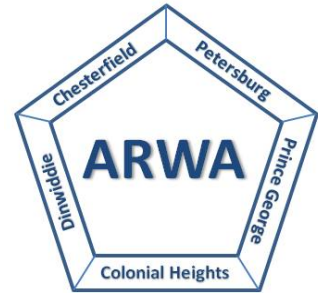


Appomattox River Water Authority



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

APPOMATTOX RIVER WATER AUTHORITY

Board of Directors Meeting

DATE: May 20, 2021

TIME: 1:00 pm

LOCATION: **Appomattox River Water Authority**
Board Room, Administration Building
21300 Chesdin Road
South Chesterfield, VA 23803

AGENDA

1. Call to Order/Roll Call
2. Approval of Minutes: Minutes of the Board Meeting held on March 18,2021 (Exhibit A pages 2 to 7)
3. Public Comment Exhibit B page 8)
4. FY2021/22 Operating Budget (Exhibit C pages 9 to 19)
5. Executive Director's Report:
 - o Financial Policy Review and Update (Exhibit D pages 20 to 76)
 - o Status Report (Exhibit E pages 77 to 80)
 - o In plant projects (Exhibit F pages 81 to 82)
 - o Financials (Exhibit G pages 83 to 86)
6. Items from Counsel
7. Closed Session
8. Other items from Board Members/Staff Not on Agenda
9. Adjourn

BOARD OF DIRECTORS MEETING
Appomattox River Water Authority
March 18, 2021 at 2:00 p.m.
Location: Appomattox River Water Authority
21300 Chesdin Road, Petersburg, VA 23803

MEMBERS PRESENT:

Doug Smith, Chairman (Colonial Heights)
Kevin Massengill, Vice-Chairman (Dinwiddie)
Joseph Casey, (Chesterfield)
Lionel Lyons, (Petersburg)

ALTERNATES PRESENT:

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

ABSENT:

Percy Ashcraft, (Prince George)
Todd Flippen, (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, Business Manager/FOIA
(ARWA & SCWWA)
Kathy Summerson, Administrative Assistant (SCWWA)

OTHERS PRESENT:

Chris Tabor, (Hazen and Sawyer)

The ARWA meeting was called to order by Mr. Smith, Chairman, at 2:04 p.m.

1. Call to Order/Roll Call

The roll was called:	Doug Smith	Present
	Kevin Massengill	Present
	Joseph Casey	Present
	Frank Haltom	Present
	Lionel Lyons	Present

2. Approval of Minutes: Minutes of the Regular Meeting of the Board on January 21, 2021

Upon a motion 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 January 21, 2021 are hereby approved:

For: 5 Against: 0 Abstain: 0

3. Public Comment

There were no Public Comments.

4. Public Hearing for FY2021/22 Operating Budget

Mr. Smith opened the public hearing for the FY2021/22 Operating Budget at 2:05 p.m. There were no comments on the budget, so Mr. Smith closed the public hearing.

Mr. Wilson stated we presented the budget to the Utility Directors by teleconference on December 20, 2020. We took their comments and incorporated those into our budget narrative and presented the budget to the Board on January 21, 2021. He stated at that time we gained approval to go ahead and set the public hearing for today. The public hearing has been advertised in the newspaper, on the website, and posted on the bulletin boards. A bulletin board has been placed outside our gate on Chesdin Road so it can be viewed without coming into our secured area. Mr. Wilson stated there were three items the Board asked to be reminded of at this meeting. (1) a proposed 3% merit increase, (2) setting up accumulating line items for equipment replacement and vehicle replacement (only for stuff with rubber tires on them: i.e., tractors, trucks, vehicles); and (3) to discuss the Brander's Bridge Pump Station and Tank. He stated we had shown the Brander's Project in FY25/26 for planning purposes. He further stated there was a question on the breakdown of the cost distribution for the Brander's Project. This project is in the budget as a placeholder, and we were utilizing the five-year running average for cost distribution. He stated none of this has been agreed upon.

Mr. Lyons asked Mr. Wilson to highlight the other four bullet points from the Budget Narrative. Mr. Wilson stated that the first item is the PAC system, which has to do with PFOS and PFAS. He further stated some sampling was done a while back for Colonial Heights and Chesterfield and nothing was found. However, there is a new state and federal focus on PFAS and PFOS. There are no current indications that either pollutant is in our water supply. He commented that the State is starting to look at sampling, and we do not have any criteria yet as far as what they are going to require. It is down to the parts per trillion. Until we

get more data, we are not going to put that project back in the budget. There are no current indications that either pollutant is in our water supply.

