gals)		\$ 0.0034	\$ 0.0307	\$ 0.4511	\$ -	\$ 0.3590	
2019 expansion (\$/year)	45.62%	\$ 25,437	\$ 18,617	\$ 186,110	\$ -	\$ 93,055	\$ 323,219
% allocation		7.87%	5.76%	57.58%	0.00%	28.79%	100.00%
FY20/21 Bond Payments	2019 refunding =	\$ 708,503					
TOTAL DEBT SERVICE RATE	\$/1000 gals	\$ 0.0034	\$ 0.0307	\$ 0.4511	\$ -	\$ 0.3590	
	\$/year	\$ 25,437	\$ 18,617	\$ 186,110	\$ -	\$ 93,055	\$ 323,219
3) Total Rate							
TOTAL RATE (BASE + EXPANSION)	\$/1000gals	\$ 1.0289	1.0563	1.4766	1.0255	1.3846	\$ 1.1944
Estimated annual charges	\$/year	\$ 7,706,832	\$ 640,236	\$ 609,223	\$ 1,804,836	\$ 358,879	\$ 11,120,006
4) Budget Comparison (see note 1)							
Proposed FY20/21 Total Rate	\$/1000 gals	\$ 1.0289	\$ 1.0563	\$ 1.4766	\$ 1.0255	\$ 1.3846	\$ 1.1944
Approved FY 19/20 Total Rate	\$/1000 gals	\$ 0.9797	\$ 1.0083	\$ 1.4522	\$ 0.9760	\$ 1.3698	\$ 1.1572
Total Rate Difference	\$/1000 gals	0.0492	0.0479	0.0245	0.0495	0.0148	0.0372
Total Rate Difference	%	5.03%	4.75%	1.68%	5.07%	1.08%	3.21%
Proposed FY20/21 Revenues	\$/year	\$ 7,706,832	\$ 640,236	\$ 609,223	\$ 1,804,836	\$ 358,879	\$ 11,120,006
Total FY19/20 Approved Budget	\$/year	\$ 7,275,021	\$ 622,663	\$ 608,154	\$ 1,689,919	\$ 346,867	\$ 10,542,625
Annual Cash Difference	\$/year	\$ 431,811	\$ 17,572	\$ 1,069	\$ 114,917	\$ 12,012	\$ 577,381
Annual Revenue Difference	%	5.94%	2.82%	0.18%	6.80%	3.46%	5.48%
FY 20/21 Expenses	\$	11,150,006	FY 19/20 Income Revenue	\$	11,150,006		

NOTES:

Reserve Policy: Appomattox River Water Authority FY20/21

Reserve Fund Calculation

ARWA O&M Budget	Reserves as of 6/30/2019	Revenue for FY2019/2020	Total expected reserves on 6/30/2020	Recommended 50% O&M Reserves	Annual Charge to achieve 50% Reserves
\$7,722,800	\$3,548,600	\$188,750	\$3,737,350	\$3,861,400	\$124,050

RESOLUTION

OF THE APPOMATTOX RIVER WATER AUTHORITY

APPROVING THE BUDGET FOR FISCAL YEAR 2021

AND SETTING THE RELATED WATER RATES

WHEREAS, in October, November and December of 2019 the staff of the Appomattox River Water Authority (the "Authority") developed the Authority's proposed budget and water rates for Fiscal Year 2021 and has at the meeting held on January 16, 2020, presented the proposed budget and water rates to the Authority Board; and

WHEREAS, at the January 16, 2020 meeting the Authority Board provided its preliminary approval of the proposed budget and the proposed water rates for Fiscal Year 2021 and scheduled a public hearing to be held at this meeting held on March 12, 2020, in accordance with Section 10.2 of the Authority's Bylaws and Virginia Code Section 15.2-5136(G); and

WHEREAS, the Authority Board held the public hearing on the proposed Fiscal Year 2021 budget and water rates at its meeting on March 12, 2020;

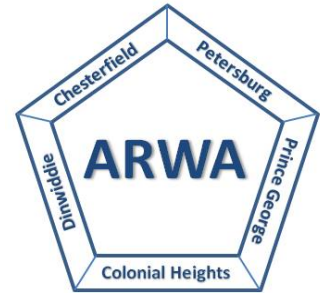
NOW, THEREFORE, BE IT RESOLVED that the Board of the Appomattox River Water Authority hereby approves (a) the Fiscal Year 2021 budget submitted as an attachment to this resolution and (b) the water rates for Fiscal Year 2021 as set forth below:

RATES (cents/1,000 gallons)

	FY2021
Chesterfield County	1.0289
City of Colonial Heights	1.0563
Dinwiddie County	1.4766
City of Petersburg	1.0255
Prince George County	1.3846

BE IT FURTHER RESOLVED that the Authority Board acknowledges that the above-stated water rates will be subject to change in accordance with the Authority's water service agreement in effect between the Authority and each of its five member jurisdictions, based on, among other things, the amount of water actually purchased by each member jurisdiction and the amounts of revenues received and expenses incurred by the Authority during Fiscal Year 2021.

Appomattox River Water Authority



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

EXHIBIT C

TO: Board of Directors

FROM: Robert B. Wilson, Executive Director
James C. Gordon, Assistant Director

DATE: March 12, 2020

SUBJECT: Hydrilla Update

Peter Nash from Golder Associates, Inc. will be present to provide an update on the hydrilla evaluation for the lake. Mr. Nash will go through a brief slide presentation which is included in your Board package. In addition, we will discuss the public information brochure that is also included in the Board package.

Board Action Requested:

Staff requests the Board provide some dates, in the evening, that we can schedule a public information meeting. I did talk with Mr. Massengill from Dinwiddie County and he did not have an issue with the meeting taking place in Chesterfield County. Suggestions for the meeting location include Matoaca Elementary School or Matoaca High School. The brochure would include the agreed upon time and date. We propose to notify residents on both sides of the lake via a mass mailing, notification to the various associations around the lake, and publishing on the website.



Hydrilla Management Plan Update

APPOMATTOX RIVER WATER AUTHORITY

March 2020

AGENDA

Introduction

Aquatic Vegetation Surveys

Proposed Work for 2020

Hydrilla Management Plan Update

INTRODUCTION

- November 2018 Aquatic Survey was performed to determine the presence/absence of *Hydrilla sp.*
- *Hydrilla sp.* was positively identified in Lake Chesdin but not systematically surveyed.
- Golder was asked to develop a Hydrilla Management Plan. A survey method was developed to map *Hydrilla sp.* distribution and conduct surveys over a period of two years.

Hydrilla Management Plan Update

SCOPE OF WORK

Assessment Monitoring - collect information that will be used to recommend the type and timing of maintenance programs, including:

- **Visual Survey** - distribution and biomass during growing season
- **Tuber Survey** - distribution and density, evaluate tuber emergence timing
- **Water Quality** - identify general water quality parameters and nutrients

Public Consultation – public involvement and outreach

- **Public Meetings** - public presentation showing assessment updates, provide information on *Hydrilla sp.* management and control,
- **Stakeholder Group** – establish group to provide representation of interested parties to participate in ongoing surveys and management.

Hydrilla Management Plan

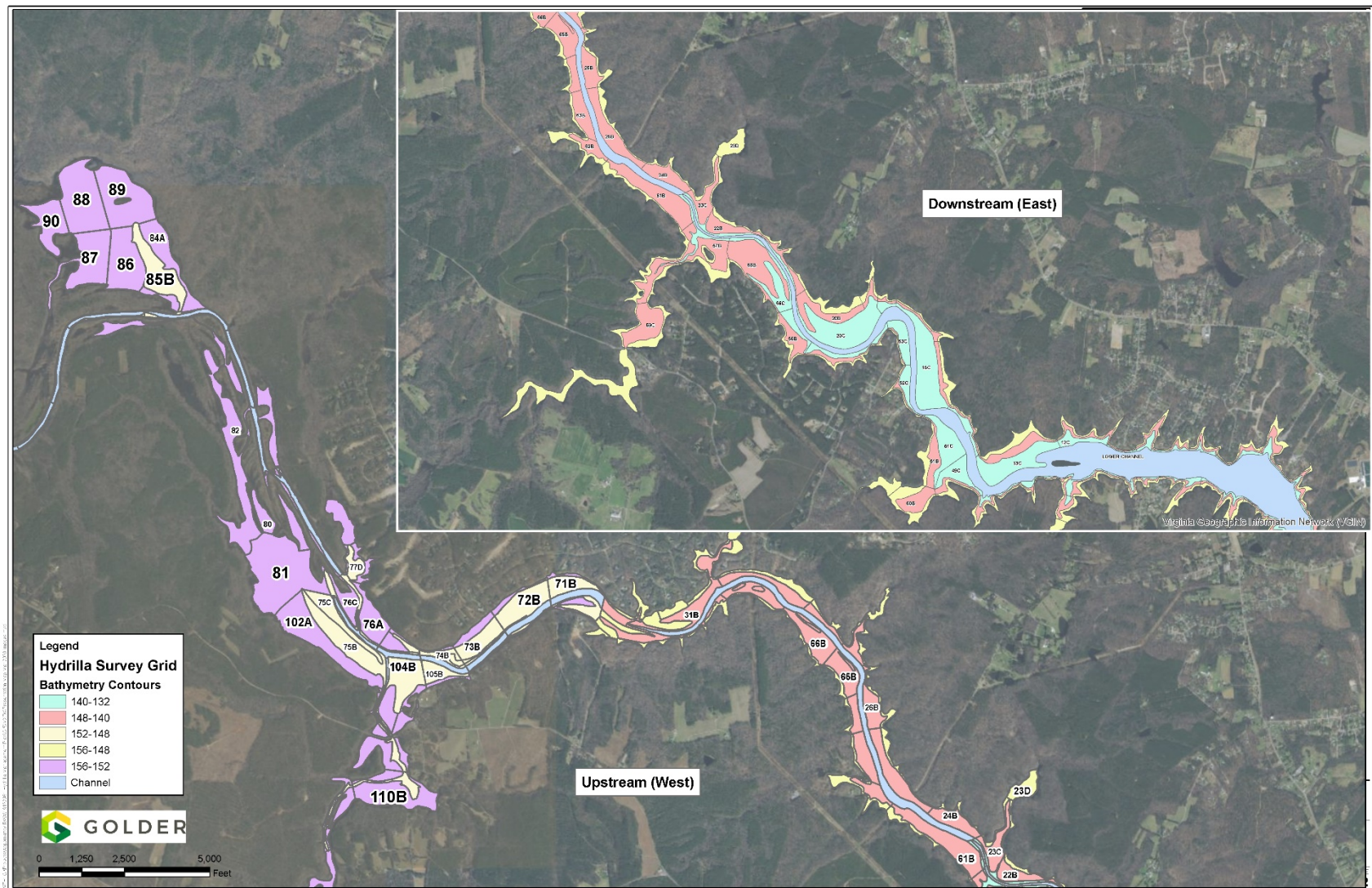
Assessment Monitoring

GRID DEVELOPMENT

Lake Chesdin was sub-divided into areas with similar hydrological conditions or habitats based on bathymetry contours. The grid was split into 4 foot depth intervals in the shallow portions of the lake, and 8 foot depth intervals in the deeper portions of the lake. The resulting 310 parcels were georeferenced for locating while in the field using GPS.