Mr. Wilson stated the second item is the Branders Bridge Tank and Pump Station. This will require future discussions by the Board if we want to include it in the capital improvement program. The timing or necessity for this project will be contingent on Chesterfield and Prince George considering another source on the Appomattox for two water plants. The only reason we considered leaving this in here is if those projects do not come to fruition, and we need to maximize the water we can get through the eastern leg of the transmission system.

Mr. Wilson stated the next item is the transmission line that is also contingent on what happens between all five jurisdictions. If in the future we are going to require that we have a bigger demand especially on the eastern leg, that is when we are going to have to consider paralleling the transmission. Mr. Wilson asked the question; do we want to consider starting to put money away on an annual basis? He stated the cost to get a new transmission main is approximately \$40 million. Do we want to wait and consider bonding at that time? He stated this does not show up in the current ten-year CIP. It is something to keep on the radar for consideration if there is any momentum to start putting money away on an annual basis.

Mr. Wilson stated the VWP permit is the permit for the dam and the reservoir. The big issue that will come up as part of the renewal process is, will DEQ require us to have a plan to put in additional raw water supply to feed this plant. He further stated we no longer use the term safe yield, but the running safe yield was about 58 MGD. We have a 96 MGD plant. He stated our annual average is in the 30's now, but by the time the next permit comes around, they will probably encourage us to be in the process of either developing or defining what the additional water source will be to match the plant capacity. We have a plant that can produce so much, we have a transmission system that cannot take it all the way, and we have a raw water system that cannot produce what the peak of the plant can handle. He also stated Kruger produces power at the dam. We will have to make decisions by January of 2026 if we want to extend their lease to continue to produce power.

Mr. Haltom asked if the salary increases was for this budget or the current year budget, and Mr. Wilson replied for the proposed budget. Mr. Haltom said in the January 2021 meeting we agreed on 2.5%, and Mr. Wilson stated that was for the current year.

Mr. Lyons asked if the matter about salary increase was resolved, and Mr. Smith stated that was open for discussion today. Dr. Casey asked if the 3% is a July 1st increase, and Mr. Wilson stated correct. Dr. Casey further stated that Chesterfield decided to do a 2% but will do it for January 2022 since they just did one in January 2021. Mr. Smith stated in the Colonial Heights proposed budget they were looking at 2%. Mr. Massengill stated they froze their budget last year and performed a compensation plan. They are going to implement their compensation plan this year. He further stated it increases his overall payroll by 10% with the lowest anyone would get would be 4% with the average almost 9%. Mr. Haltom stated that Prince George did not do any compensation for this year, but they are considering 2% for this next fiscal year. Mr. Lyons stated he is proposing to the Interim City Manager that they do a 2% or 3% across the Board. He further stated he could not endorse a 3% salary increase when the City has not taken care of its own employees and wanted the Board to respect that as a part of this process. There was further discussion on the possibility of taking two votes on the budget.

Dr. Casey stated that as far as the 3% he would leave it up to the Authority if they felt there were certain positions that needed higher targeted increases because of the market.

Mr. Massengill stated from Dinwiddie's perspective they are willing to support the budget as presented to include the increases. Mr. Lyons stated Petersburg supports the budget overall but will abstain and not support the increase. Mr. Haltom stated Prince George supports the budget. Dr. Casey supports the budget. He further stated since Branders Bridge Pump Station and water tank and methodologies that may arise in the future, it may be helpful to list them on separate lines of your CIP. He referred to the hydro and stated not to renew that lease without very clear disclosures of what it may mean for a future dam raising project.

Mr. Lyons stated in the budget you are talking about the upgrades and asked if Mr. Wilson could speak where this equates in this process of where we are. The second thing he asked about was the reserve policy for utilities. He stated the success of Petersburg is the success of all of us. He stated he needed some help and guidance to assure that they do not find themselves back in the situation they were in the past. He asked where the figure is as it relates to the upgrades. He wants to make sure you are helping him to educate the City to whatever their appropriate share is.

Mr. Wilson told Mr. Lyons that we could do two things. (1) we could put a hold on the first one because at the SCWWA meeting we will be talking about the nutrient upgrades and Mr. Gordon will be going over budget, and we could talk about that then; and (2) both budgets include five-year projections. Davenport is our financial advisor also and we can share how they helped us develop our reserves. We met with Council and with the EDA, but we would be happy to meet with Petersburg's financial staff and Andrew, to go over how we developed ours. We can bring in some of the other members and explain how we got to that point, and what our goals and objectives are financially. Hopefully, that would give Petersburg something to go by.