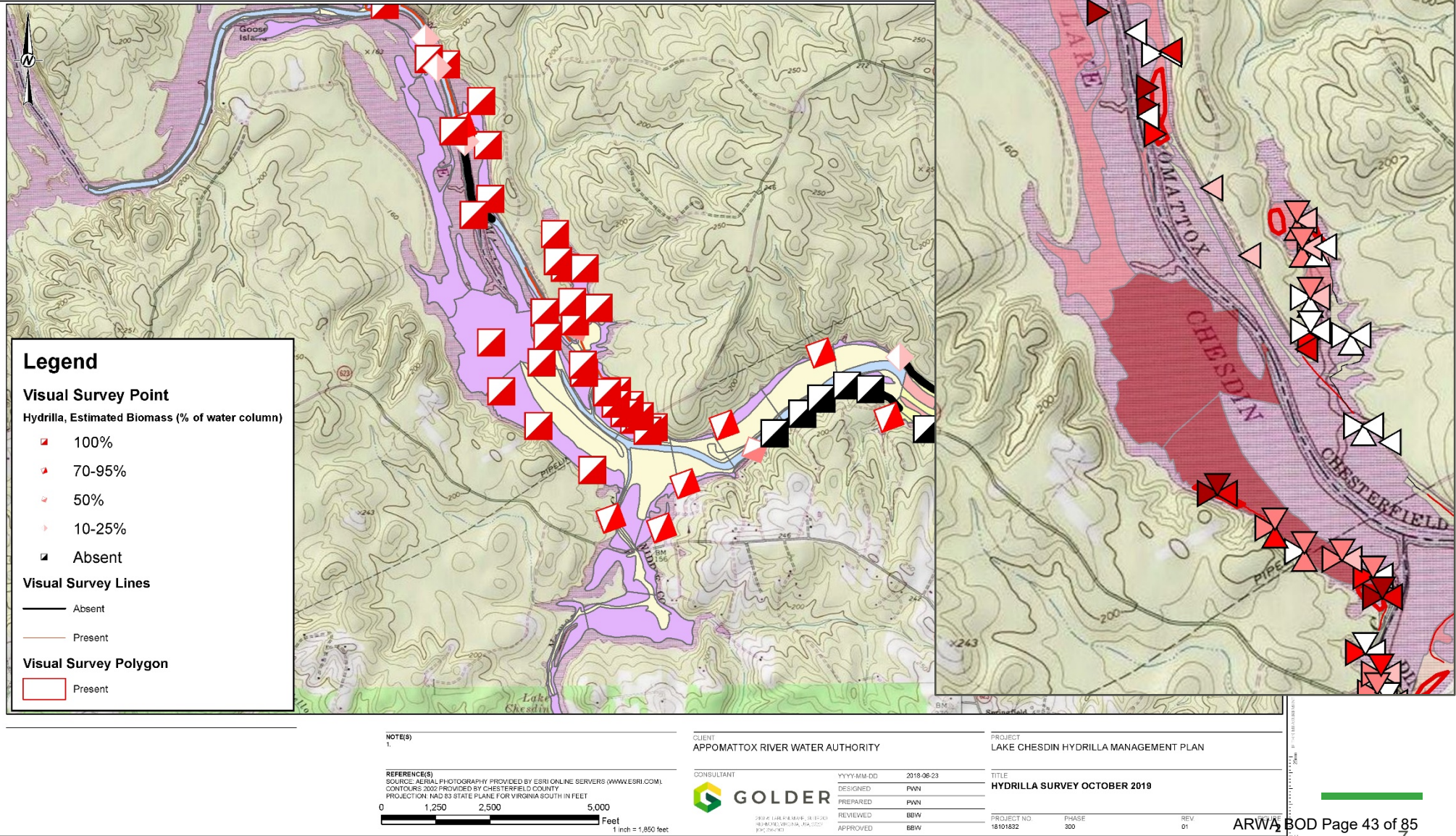
Lake Chesdin Hydrilla Survey

SURVEY GRID



Lake Chesdin Hydrilla Survey

SURVEY
OVERLAYS



August 2019 Hydrilla Survey Results

AUGUST SURVEY

Total Area Impacted 560 Acres

% Biomass Acres	%Area
-----------------	-------

1-25	22	4
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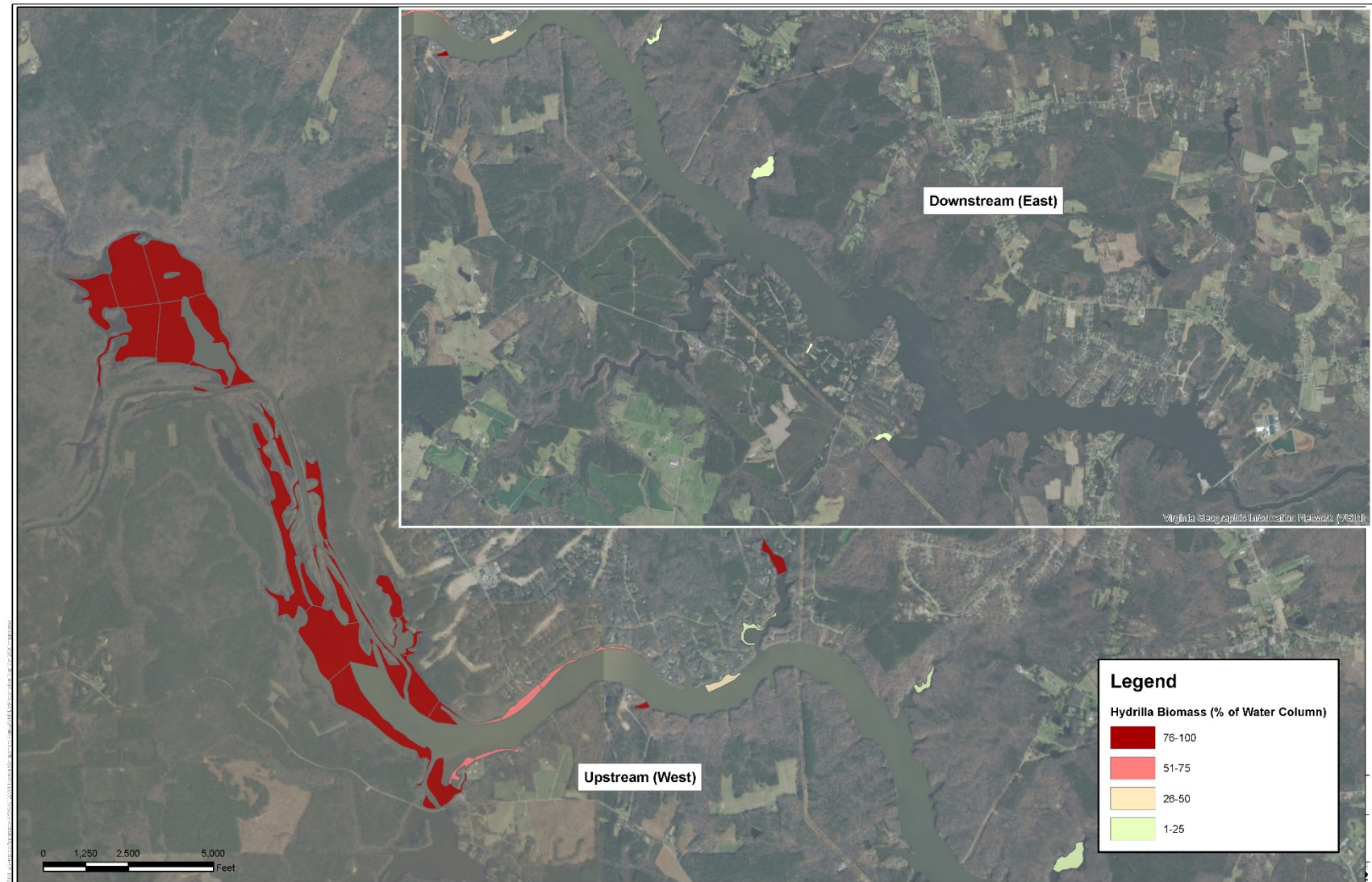
26-50	5	1
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51-75	21	4
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76-100	518	91
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Discharge ~ 90cfs

Turbidity ~ 5 NTU



Lake Chesdin Hydrilla Survey

AUGUST SURVEY SUMMARY

- *Hydrilla sp.* was widespread in water depths less than 5 feet throughout the upper section of Lake Chesdin (upstream of Namozine Creek). *Hydrilla sp.* was found in most upstream areas except in the main channel. *Hydrilla sp.* was observed growing to the surface in most areas in dense clumps (75-100% of water column).
- Downstream of Namozine Creek *Hydrilla sp.* was sparse where present and was isolated to a couple of tributaries. These tributaries were sheltered and had gentle bathymetric slopes. The distribution is likely associated with the presence of lake bottom sediment. No *Hydrilla sp.* was observed in the main water body along the rocky exposed shorelines. *Hydrilla sp.* was found in Cattle Creek, Stoney Creek, Miry Run, and two unnamed tributaries, one on the south side between Whipponock Creek and Miry Run and the other between Cattle and Stoney Creek on the north side.

October 2019 Hydrilla Survey Results

OCTOBER SURVEY

Total Area Impacted 560 Acres

% Biomass Acres	%Area
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1-25	33	6
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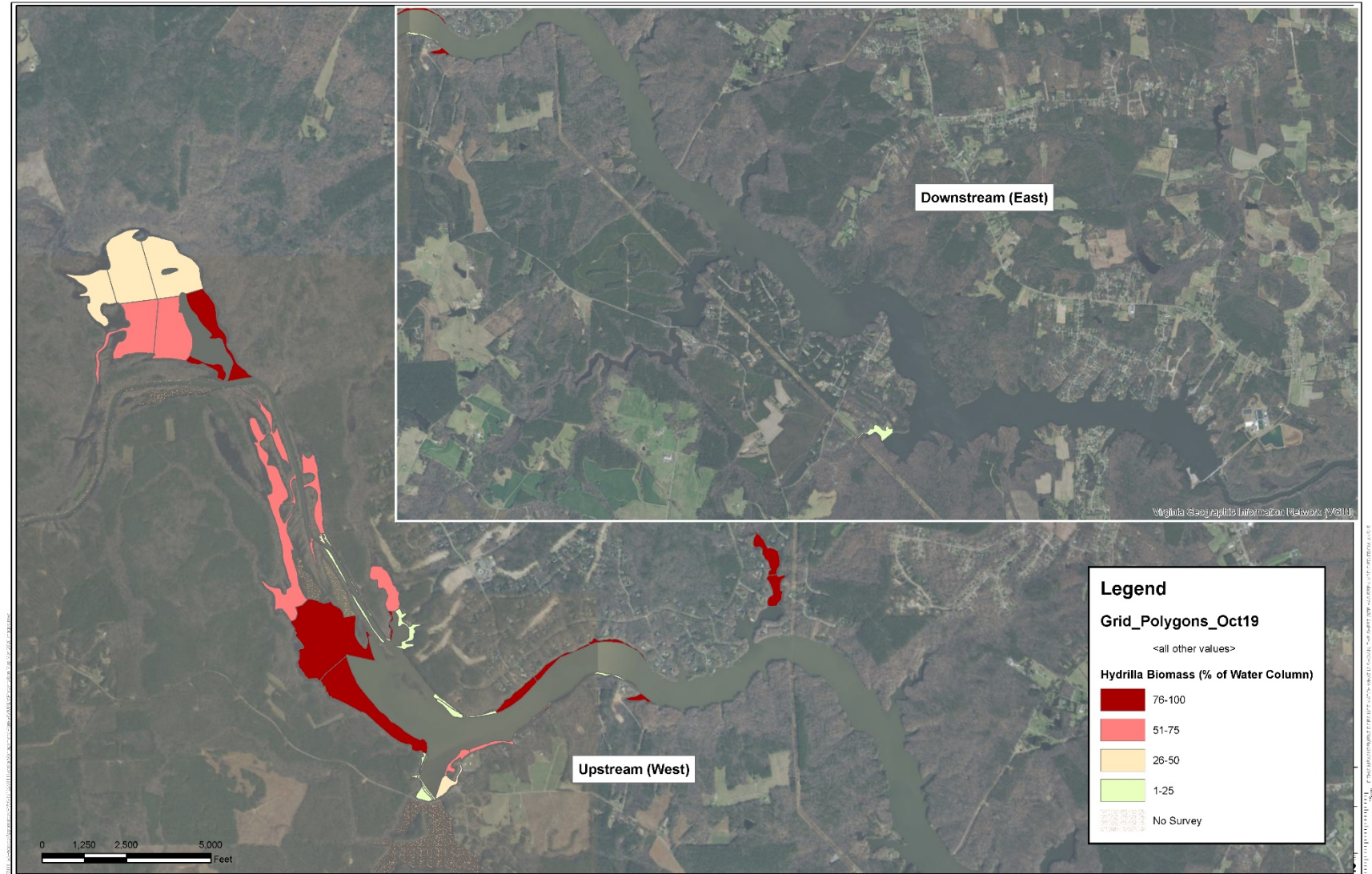
26-50	132	24
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51-75	206	37
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76-100	187	34
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Discharge ~ 160cfs

Turbidity 10-15NTU



Lake Chesdin Hydrilla Survey

OCTOBER SURVEY SUMMARY

- *Hydrilla sp.* distribution was very similar to the August survey in the upper section of Lake Chesdin. The water visibility was reduced and Golder relied on rake surveys in the upper lake sections. *Hydrilla sp.* was observed growing to the surface but the density was reduced, generally ranging from common (26-50% of water column) to dense (75-100% of water column). Area of dense biomass were reduced from 91% in August to 34% in October. This change may be associated with increased turbidity and water level rise.
- *Hydrilla sp.* was present downstream of Namozine Creek but was isolated to a couple of tributaries. *Hydrilla sp.* was found in Cattle Creek, Miry Run, and one unnamed tributary on the south side between Whipponock Creek and Miry Run.

Schedule

AQUATIC SURVEYS AND PUBLIC OUTREACH

March 2020

- Public Meeting – provide survey updates and information brochures, recruit volunteers
- Tuber Survey – identify tuber density, baseline for tuber emergence. Conduct follow-up surveys weekly in spring

June 2020

- Stakeholder meeting

July 2020

- Volunteer field training
- Aquatic Survey

What is *Hydrilla*?

Hydrilla verticillata is an invasive aquatic plant defined by law as a noxious aquatic weed. It roots in the bottom of ponds, lakes, streams and rivers. It can grow stems up to 20 feet long and form thick, dense mats.

Hydrilla spreads by seeds, buds, tubers and fragments. It grows as an herbaceous perennial plant, so shoots die back in the fall. *Hydrilla* grows pea-sized underground tubers that re-sprout in the spring. Tubers can remain viable in sediment for at least six years. *Hydrilla* also can produce “buds” where the leaf joins the stem. The buds can break off and settle in the soil or move downstream.

Found throughout the state, *Hydrilla* has been identified in waterbodies and their tributaries in Virginia. These include the Swift Creek Reservoir, Lake Gaston, James River and Roanoke River.

What does *Hydrilla* look like?

Hydrilla typically is bright green, with small leaves growing along its thin, long stems. The leaves are about 5/8 of an inch long. It sometimes is confused with the native plant *Elodea canadensis* (Canadian waterweed). This is how you can tell them apart:
4 or more leaves + visible leaf serrations + tubers = *Hydrilla*. Look-a-likes have no serrations or a different number of leaves.



“*Hydrilla* spreads easily, obstructs boating and fishing, and impacts water front properties, native aquatic plants, and fish species”



Lake Chesdin Hydrilla Management Plan Update



APPOMATTOX RIVER
WATER AUTHORITY

21300 Chesdin Road
S. Chesterfield, VA 23803
Phone: 804-590-1145
Email: info@arwava.org

What is happening in Lake Chesdin?

ARWA conducted comprehensive aquatic surveys in 2019, mapping the distribution and density of *Hydrilla* during the growing season. These first steps along with additional studies of *Hydrilla* tuber growth trends will be used to develop a Management Plan aimed at reducing the impacts of *Hydrilla*.

Is Hydrilla present in Lake Chesdin?

Yes. Recent surveys identified widespread *Hydrilla* in the upper portion and in a few protected coves in the downstream portion of the lake.

Hydrilla was observed in shallow water typically 5 feet deep or less. The infestation in the upstream portions of the lake is dense, commonly occupying the entire water column. The downstream infestations were generally sparsely distributed in the shallow portions of protected tributaries. *Hydrilla* was observed floating in the lake, which is a potential source for establishing new colonies downstream in the lake.

How Does it Spread?

Hydrilla spreads from one waterbody to another on boats, motors, trailers, bait pails, fishing tackle, and possibly waterfowl. Fragments float and can spread downstream. Tiny fragments can sprout roots, and new infestations can become permanent with the development of tubers that overwinter and are not removed by harvesting the visible portion of the plant.

How Can You Help Stop the Spread?

When boating-inspect and remove all vegetation from the boat and trailer. Dispose of plant material in the trash on dry land above the waterline where it won't get washed back into the lake. Clean and dry equipment thoroughly before visiting other waterbodies. Avoid passing through infestations in the water when boating.

- Along docks and shoreline-weeding can cause fragments to float downstream or re-establish nearby, and this practice should be discouraged. Make sure you collect all fragments when weeding. Dispose of all plant fragments above the waterline where the plant can dry out.
- Alert others of the risk of *Hydrilla* and ask them to watch for it.
- Do not dump water from aquariums into or near a body of water or storm drain
- If you find a plant you are unsure of, collect a sample in a plastic bag with a damp paper towel and call 1 (804) XXX XXXX for instructions. If you have a smartphone, take a picture and send to XXX@golder.com, along with information on the location where the sample was collected. ARWA will use the photos to identify the species as well as the location to update potential infestation maps.

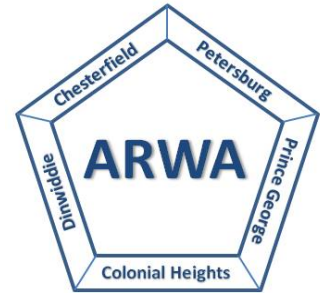
What Next?

ARWA is currently completing a 2-year-long investigation to identify the occurrence of *Hydrilla* in Lake Chesdin. This study will be used to develop a *Hydrilla* Management Plan. A successful plan will include input from stakeholders including general public, landowners along the lake shore, recreational boaters and fisherman, public officials, government agencies, and lake community residents. Involvement is a vital part of any well-rounded management plan. The development of the plan is a process that educates the parties and provides an avenue for input and participation. ARWA will look at options for managing *Hydrilla* in Lake Chesdin based on the input of the stakeholders.

ARWA will host public meetings and provide updates during the process. The first public meeting will be held at XXXX on March xx, 2020. Public notices will be distributed via local marinas, newspaper advertisement and via ARWA's website (www.arwava.org/events-calendar).

ARWA is utilizing the services of Golder Associates Inc. to complete the studies and the *Hydrilla* Management Plan. Technical questions, along with *Hydrilla* identification, should be forwarded to Matt Brooks, Staff Biologist at (804) 258-7900 or via email: mebrooks@golder.com.

Appomattox River Water Authority



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

EXHIBIT D

TO: Board of Directors

FROM: Robert B. Wilson, Executive Director
James C. Gordon, Assistant Director

DATE: March 12, 2020

SUBJECT: Financial Policies Guidelines

As part of each budget cycle we are going to take this opportunity, annually, to review the Financial Policies. For this item, we will present how the Authority's revenue is split through the various accounts and show which financial policy governs how the revenue is managed. We have also provided the Balance Sheet with a key to illustrate the fund balances for each account and how it relates to the ARWA Fund Flows illustration. The Balance Sheet will be provided with each Board package. We also want to discuss if the Board wants any other financial or summary reports or spreadsheets to illustrate account and/or capital project balances.

No board action is requested.

Financial Policy Guidelines

Appomattox River Water Authority

Adopted: May 21, 2015



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Debt Policies	6
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FINANCIAL POLICY GUIDELINES – OBJECTIVES

This financial policy is a statement of the guidelines and goals that will influence and guide the financial management practice of the Appomattox River Water Authority (the “Authority”). A financial policy that is adopted, adhered to, and regularly reviewed is recognized as the foundation of sound financial management. Effective financial policy:

- Contributes significantly to the Authority's ability to prepare for and insulate itself from financial crisis by being able to better manage stressful financial internal and external events,
- Enhances the ability to obtain short-term and long-term credit financing by helping to achieve the highest credit and bond ratings possible,
- Promotes long-term financial stability by establishing clear and consistent guidelines,
- Directs attention to the total financial picture of the Authority rather than single issue areas, and
- Promotes the view of linking long-run financial planning with day-to-day operations.

To these ends, the following financial policy statements are presented.

OPERATING BUDGET POLICIES

1. The Authority will budget for all current operating expenditures to be paid for with current operating revenues.
2. The management and operations staff should, not only during the preparation of the budget but in the budget execution, use due care and promote cost savings and operating efficiencies at all times especially during periods of revenue shortfall due to low flows.
3. In preparing its annual budget, the Authority will base its revenue and expenditure projections on historical member demand while also taking into consideration current regional economic trends, events and developments in regulatory and environmental activities.
4. One-time or other special revenues will not be used to finance continuing Authority operations, but instead will be used for funding specific one-time projects or adding to Authority reserves.
5. The Authority will prepare monthly financial statements showing the progress of budget estimates compared to actual results. These monthly reports and the Authority's budgets are prepared on a cash flow or modified cash flow basis and differ from the final audited year end reports.
6. The Authority will annually prepare a Comprehensive Annual Financial Report (CAFR) that is audited by an independent CPA firm. The annual report is prepared to meet Generally Accepted Accounting Principles which is a full accrual basis of reporting.

CAPITAL IMPROVEMENT BUDGET POLICIES

1. The Authority will prepare and update annually for adoption, unless otherwise directed by the Board of Directors, a Capital Improvement Plan (CIP) that is developed for a five-year planning period. Future capital expenditures necessitated by changes in projected service demands or goals set by the Board, changes in the regulatory environment, maintenance and replacement of infrastructure that has reached its useful life will be included in capital planning projections.
2. The first year of the adopted five-year CIP will become the most current capital budget for the Authority and will serve as authorization for project execution by the Board. Additional Board action is required to move projects up to the first year of the plan subsequent to planned annual updated CIP adoption. Board action is required to add additional projects (authorizing the expending of capital resources) to the capital budget subsequent to the normal annual updating of the CIP.
3. The Authority will provide rate impacts and total debt service estimates resulting from the annual update of the CIP. These estimates are for planning purposes only, and are not rate setting measures by the Board of Directors when adopting the CIP. There exist several factors that may not be known at the time of providing such estimates such as pending cost share agreements between the Authority's Participating Jurisdictions and final funding details. The estimates provided will be used to coordinate development of the annual operating and debt service budget. Significant additional operating costs should be disclosed within project descriptions in the CIP.
4. The Authority will maintain all assets at a level adequate to protect the Authority's capital investment, meet permitted regulatory requirements, and to minimize future maintenance and replacement costs.
5. The Authority will attempt to determine the least costly and most flexible financing method for all new projects individually or as a whole, depending upon the specific direction of the Board, or what is in the best financial interest of the Authority as a whole.

DEBT POLICIES

1. The Authority will utilize a balanced approach to capital funding utilizing debt financing, CIP planned current-year revenues (pay-as-you-go), and planned capital reserve fund transfers. In the planning stage of the overall funding of the capital improvement plan, the Authority will target a minimum amount of equity funding of 10% of the capital improvement plan on a five-year rolling average.
2. The Authority will analyze all sources of debt financing each time there is a need for debt including but not limited to: Virginia Clean Water Revolving Loan Fund, Virginia Resources Authority Bond Programs, Authority stand alone bond issues on a competitive and negotiated basis and short-term financing when needed and advantageous.
3. When the Authority finances capital improvements or other projects by issuing bonds or entering into capital leases, it will repay the debt within a period not to exceed the expected average useful life of the project(s) and equipment being financed.
4. When assessing capital project funding approaches and the issuance of debt, the Authority will conduct a series of financial analyses to demonstrate its financial ability to incur such debt under its current rate structure, and to determine if, when and to what degree rate structures need to be adjusted in the event that the current rate structure is not able to accommodate new additional debt.
5. The Authority will review its current debt structure periodically as interest rates fluctuate and optional bond redemption dates arise for refunding or advance refunding opportunities. Refinancing opportunities that can produce a net present value savings of 3.0 percent generally should be considered as beneficial to the Authority, although other factors should be taken into account.
6. The Authority will set rates and charges so as to target a minimum debt service coverage on all senior parity indebtedness of 1.50 times. By way of example, a debt service coverage ratio of 1.50 times means that for every \$1.00 of senior parity indebtedness that is due from the Authority annually, the Authority has at least \$1.50 in revenues available with which to pay the debt service.

RESERVE POLICIES

The Authority has two primary levels or tiers of reserves and funds. Mostly distinguished by bond requirements and purpose of use, the following are descriptions of the purpose, defined amounts if any, and restrictions if any on these funds and reserves.

Tier 1 Reserves: The first tier of reserves are those required by the 1986 Agreement of Trust of the Authority (as amended) that are “restricted” for specific purposes. The reserves required in this tier are strictly reviewed, enforced, and held by the Trustee. The Authority’s first priority relative to reserves will be to meet all requirements of these Tier 1 reserves. The Authority will fix charges to maintain these funds at the appropriate level as required by the Agreement of Trust.

These funds include:

1. The Bond Fund, held by the Trustee, including:
 - a. The Interest Account to be funded equal to the amount of interest which will come due within the next succeeding six months; and
 - b. The Principal Account to be funded equal to the amount of principal maturing or required to be redeemed pursuant to any sinking fund requirement with respect to Term Bonds within the next succeeding twelve months.
2. The Debt Service Reserve Fund, held by the Trustee, funded at such amount as may be necessary to increase the amount on deposit therein to the amount of the Debt Service Reserve.
3. Various Project Construction Funds, held by the Trustee, funded with debt proceeds.

Tier 2 Reserves: The second tier funds or reserves are those required or permitted by the 1986 Agreement of Trust, but either allow the Authority to hold these funds, are not narrowly “restricted” as to permitted uses or have more flexible required amounts.

These funds include:

1. The Revenue Fund, held by the Trustee, into which all operating revenues of the Authority are to be deposited. This fund is to maintain a minimum balance of at least \$100,000.

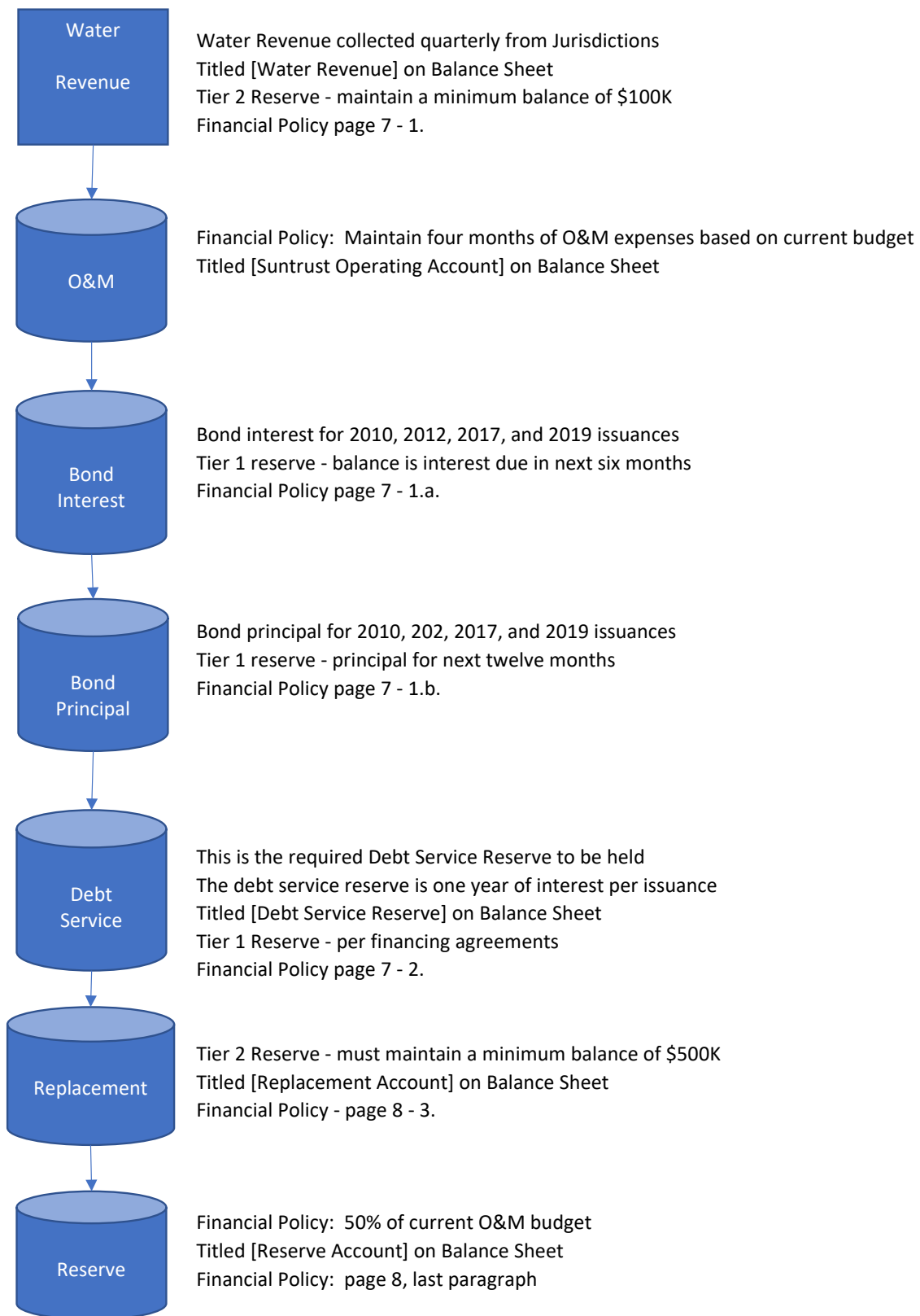
2. The Operating Fund, held by the Authority, is the Authority's daily cash account. This fund is required to be funded in an amount equal to the operating expenses for the next succeeding four months as provided in the annual budget and the aggregate amount, as certified by an authorized representative of the Authority, of all checks outstanding and unpaid drawn upon the Operating Fund.
3. The Replacement Fund, held by the Trustee, funded with a minimum balance of \$500,000.

It is recommended that the Authority target a combined total of all Tier 2 reserve funds equal to at least 50% of the Authority's annual Operating and Maintenance budget or the equivalent of at least 182.5 days operating cash on hand.

INVESTMENT POLICIES

The Authority shall invest its funds in accordance with its various bond documents, financial covenants and all applicable State Statutes.

ARWA Fund Flows - Set up as a Trust



Highlights: ARWA Cash Positions			30-Jun-19	31-Jan-20	Change	Explanation
Key						
	Unrestricted Cash & Investments:					
	Petty Cash	\$	400.00	\$ 400.00	\$ -	On-Hand Petty Cash for incidental expenses
O&M	SunTrust Operating Account	\$	1,381,040.52	\$ 2,550,087.51	\$ 1,169,046.99	Financial Policy: Based on next four months of O&M expense
Replacement	SunTrust Replacement Fund	\$	119,436.99	\$ 119,536.99	\$ 100.00	Pass-through account: From US Bank to SunTrust Bank for Replacement Fund Requisitions
	Restricted Cash and Investments:					
Water Revenue	Water Revenue	\$	3,153,267.05	\$ 6,215,668.85	\$ 3,062,401.80	Financial Policy: Held by Trustee for all operating water revenues
Reserve	Reserve Account	\$	3,132,730.67	\$ 3,918,403.32	\$ 785,672.65	Financial Policy: 50% of current FY O&M Budget
Replacement	Replacement Account	\$	808,255.92	\$ 598,191.39	\$ (210,064.53)	Financial Policy: Must maintain a minimum of \$500K
Debt Service	Debt Service Reserve	\$	1,063,861.74	\$ 2,147,465.16	\$ 1,083,603.42	Financial Policy: Held by Trustee, funded at such amount as may be necessary.
Bond Princ/Int	2010 Bond	Principal/Interest	\$ 415,515.42	\$ 196,157.37	\$ (219,358.05)	
Bond Princ/Int	2012 Bond	Principal/Interest	\$ 315,282.10	\$ 77,409.76	\$ (237,872.34)	
Bond Princ/Int	2017 Bond	Principal/Interest	\$ 2,793,958.46	\$ 276,021.53	\$ (2,517,936.93)	
Bond Princ/Int	2019 Bond	Principal/Interest	\$ -	\$ 87,056.46	\$ 87,056.46	
	2017 Bond - Construction		\$ 6,067,230.84	\$ 3,813,618.15	\$ (2,253,612.69)	
Total Cash and Investments			\$ 19,250,979.71	\$ 20,000,016.49	\$ 749,036.78	
Highlights: ARWA Outstanding Bonds			30-Jun-19	31-Jan-20	Change	
	2010 Bond	\$	7,330,000.00	\$ 440,000.00	\$ (6,890,000.00)	
	2010 Bond-Def Amt on Refund	\$	(571,535.58)	\$ -	\$ 571,535.58	
	2010 Bond-Premium	\$	646,567.70	\$ -	\$ (646,567.70)	
	2012 Bond	\$	2,372,000.00	\$ 2,372,000.00	\$ -	
	2017 Bond	\$	12,750,000.00	\$ 11,981,000.00	\$ (769,000.00)	
	2019 Bond	\$	-	\$ 6,820,000.00	\$ 6,820,000.00	
	2019 Bond-Def Amt on Refund	\$	-	\$ (82,816.11)	\$ (82,816.11)	
Total Bonds Outstanding			\$ 22,527,032.12	\$ 21,530,183.89	\$ (996,848.23)	

Appomattox River Water Authority

TO: Appomattox River Authority Board of Directors

FROM: Robert B. Wilson, P.E., Executive Director
James C. Gordon, Assistant Executive Director

DATE: March 12, 2020

SUBJECT: Operating and Financial Status Report

Operating Status Report

This report hits the highlights and does not cover the day to day maintenance or preventive maintenance summaries.

➤ General

- The next scheduled Board of Directors Meeting is Thursday, May 14, 2020 at the Appomattox River Water Authority at 2:00 pm.
- Staff reviewed the recommendations from the AWIA evaluation performed by Whitman, Requardt and Associates (WR&A). Review of the recommendations justified a reduction in the appropriations request for FY2020/21. Chesterfield County is also working on their AWIA evaluation. Since ARWA is a supplier to Chesterfield County, staff from both ARWA and WR&A met with Chesterfield County staff and representatives from their consultant, Arcadis, to review ARWA's findings so that Chesterfield County could make the appropriate assumptions/responses for their AWIA. As reminder, jurisdictions (City of Petersburg, City of Colonial Heights, Dinwiddie County and Prince George County) serving greater than 3,300 residents and less than 50,000 residents, your Risk and Resilience Assessment deadline is 6/30/2021 and your Emergency Response Plan Deadline is 12/30/2021. When you go through your process, we can share our findings and improvements we have made for incorporation into your assessment.

We will be submitting the AWIA certification the last week of March. The corresponding Emergency Response Plan (ERP) has been revised and that certification is due in September 2020.

- We received the inspection report from Chesapeake Bay Diving, Inc. that performed

the dam inspection on Krueger's behalf. A copy of the report and the elevation surveying of the dam is included as Attachment #1. The silt measurements detailed are measured from the top of the dam down to the silt layer.

- Chemical bids were received on January 9, 2020 and the appropriate awards have been made.

➤ Operations

- Finished water met all permit requirements for January and February 2020.
- The average daily finished water consumption for January was 24 mgd and for February was 22.35 mgd.
- Staff is working with the contractor to test the raw water pumps on the dam.
- February 7th – there were high wind conditions that required the plant to switch to generator power. There were no issues and three hour updates were provided to members.

➤ Maintenance

- Magmeter installations on filters 1-4 are complete.
- The cone valve repair has been completed and the cone valve is back in service.
- The purchase order has been executed for divers to remove and replace the sluice gate shaft on the gate that isolates the cone valve. This project includes replacing the two shafts with 316L stainless shafts, new guides, shear pins and couplings. We received three quotes from three separate dive companies, each of which did a preliminary dive to determine the magnitude of their quotes. The cost of repair is approximately \$38K and being accomplished by Crofton Diving.
- Replaced the mixer shaft on Mixer #1. The shaft that broke is being repaired and placed in inventory.
- Staff is getting quotes for 16" through 42" materials to put in stock for transmission main support. Staff is getting quotes on valves, repair clamps (with and without taps for air releases), complete air release assemblies, solid sleeves, flanged by plain end pipe, megalugs, uni-flanges, etc. We are still contemplating what to do on the 54" and 72" pipe.
- During the transmission main inspection staff found the 30" ductile water line exposed under a ditch (water was flowing) near the intersection of Brickhouse Drive and Sacks Lane in Chesterfield County. Staff fortified both sides of the pipe with class III rip rap. I contacted the Director of Environmental Engineering for Chesterfield County, Scott Smedley, to see if any special permits were required from the county for the repair. Mr. Smedley advised no. Therefore, we are performing the "emergency" repair under a Nationwide 3 permit. We are getting a proposal from a contractor to put a 30" bell clamp around the exposed bell, encase the exposed pipe section in concrete (including under the pipe) and rip rap both creek banks. The contractor will have to pump the creek around while the repair is taking place.
- Flushing reminder – Annual transmission line flushing is scheduled for Tuesday, March 21st through Friday, March 27th. Operations staff will be reminding members the day of flushing.

- Calgon is regenerating the granular activated carbon (GAC) for filters 14 – 22. This process began the week of February 24th.

➤ Instrumentation

- Wiring completed on filters 1-4 and they are back in service.
- New PLC installed at Chesdin East for better communications back to the plant.
- Relocating the server room for the administration servers to a dedicated, conditioned, secure room.
- Making control improvements at the Petersburg vault.
- Working to convert all 3G remote sites to 4G (Verizon).

➤ Laboratory

- Performed first quarter monitoring well sampling for the lagoons. The Authority has a VPDES permit to sample for the integrity of the lagoon, quarterly, for the next two years. The results of this testing will determine the next steps for the lagoons. These steps could include closing in place, removing the sludge, lining, remediation, etc. That is the reason there is a place holder in the CIP. The preliminary estimate in the CIP is to line the lagoons.
- Tier II reports were sent to the Chesterfield Emergency Planning Committee and DEQ. This report details the thirteen chemical and fuel tanks we maintain on site. This is an annual submittal.
- Whole effluent toxicity samples will be taken in March.

➤ Financial Status Report

- The Balance Sheet and Income Statement follow this report as of February 9, 2020.



CHESAPEAKE BAY DIVING, INC.
CHESAPEAKE BAY DIVING, INC.

655 MT. VERNON AVENUE
PORTSMOUTH, VA 23707
(757) 397-0422 Phone *(757) 399-8482 Fax

Brasfield Dam Inspection
November 5, 2019
Customer: Kruger Energy



Date: November 7, 2019
Attn: Alex Nash

On November 5, 2019 divers from Chesapeake Bay Diving Inc. conducted an underwater inspection on the Brasfield Dam as directed by representatives of Kruger Energy. The results of the inspection are as follows:

Silt measurements starting from the south west side and working to the north east side:

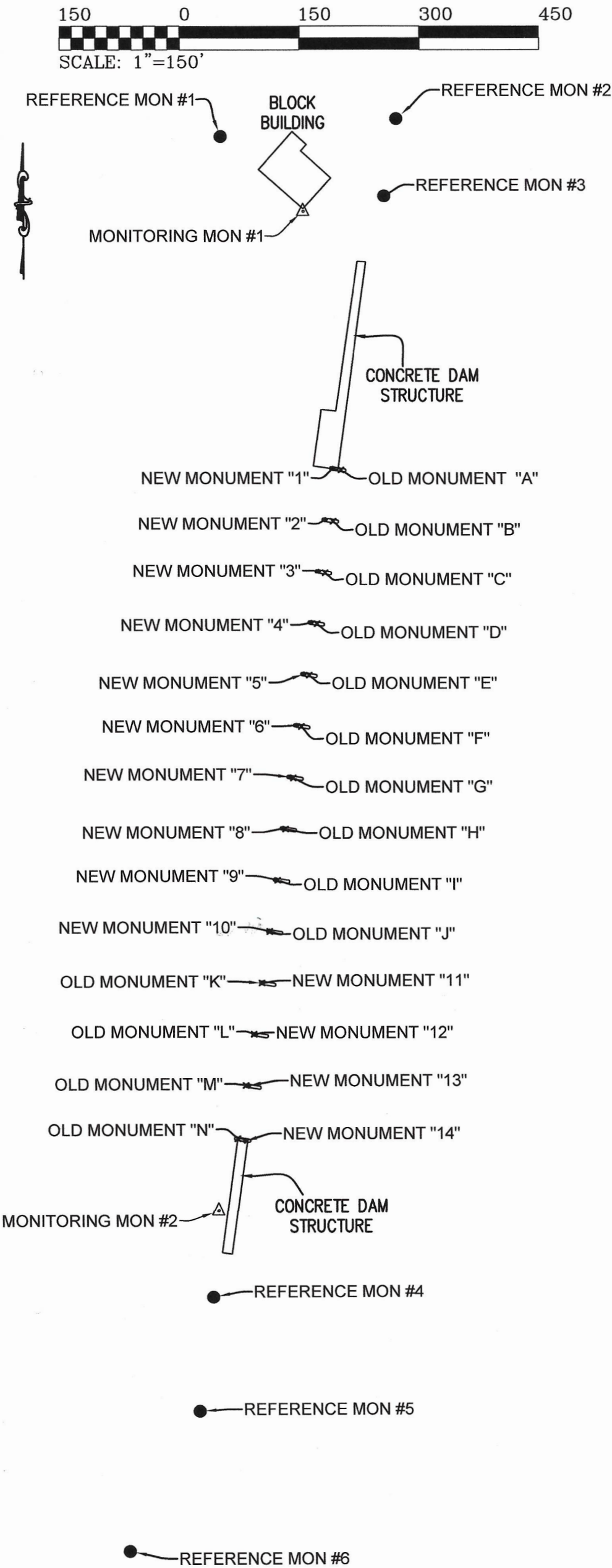
1. 11'5"- Approximately 65ft from SW side
2. 25'10"- Approximately 65ft from measurement 1
3. 45'- Approximately 65ft from measurement 2 at SW edge of spillway
4. 42'-Pier 1
5. 37'6"- Pier 2
6. 35'8"- Pier 3
7. 36'4"- Pier 4
8. 35'- Pier 5
9. 34'11"- Per 6
10. 36'3"- Pie 7
11. 36'8"- Pier 8
12. 36'6"- Pier 9
13. 35'4"- Pier 10
14. 31'- Pier 11
15. 23'2"- Pier 12
16. 9'- NE edge of spillway

Upper dam inspection:

1. No physical damage or serious concrete damage, i.e., spalling, cracks larger than hairline, etc. were seen at the time of the inspection.
2. There are numerous logs and other debris deposited at the base of the dam.
3. The stationary trash rack was found intact, without damage and in good condition.
4. The floating trash rack was found intact, without damage and in good condition.

Lower dam inspection:

1. No physical damage or serious concrete damage, i.e., large areas of spalling, cracks larger than hairline, etc., were seen at the time of the inspection.
2. The toe of the dam was found in good condition with no scouring and having good contact with the bed rock.



- NOTES:
1. REFERENCE MONUMENT #3 IS ORIGINAL CP-N; REFERENCE MONUMENT #4 IS ORIGINAL CP-S
 2. OLD CONTROL POINTS ARE FLAT BLADE SCREW HEADS IN CONCRETE DAM STRUCTURES. NEW CONTROL MONUMENTS ARE STAMPED DISKS IN CONCRETE DAM STRUCTURE

MERIDIAN
PLANNING GROUP, LLC
440 Premier Circle, Suite 200
Charlottesville, VA 22901
(P) 434.882.0121



MONITORING MONUMENT TABLE			
Description	Northing	Easting	Elevation
MONITORING MON #1	9980.82	9899.01	174.99
MONITORING MON #2	8728.90	9788.96	163.43

REFERENCE MONUMENT TABLE			
Description	Northing	Easting	Elevation
REFERENCE MON #1	10075.11	9795.80	165.82
REFERENCE MON #2	10096.92	10015.37	179.38
REFERENCE MON #3	10000.01	10000.00	175.77
REFERENCE MON #4	8621.06	9781.71	170.46
REFERENCE MON #5	8478.01	9764.07	173.06
REFERENCE MON #6	8302.44	9676.24	174.68

OLD MONUMENTS			
Description	Northing	Easting	Elevation
OLD MONUMENT "A"	9656.43	9945.54	170.75
OLD MONUMENT "B"	9592.10	9935.37	158.60
OLD MONUMENT "C"	9527.82	9925.18	158.69
OLD MONUMENT "D"	9463.73	9915.02	158.67
OLD MONUMENT "E"	9399.69	9904.91	158.65
OLD MONUMENT "F"	9335.34	9894.69	158.64
OLD MONUMENT "G"	9271.18	9884.54	158.65
OLD MONUMENT "H"	9207.02	9874.36	158.65
OLD MONUMENT "I"	9143.09	9864.27	158.69
OLD MONUMENT "J"	9078.74	9854.10	158.71
OLD MONUMENT "K"	9014.61	9843.98	158.70
OLD MONUMENT "L"	8950.26	9833.76	158.73
OLD MONUMENT "M"	8886.15	9823.63	158.71
OLD MONUMENT "N"	8819.26	9812.94	169.54

NEW MONUMENTS			
Description	Northing	Easting	Elevation
NEW MONUMENT "1"	9658.37	9935.33	170.76
NEW MONUMENT "2"	9594.06	9925.71	158.60
NEW MONUMENT "3"	9529.59	9916.83	158.70
NEW MONUMENT "4"	9465.29	9907.82	158.69
NEW MONUMENT "5"	9401.11	9898.31	158.68
NEW MONUMENT "6"	9336.72	9889.18	158.66
NEW MONUMENT "7"	9272.25	9880.67	158.66
NEW MONUMENT "8"	9207.92	9871.95	158.68
NEW MONUMENT "9"	9143.52	9862.92	158.71
NEW MONUMENT "10"	9079.08	9854.06	158.73
NEW MONUMENT "11"	9014.75	9845.14	158.73
NEW MONUMENT "12"	8950.40	9836.23	158.77
NEW MONUMENT "13"	8886.07	9827.21	158.74
NEW MONUMENT "14"	8816.28	9821.55	166.89

EXHIBIT SHOWING CONTROL MONUMENTS
AND MONITORING MOUMENTS
BRASFIELD DAM
CHESTERFIELD COUNTY, VA
SHEET: 1 of 1
DATE: DEC. 12, 2019
FILE: BRASFIELD DAM-MONUMENTS.DWG
ARWA BOD Page 69 of 85

Appomattox River Water Authority-Balance Sheet
For Month Ending February 29, 2020

Assets

Current Assets

Petty Cash	\$	400
SunTrust Operating Fund	\$	3,411,871
SunTrust Replacement Fund	\$	119,537
Total Unrestricted Cash	\$	3,531,808
Water Revenue	\$	4,443,205
Reserve Account	\$	3,923,256
Replacement Account	\$	539,257
Debt Service Reserve	\$	2,150,126
Bond Principal/Interest	\$	1,039,250
Bond Construction	\$	3,604,946
Total Restricted Cash	\$	15,700,039
Total Checking/Savings	\$	19,231,847
Accounts Receivable	\$	2,926
Other Current Assets	\$	26,701
Inventory	\$	264,923

Total Current Assets **\$ 19,526,396**

Fixed Assets

Land and Land Rights	\$	1,044,167
Water System	\$	85,562,249
Equipment	\$	1,238,359
Hydro	\$	34,873
Construction in Progress	\$	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

Total Assets **\$ 66,201,689**

Liabilities & Equity

Current Liabilities

Accounts Payable	\$	340,646
Retainage Payable	\$	261,600
Accrued Interest Payable	\$	187,257

Total Current Liabilities **\$ 789,503**

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	\$	51,052
Net Pension Liability	\$	(279,290)
Def Inf-OPEB Chg of Assumptions	\$	2,956
Deferred Inflow-OPEB GLI	\$	13,000
Deferred Inflow-Expect & Actual	\$	23,971
Bonds Payable-2010	\$	440,000
Bonds Payable-2012	\$	2,372,000
Bonds Payable-2017	\$	11,981,000
Bonds Payable-2019 Refunding Bond Payment	\$	6,820,000
Bonds Payable-2019 Def Amt on Refunding	\$	(82,816)
Accrued Leave Payable	\$	180,705
Post Employment Benefit	\$	77,443
OPEB Liability-GLI	\$	118,000

Total Long-Term Liabilities **\$ 21,891,191**

Total Liabilities **\$ 22,680,694**

Equity

Retained Earnings	\$	(1,961,714)
Reserve for Operations	\$	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	\$	3,138,533
Fixed Assets, Net of Debt	\$	30,127,850

Total Equity **\$ 43,520,996**

Total Liabilities & Equity **\$ 66,201,689**

\$ -

Appomattox River Water Authority
YTD Income Statement for the period ending February 29, 2020

Water Rate Center

Revenues and Expenses Summary

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>YTD Budget</i>	<i>Variance</i>
<i>FY 19/20</i>	<i>Year-to-Date</i>	<i>Year-to-Date</i>	<i>vs. Actual</i>	<i>Percentage</i>

Operating Budget vs. Actual

Revenues

Water Sales	\$ 10,542,625	\$ 5,271,313	\$ 6,205,513	\$ 934,200	17.72%
Misc. Revenue	\$ 30,000	\$ 15,000	\$ 16,381	\$ 1,381	9.20%
Total Operating Revenues	\$ 10,572,625	\$ 5,286,313	\$ 6,221,893	\$ 935,581	17.70%

Expenses

Personnel Cost	\$ 2,447,600	\$ 1,631,733	\$ 1,610,296	\$ (21,438)	-1.31%
Contractual/Professional Services	\$ 1,204,500	\$ 813,833	\$ 708,764	\$ (105,070)	-12.91%
Utilities	\$ 850,000	\$ 566,667	\$ 536,323	\$ (30,344)	-5.35%
Communication/Postal/Freight	\$ 47,200	\$ 31,467	\$ 33,244	\$ 1,777	5.65%
Office/Lab/Purification Supplies	\$ 98,000	\$ 65,333	\$ 68,151	\$ 2,818	4.31%
Insurance	\$ 90,000	\$ 90,000	\$ 93,573	\$ 3,573	3.97%
Lease/Rental Equipment	\$ 20,000	\$ 13,333	\$ 9,599	\$ (3,734)	-28.01%
Travel/Training/Dues	\$ 48,400	\$ 32,267	\$ 19,173	\$ (13,093)	-40.58%
Safety/Uniforms	\$ 26,000	\$ 17,333	\$ 21,466	\$ 4,133	23.84%
Chemicals	\$ 2,300,000	\$ 1,533,333	\$ 1,248,144	\$ (285,190)	-18.60%
Repair/Maintenance Parts & Supplies	\$ 343,000	\$ 228,667	\$ 275,635	\$ 46,968	20.54%
Total Operating Expenses	\$ 7,474,700	\$ 5,023,967	\$ 4,624,368	\$ (399,599)	-7.95%
Operating Results Suplus/(Deficit)	\$ 3,097,925	\$ 262,346	\$ 1,597,525	\$ 1,335,179	508.94%

Replacement Outlay Budget vs. Actual

Machinery & Motors	\$ 175,000	\$ 116,667	\$ 156,962	\$ 40,296	34.54%
Instrumentation	\$ 52,000	\$ 34,667	\$ 11,486	\$ (23,181)	-66.87%
SCADA	\$ -	\$ -	\$ 44,662	\$ 44,662	#DIV/0!
Computer Equipment	\$ 10,000	\$ 6,667	\$ -	\$ (6,667)	-100.00%
Furniture/Fixtures	\$ 6,000	\$ 4,000	\$ -	\$ (4,000)	-100.00%
Motor Vehicles	\$ 235,000	\$ 156,667	\$ 92,039	\$ (64,628)	-41.25%
Special Studies	\$ -	\$ -	\$ -	\$ -	#DIV/0!
Valve Replacement	\$ 100,000	\$ 66,667	\$ -	\$ (66,667)	-100.00%
Concrete	\$ 25,000	\$ 16,667	\$ -	\$ (16,667)	-100.00%
PG Vault Meter	\$ 30,000	\$ 20,000	\$ -	\$ (20,000)	-100.00%
Bollards and Security Fences	\$ 10,000	\$ 6,667	\$ -	\$ (6,667)	-100.00%
Matoaca Meter/Meter Box	\$ 125,000	\$ 83,333	\$ -	\$ (83,333)	-100.00%
Total Capital Outlay	\$ 768,000	\$ 512,000	\$ 305,148	\$ (206,852)	-40.40%

Construction Outlay Budget vs. Actual

In-Plant Capital Upgrade	\$ -	\$ -	\$ 2,029,714	\$ 2,029,714	#DIV/0!
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Debt Service Budget vs. Actual

Interest Income	\$ -	\$ -	\$ 204,925	\$ 204,925	#DIV/0!
Interest Jurisdictions (Income)	\$ -	\$ -	\$ -	\$ -	#DIV/0!
Interest Expense	\$ -	\$ -	\$ 421,766	\$ 421,766	#DIV/0!
Bond Issuance Cost	\$ -	\$ -	\$ 52,963	\$ 52,963	#DIV/0!
Principal Payments	\$ 2,141,175	\$ 2,141,175	\$ 232,000	\$ (1,909,175)	-89.16%

Other Income/Other Expense

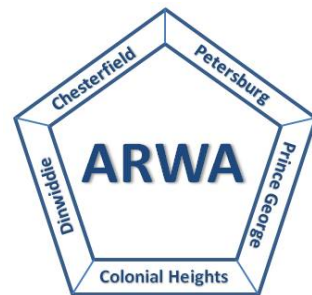
Alum Litigation Proceeds-Received YTD	\$ -	\$ -	\$ 672,154	\$ 672,154	#DIV/0!
Alum Litigation Proceeds-Credited to Members YTD	\$ -	\$ -	\$ 792,877	\$ 792,877	#DIV/0!

**Appomattox River Water Authority
Executive Review
Cash And Debt Highlights**

Highlights: ARWA Cash Positions		30-Jun-19	29-Feb-20	Change	Explanation
Unrestricted Cash & Investments:					
Petty Cash	\$	400.00	\$ 400.00	\$ -	On-Hand Petty Cash for incidental expenses
SunTrust Operating Account	\$	1,381,040.52	\$ 3,411,870.69	\$ 2,030,830.17	Financial Policy: Based on next four months of O&M expense
SunTrust Replacement Fund	\$	119,436.99	\$ 119,536.99	\$ 100.00	Pass-through account: From US Bank to SunTrust Bank for Replacement Fund Requisitions
Restricted Cash and Investments:					
Water Revenue	\$	3,153,267.05	\$ 4,443,204.99	\$ 1,289,937.94	Financial Policy: Held by Trustee for all operating water revenues
Reserve Account	\$	3,132,730.67	\$ 3,923,256.19	\$ 790,525.52	Financial Policy: 50% of current FY O&M Budget
Replacement Account	\$	808,255.92	\$ 539,256.67	\$ (268,999.25)	Financial Policy: Must maintain a minimum of \$500K
Debt Service Reserve	\$	1,063,861.74	\$ 2,150,125.81	\$ 1,086,264.07	Financial Policy: Held by Trustee, funded at such amount as may be necessary.
2010 Bond Principal/Interest	\$	415,515.42	\$ 207,620.40	\$ (207,895.02)	
2012 Bond Principal/Interest	\$	315,282.10	\$ 172,271.67	\$ (143,010.43)	
2017 Bond Principal/Interest	\$	2,793,958.46	\$ 624,334.49	\$ (2,169,623.97)	
2019 Bond Principal/Interest	\$	-	\$ 35,023.32	\$ 35,023.32	
2017 Construction	\$	6,067,230.84	\$ 3,604,945.72	\$ (2,462,285.12)	
Total Cash and Investments	\$	19,250,979.71	\$ 19,231,846.94	\$ (19,132.77)	
Highlights: ARWA Outstanding Bonds					
		30-Jun-19	29-Feb-20	Change	
2010 Bond	\$	7,330,000.00	\$ 440,000.00	\$ (6,890,000.00)	
2010 Bond-Def Amt on Refund	\$	(571,535.58)	\$ -	\$ 571,535.58	
2010 Bond-Premium	\$	646,567.70	\$ -	\$ (646,567.70)	
2012 Bond	\$	2,372,000.00	\$ 2,372,000.00	\$ -	
2017 Bond	\$	12,750,000.00	\$ 11,981,000.00	\$ (769,000.00)	
2019 Bond	\$	-	\$ 6,820,000.00	\$ 6,820,000.00	
2019 Bond-Def Amt on Refund	\$	-	\$ (82,816.11)	\$ (82,816.11)	
Total Bonds Outstanding	\$	22,527,032.12	\$ 21,530,183.89	\$ (996,848.23)	

2010	Principal	Interest	Total	2012	Principal	Interest	Total	2017	Principal	Interest	Total	2019	Principal	Interest	Total
Year Ended June 30				Year Ended June 30				Year Ended June 30				Year Ended June 30			
				2012 \$ - \$ 93,906.15 \$ 93,906.15											
				2013 \$ 193,000.00 \$ 109,321.50 \$ 302,321.50											
				2014 \$ 199,000.00 \$ 103,245.50 \$ 302,245.50											
				2015 \$ 205,000.00 \$ 96,983.50 \$ 301,983.50											
				2016 \$ 211,000.00 \$ 90,535.50 \$ 301,535.50											
				2017 \$ 218,000.00 \$ 83,886.00 \$ 301,886.00											
				2018 \$ 225,000.00 \$ 77,019.50 \$ 302,019.50				2018 \$ 94,350.00 \$ 94,350.00							
				2019 \$ 232,000.00 \$ 69,936.00 \$ 301,936.00				2019 \$ 750,000.00 \$ 330,225.00 \$ 1,080,225.00							
				2020 \$ 239,000.00 \$ 62,635.50 \$ 301,635.50				2020 \$ 769,000.00 \$ 311,115.98 \$ 1,080,115.98				2020 \$ - \$ 75,205.83 \$ 75,205.83			
2020 \$ - \$ 11,220.00 \$ 11,220.00				2021 \$ 247,000.00 \$ 55,102.50 \$ 302,102.50				2021 \$ 789,000.00 \$ 291,516.34 \$ 1,080,516.34				2021 \$ 90,000.00 \$ 167,283.25 \$ 257,283.25			
2021 \$ 440,000.00 \$ 11,220.00 \$ 451,220.00				2022 \$ 255,000.00 \$ 47,321.50 \$ 302,321.50				2022 \$ 809,000.00 \$ 271,413.50 \$ 1,080,413.50				2022 \$ 545,000.00 \$ 160,940.03 \$ 705,940.03			
\$ 440,000.00 \$ 22,440.00 \$ 462,440.00				2023 \$ 263,000.00 \$ 39,292.50 \$ 302,292.50				2023 \$ 830,000.00 \$ 250,794.88 \$ 1,080,794.88				2023 \$ 555,000.00 \$ 149,759.83 \$ 704,759.83			
This was both an expansion and maintenance project				2024 \$ 271,000.00 \$ 31,015.50 \$ 302,015.50				2024 \$ 851,000.00 \$ 229,647.90 \$ 1,080,647.90				2024 \$ 565,000.00 \$ 138,011.18 \$ 703,011.18			
Charged as follows: (45.62%-expansion, 54.38%-allocation)				2025 \$ 280,000.00 \$ 22,475.00 \$ 302,475.00				2025 \$ 872,000.00 \$ 207,972.56 \$ 1,079,972.56				2025 \$ 580,000.00 \$ 125,495.06 \$ 705,495.06			
				2026 \$ 288,000.00 \$ 13,671.00 \$ 301,671.00				2026 \$ 895,000.00 \$ 185,743.70 \$ 1,080,743.70				2026 \$ 595,000.00 \$ 111,887.68 \$ 706,887.68			
				2017 \$ 297,000.00 \$ 4,603.50 \$ 301,603.50				2027 \$ 918,000.00 \$ 162,936.16 \$ 1,080,936.16				2027 \$ 615,000.00 \$ 97,223.93 \$ 712,223.93			
				\$ 3,623,000.00 \$ 1,000,950.65 \$ 4,623,950.65				2028 \$ 941,000.00 \$ 139,549.94 \$ 1,080,549.94				2028 \$ 620,000.00 \$ 81,701.76 \$ 701,701.76			
				Maintenance Projects*				2029 \$ 965,000.00 \$ 115,572.46 \$ 1,080,572.46				2029 \$ 640,000.00 \$ 65,204.26 \$ 705,204.26			
				charged to members based on Allocations				2030 \$ 989,000.00 \$ 90,991.14 \$ 1,079,991.14				2030 \$ 655,000.00 \$ 47,762.13 \$ 702,762.13			
								2031 \$ 1,015,000.00 \$ 65,780.82 \$ 1,080,780.82				2031 \$ 670,000.00 \$ 29,438.75 \$ 699,438.75			
								2032 \$ 1,040,000.00 \$ 39,928.92 \$ 1,079,928.92				2032 \$ 690,000.00 \$ 10,021.25 \$ 700,021.25			
								2033 \$ 1,067,000.00 \$ 13,422.86 \$ 1,080,422.86							
								\$ 13,500,000.00 \$ 2,800,962.16 \$ 16,300,962.16				\$ 6,820,000.00 \$ 1,259,934.94 \$ 8,079,934.94			
								Maintenance Projects*				***This was both an expansion and maintenance project***			
								charged to members based on Allocations				***Charged as follows: (45.62%-expansion, 54.38%-allocation)***			

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 B. WILSON, P.E., EXECUTIVE DIRECTOR
JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR**

SUBJECT: STATUS REPORT – ON-GOING PROJECTS

DATE: MARCH 12, 2020

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

In-Plant Capital Projects:

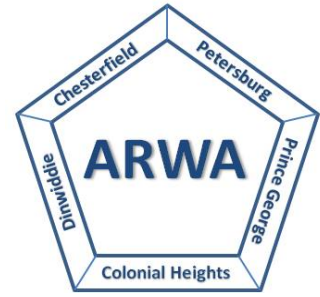
Phase I

- All Finished Water Pumps have been installed and are operational.
- Raw water pump No.'s 3 and 4 were installed the week of February 17th. Pentair agreed to pay the extra cost to reinstall pump No. 4 due to a bad sole plate. Both pumps have been run a minimum of five days and accepted.
- Pump No.'s 1 and 2 are scheduled for replacement in March, 2020. Pump No. 1 (10 mgd) will be removed and No. 2 (10 mgd) will be replaced with a new pump. Pumps No.'s 2 and 3 are being upsized from 10 mgd to 16 mgd so the plant capacity is not decreased by removing Pump No. 1.
- We anticipate project completion in April, 2020.

Phase II

- Notice to Proceed was given to MEB on January 20, 2020. We anticipate startup of construction in April, 2020

Appomattox River Water Authority



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

EXHIBIT G

TO: Board of Directors

FROM: Robert B. Wilson, Executive Director
James C. Gordon, Assistant Executive Director

DATE: March 12, 2020

SUBJECT: Discussion of Proposed Bylaws Amendment

Mr. Anderson will present a revision to the bylaws with respect to advertising the budget for the public hearing. The advertising requirements for a public hearing have been reduced in the Virginia Water and Waste Authorities Act (VWWAA). Since the Authority is governed by the VWWAA, there is no need to have this specific language for the public hearing requirements in the bylaws.

A copy of the current bylaws and the proposed changes are attached. The requested change is to remove Article X, paragraph 10.2.

Board Action Requested:

Staff requests that the Board consider removing Article X, paragraph 10.2 from the bylaws.

APPOMATTOX RIVER WATER AUTHORITY

- RESOLUTION -

APPROVING AMENDMENTS TO THE BYLAWS

March 12, 2020

WHEREAS, Section 10.2 of Article X of the bylaws (the “Bylaws”) of the Appomattox River Water Authority (“ARWA”) sets forth detailed provisions for publication of the notice of and the holding of a public hearing before ARWA’s adoption of the budget for each fiscal year; and

WHEREAS, counsel to ARWA has noted that since the last revisions to the Bylaws in 2011 the General Assembly has amended Section 15.2-5136 of the Virginia Water and Waste Authorities Act to simplify and streamline the procedures for publishing notice of and holding a public hearing regarding proposed rates, fees and charges before adoption by an authority and that Section 10.2 of the Bylaws and both staff and counsel to ARWA have recommended that the Bylaws be amended to delete Section 10.2, which will result in ARWA following only the notice and public hearing requirements of Section 15.2-5136; and

After careful consideration to further the public purposes for which ARWA was created, NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF THE APPOMATTOX RIVER WATER AUTHORITY THAT:

1. Amendment to Bylaws. Article X of the Bylaws is hereby amended to read as follows:

ARTICLE X – FISCAL YEAR

10.1 Fiscal Year. The fiscal year of the Authority shall be July 1 to June 30 of the following year.

10.2 Reserved.

2. Effective Date. This Resolution shall take effect immediately.

APPOMATTOX RIVER WATER AUTHORITY

BYLAWS

ARTICLE I - PREAMBLE AND POWERS

- 1.1 The Act. Subject to the Articles of Incorporation, the Appomattox River Water Authority (the "Authority") shall have all of the rights, powers and duties and shall be subject to the limitations and restrictions set forth in the Virginia Water and Waste Authorities Act, Chapter 51, Title 15.2 of the Code of Virginia of 1950, as amended (the "Act"). These bylaws are made pursuant to the authority contained in Section 15.2-5114 of the Act.
- 1.2 Certificate of Incorporation. The State Corporation Commission approved the creation of the Authority on November 21, 1960, by issuing to the Authority the certificate of incorporation.
- 1.3 Validation. As set forth in Chapter 88 of the Virginia Acts of Assembly of 1962, the General Assembly validated the creation of the Authority, the appointment of the initial members of the Authority and the provisions for their terms of office and the appointment of their successors and authorized the jurisdictions which created the Authority, being the Cities of Petersburg and Colonial Heights and the Counties of Chesterfield, Dinwiddie and Prince George (collectively, the "Participating Localities"), to contract with the Authority for a supply of water.
- 1.4 Corporate Life. As authorized by Section 15.2-5114 of the Act, the Authority may exist for a term of 50 years and for such further or further periods as may from to time be provided by appropriate resolutions of the City Councils and Boards of Supervisors of the Participating Localities (each a "Governing Body" and, collectively, the "Governing Bodies"). In 2001, the Governing Bodies by resolution extended the Authority's corporate life for a term of 50 years from June 1, 2001 (that is, to May 31, 2051).

ARTICLE II – BOARD MEMBERS

- 2.1 Members. The Board of the Authority ("Board") shall consist of five members (each, a "Member" and, collectively, the "Members"). Each Governing Body shall appoint one Member. Members are to be appointed for a stated term of up to four years and may be reappointed.

- 2.2 Alternate Members. Each Governing Body may appoint one or more alternate members (each, an "Alternate Member" and, collectively, the "Alternate Members") in the same manner as it appoints a Member. The Alternate Member shall have the same term as the Member. An Alternate Member's term shall not expire because of the Member's death, disqualification or resignation. If the Member is not present at a Board meeting, the Alternate Member shall have all of the voting and other rights of the Member and shall be counted as a Member for the purposes of establishing a quorum.

ARTICLE III – MEETINGS

- 3.1 Regular Meetings. Regular meetings of the Board shall be held at the Authority's principal office at 2:00 PM., on the third Thursday of each month. In addition, the Board may by resolution (i) change the date, frequency, time or place of any regular meeting and (ii) adjourn any meeting to a different date, time or place, provided that the different date, time and place is determined and announced at the meeting before adjournment. In addition, the Chairman may cancel a regular meeting by giving notice to all Members and Alternate Members if, after consultation with the Executive Director, the Chairman determines that there is no business to come before the Board at that meeting. The notice of cancelation of a regular meeting by the Chairman must be provided not fewer than five days before the scheduled date of the canceled meeting. The November regular meeting shall be the annual meeting unless the Board by resolution establishes another date for the annual meeting.
- 3.2 Special Meetings. Special meetings may be called by the Chairman, or his or her delegate, or by any two Members of the Board upon 24 hours notice to all Members and Alternate Members. Such notice shall include the time, date, place and purpose or purposes of such special meeting. An authorized purpose may include the holding of a public hearing.
- 3.3 Emergency Meetings. Emergency meetings may be called by the Chairman, or his or her delegate, upon four hours notice to all Members and Alternate Members. Such notice shall include the time, date, place and purpose or purposes of such emergency meeting. The declaration of emergency must be approved by affirmative vote of the Members at the emergency meeting.
- 3.4 Quorum. A majority of the Members of the Board shall constitute a quorum (that is, the presence of three of the five Members will constitute a quorum).
- 3.5 Voting. Each Member of the Board shall be entitled to one vote on matters before the Board. A vote of the majority of Members is necessary for any action taken by the Board (that is, three affirmative votes are necessary no matter how many Members are present).

- 3.6 Regular Meeting - Order of Business. The regular meeting order of business shall be: 1) Calling the roll, 2) Reading, correcting and approving the minutes of the preceding meeting or meetings, 3) Public comment and hearing period, 4) Executive Director's Report, 5) Attorney's items, 6) Closed Meeting (if needed), and 7) Member's items. The Board may by resolution revise the order of business at any regular meeting.
- 3.7 Special and Emergency Meeting Order of Business. The special meeting order of business shall be: 1) Calling the roll and 2) The purpose or purposes for which the special meeting was called as stated in the notice provided pursuant to Section 3.2 above. The emergency meeting order of business shall be: 1) Calling the roll, 2) Consideration of approval of declaration of emergency, and 3) if the declaration of emergency is approved, the purpose or purposes for which the emergency meeting was called as stated in the notice provided pursuant to Section 3.3 above.

ARTICLE IV – OFFICE AND RECORDS

- 4.1 Office. The principal office of the Authority shall be in Chesterfield County at 21300 Chesdin Road, Petersburg, Virginia 23803.
- 4.2 Records. The Authority's books and records shall be maintained at the principal office and shall be open for inspection to any Member or Alternate Member upon request.

ARTICLE V – OFFICERS

- 5.1 Officers. Officers of the Authority shall consist of a Chairman, Vice-Chairman, a Secretary, and a Treasurer. The Chairman and Vice-Chairman must be Members. Alternate Members may serve as Secretary or Treasurer.
- 5.2 Terms of Office. All officers shall be elected for a term of two years and shall hold office until December 31 of each even numbered year. An election of officers shall be held at the annual meeting of each even numbered year, with duly elected officers beginning office on January 1 of each odd numbered year. A special election of officer(s) will be held to fill the unexpired term of officer(s) that are no longer able to perform their duties. Officers may succeed themselves.
- 5.3 Chairman. The Chairman shall preside at all meetings of the Board at which he or she is present. The Chairman shall have the powers and perform such duties as conferred upon the office of Chairman. The Chairman shall sign all contracts and other instruments to be executed on behalf of the Authority, unless the Board

by resolution authorizes or assigns another officer or the Executive Director to do so.

- 5.4 Vice-Chairman. The Vice-Chairman will act as Chairman in the Chairman's absence and shall possess such powers and perform such duties as are conferred upon the Chairman and perform other such duties as the Board may assign.
- 5.5 Secretary. The Secretary shall act as clerk of the Board. He or she shall give notice of the meetings, keep minutes, affix the seal of the Authority to all documents which require such seal to be affixed and perform other duties as may be assigned by the Board. The Secretary may be assisted by the staff of the Authority.
- 5.6 Treasurer. The Treasurer shall have general charge and supervision of all financial books and accounts of the Authority. He or she shall perform other duties incident with the job of Treasurer and perform other duties as may be assigned. The Treasurer may be assisted by the staff of the Authority. The Secretary and Treasurer positions may be held by one person.
- 5.7 Chairman Pro Tem. In the event both the Chairman and Vice Chairman are absent from a meeting, the Members present may by resolution appoint a Chairman pro tem to preside at the meeting; provided, however, that the Chairman pro tem must be a Member.
- 5.8 Additional Officers. In addition to the officers above mentioned, the Board may provide for such Assistant Secretaries or Treasurers or Secretary-Treasurers and other officers as it may deem desirable. Such additional officers need not be Members.

ARTICLE VI – LIMITATION ON LIABILITY AND INDEMNIFICATION

- 6.1 Limitation on Liability. In every instance in which Virginia law, as it exists on the date hereof or may hereafter be amended, permits the limitation or elimination of liability of directors or officers of a corporation to the corporation or its shareholders, the Members, Alternate Members and officers of the Authority shall not be liable to the Authority. The liability to the Authority of a Member, Alternate Member or officer for damages assessed against him or her is eliminated, provided such Member, Alternate Member or officer has discharged his or her duties in accordance with the applicable statutory standards of conduct for directors and officers. The liability of a Member, Alternate Member or officer shall not be eliminated or limited if the Member, Alternate Member or officer engaged in willful misconduct, or a knowing violation of the criminal law, or of any federal or state law.

6.2 Indemnification of Officers and Members.

A. To the extent permitted by law, the Authority shall indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative, arbitrative or investigative by reason of the fact that he or she is or was a Member, Alternate Member or officer of the Authority, or is or was serving at the request of the Authority as an officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise (an "Indemnatee"), against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the Indemnatee in connection with such action, suit or proceeding if he or she acted in good faith and in the manner he or she reasonably believed to be in or not opposed to the best interests of the Authority, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not of itself create a presumption that the Indemnatee did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Authority, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

B. To the extent that an Indemnatee has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in subdivision A above or in defense of any claim, issue or matter therein, he or she shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him or her in connection therewith.

C. Any indemnification under Subdivision A above (unless ordered by a court) shall be made by the Authority only as authorized in the specific case upon a determination that indemnification of the Indemnatee is proper in the circumstances because he has met the applicable standard of conduct set forth in subdivision A above. Such determination shall be made either (i) by the Members of the Authority by a majority vote of a quorum consisting of Members who were not parties to such action, suit or proceeding, or (ii) if such a quorum is not obtainable, or, even if obtainable a quorum of disinterested Members so directs, by independent legal counsel in a written opinion.

D. Expenses (including attorneys' fees) incurred in defending an action, suit or proceeding, whether civil, criminal, administrative, arbitrative or investigative, may be paid by the Authority in advance of the final disposition of such action, suit or proceeding as authorized in the manner provided in subdivision C above upon receipt of an undertaking by or on behalf of the Indemnatee to repay such amount unless it shall ultimately be determined that he or she is entitled to be indemnified by the Authority as authorized in this section.

E. Each such indemnity shall continue as to an Indemnitee who has ceased to have the capacity referred to above and shall inure to the benefit of the heirs, executors and administrators of such an Indemnitee.

F. The Authority shall have power to make any other or further indemnity to any person to the extent permitted under the laws of the Commonwealth of Virginia.

ARTICLE VII – COMMITTEES

- 7.1 Special or Standing Committees. The Board may establish such special or standing committees, as it may deem necessary or desirable for the conduct of business. Persons serving on such committees may be reimbursed for their expenses. The Board may establish such technical and advisory bodies as it deems appropriate and members of such bodies need not be a Member of the Board. Nothing in this Article shall be construed to limit the Authority's powers to contract with consultants and experts and to pay them for their services.

ARTICLE VIII – ADMINISTRATION

- 8.1 Executive Director. The Board shall select and employ an Executive Director and shall pay such compensation as it shall deem appropriate. The Executive Director shall be the chief executive officer of the Authority responsible for the day to day operations of the Authority. Under the policies and directives established by the Authority he or she shall have charge and responsibility for all personnel, operations and business of the Authority. Wherever in the bylaws a duty or right or prerogative of the Chairman may be carried out or exercised by a delegate or representative of the Chairman, such delegate or representative shall be the Executive Director unless the Chairman provides otherwise in writing. The Executive Director shall be responsible for payment of bills, receipt of monies and records of revenues and expenses. He or she shall prepare an annual budget for Board consideration and shall be responsible for the administration of the approved budget, to include budget reports to the Board. The Executive Director shall perform all other duties, incident to chief executive officer, and shall perform such other duties and have such other powers as the Board may designate.
- 8.2 Assistant Executive Director. An Assistant Executive Director will be employed by the Authority to perform those duties assigned by the Executive Director and act for the Executive Director in his absence. The Assistant Executive Director is authorized to sign checks for the Authority.

- 8.3 Staff. The Board will approve and the Executive Director will administer such staff as approved by the Board. The Authority may establish employment positions and compensation and benefit plans for the staff as deemed appropriate.
- 8.4 Emergency Powers. In case of an emergency, such as a significant failure of equipment or pipe line, flood, fire or natural disaster that endanger the safe operation of the facilities of the Authority, the Executive Director is authorized to take such actions as he or she deems necessary. As soon as practicable, The Executive Director will inform the Board of his or her actions. The Chairman may call a Board meeting at his or her discretion to discuss the emergency pursuant to sections 3.2 and 3.3 above.

ARTICLE IX – FINANCES AND PAYMENTS

- 9.1 Funds. Monies of the Authority shall be deposited or kept in bank or banks, as the Board shall designate from time to time. Each check, draft or voucher on the Authority's funds shall be signed by the Executive Director or Assistant Executive Director and countersigned by the Chairman, Vice-Chairman or Treasurer of the Authority.
- 9.2 Audits. At least annually, the Authority shall cause an audit to be made by an independent certified accountant of the Authority's funds. Audit results shall be reported to the Board. Each Member shall provide a copy of each audit report to his or her respective Governing Body and City Manager or County Administrator, as the case may be.
- 9.3 Trustee. The Board may appoint a bank or other financial institution to act as trustee of Authority funds.

ARTICLE X – FISCAL YEAR AND BUDGET

- 10.1 Fiscal Year. The fiscal year of the Authority shall be July 1 to June 30 of the following year.
- 10.2 Notice and Public Hearing Regarding Budget. Commencing with the Authority's budget for the fiscal year commencing July 1, 2012, and unless otherwise required by applicable law, before adopting the Authority's budget the Authority shall follow the publication, notice and public hearing procedures set forth in Section 15.2-2506 of the Code of Virginia of 1950, as amended, as if the Authority were a county, city or town. The Authority may amend any currently adopted budget; provided that, to the extent any amendment of a currently adopted budget exceeds one percent of the total expenditures in such budget, the Authority shall follow the publication, notice and public hearing procedures set forth in Section 15.2-2507 of the Code of Virginia of 1950, as amended, as if the Authority were a county, city or town. Any such public hearing may be combined with any budget or

budget amendment public hearing to be held by the South Central Wastewater Authority.

ARTICLE XI – COUNSEL

- 11.1 Legal Counsel. The Authority may engage legal counsel to advise and represent it in legal matters and proceedings and to act as counsel to the Authority.

ARTICLE XII – RULES OF PROCEDURE

- 12.1 Procedures. Robert's Rules of Order shall govern all matters of procedure not specifically addressed by these bylaws.
- 12.2 Minutes of Meetings. Minutes shall be kept for each Board meeting and the names of Members voting for or against any resolution, authorization or policy shall be recorded.
- 12.3 Notices. Whenever the giving of a notice of a meeting, occurrence or otherwise is required under these bylaws, such notice shall be in writing and provided to the recipient(s) thereof by mail, e-mail, facsimile or other form of wired or wireless transmission or by private courier to the home or business address of the recipient or at such other address as the recipient shall file with the Secretary and Executive Director. If mailed, the notice shall be deemed to have been given when deposited in the United States mail with first-class postage thereon paid. If given in another manner, such notice shall be deemed to have been given when sent by e-mail or facsimile or other form of wired or wireless communication or given to a private courier to be delivered.

ARTICLE XIII – OFFICIAL SEAL

- 13.1 Seal. The official seal of the Authority shall consist of the embossed impression of a circular metallic disc containing in the outer rim the words "Appomattox River Water Authority" and in the inner circle the words "Seal" and "Petersburg, Virginia".

ARTICLE XIV – AMENDMENTS

- 14.1 Amendments of Bylaws. Except as otherwise provided by law, these bylaws may be amended, added to, altered or repealed in whole or part by the Authority at any meeting of the Authority, provided that notice of the proposed amendment, addition, alteration or repeal is given in the notice of such meeting, or that all Members of the Authority are present at such meeting.

Amended and Restated by the Authority's Board on August 18, 2011.