Dr. Casey stated two new lines of reserves were created for ARWA, vehicle and motor equipment. His further stated from looking at the reserves and the balance sheet there is a good supply of reserves. Maybe we need to go through a Davenport exercise. He stated maybe we need to have a work session topic in the future about reserve methodologies for both entities.

Mr. Smith stated you have the amounts in there for purchases [vehicles and equipment] for that year and Mr. Wilson stated for 21-22. Mr. Smith stated in the proposed plan in the Board package you have amounts you are starting to set aside annually for these purchases, and Mr. Wilson stated we were going to. Mr. Wilson asked if Board wanted us to take these items out and show the purchases in the year they are going to be purchased. Mr. Smith stated for those at this point hold off on having that in the budget

so the other discussion can occur and strategize the whole topic on the reserves and set the strategy with moving forward. He further stated he liked the concept of what you are thinking about but would like to give everyone a chance to give input on these topics.

Mr. Smith stated Dr. Casey had mentioned the Branders Bridge project breaking out in a separate section under the capital and asked him if he would like to see it documented, and Dr. Casey answered at some point it would be good to know if it is not included in the budget, it should be noted in the narrative. Mr. Wilson stated the Board approves the budget on an annual basis, but we try to give the Board a five-year projection on rates. We could move it [Branders' Bridge Pump Station and Tank] out of those numbers. Mr. Wilson stated we could show it in the narrative but not show it in the projection for 25/26. Mr. Smith stated that is fine if it is noted, and everybody knows what is in and what is not in.

Mr. Smith stated as far as the merit increases, he supports what was recommended in the budget as well. He further stated he knew ARWA had a little more tweaking to do so we will bring this back to the Board at the May 20, 2021 meeting once the corrections are made in the budget.

5. Executive Director's Report:

- **Financial Policy Review and Update**

Mr. Wilson reported on the financial policy review. He stated we are not requesting action on anything today. What we want to do is a mini work session to put some recommendations on the table. He stated there have been some comments about taking advantage of some other financial resources before we move forward. We want to explain the various funds that are outlined in the 1986 Agreement of Trust, make some suggestions on how to manage excess revenues, and outline our reserves. The replacement fund, which was set up 35 years ago, has a minimum balance requirement of \$500,000. Right now, we are suggesting we put an additional \$2 million in the replacement fund, which will go to \$2.5 million. This makes it like the ERRF of SCWWA. He stated we have a true replacement fund for catastrophic emergency events at SCWWA. He further stated that right now there is \$500,000 in the replacement fund, but when you read it in the Trust Agreement, the replacement fund backs up everything financially before you consider taking money out to do something else. Mr. Wilson stated, at the end of each year we would use the annual audit to determine what we made or what we did not make. That would tell us how much money we could transfer from the revenue fund. He stated there are two things we need to do to strengthen our fiscal ability to borrow money in the future. (1) We need to have a good reserve policy which would now become an operating reserve, because that is what it is, (2) We need a good ERRF for catastrophic events, which is why we are suggesting the \$2.5 million. For us to start on July 1, 2021, we are going to have to consider transferring into the operating fund almost \$2.9 million. He stated for the Bond fund he would suggest we fill it up each year as you go through the budget process. At the minimum, we must put in what the October 1st debt service payment would be. That would be around \$1.78 million. Mr. Wilson stated going through this process he did not see where we had a true catastrophic replacement fund for any kind of emergency event. We did not include the replacement fund, so you basically must wait until you accumulate some money through collecting rates before you do some of the capital projects you had for that year. He stated the whole intent of this process was to try and demonstrate how this is set up. The purpose of this discussion is to try and lay out how the Trust Agreement works, how we see the cash flow, and recommend how the surpluses be distributed into the different accounts. This is a onetime transfer because after that, each subsequent budget year, the current budget would fill the accounts back up for the next year coming up.

Mr. Wilson stated there is more information, and if anyone wants a copy of the Trust Agreement or if we need to follow up from the comments, we can set up a zoom meeting with some of the financial people from the jurisdictions to see if they have some better ideas. We could at least get the information to them ahead of time and then we would like to make some recommendations and have a discussion back at the May 2021 meeting. Mr. Smith stated to plan to get feedback from our financial staff that get together with you and see what ideas you can present back to us. Mr. Wilson stated he would like to get members to email the addresses for their financial staff, and we will send them what we have done today. Mr. Lyons asked Mr. Wilson if it was okay to share what has been done today. Mr. Wilson replied that he could also send a copy of the Trust Agreement and the flows. He stated we would talk to Mr. Anderson and Mr. Cole, get their thoughts, and bring something back to the Board at the May 20, 2021 meeting for further discussion. Dr. Casey stated it would be good to have Mr. Cole attend that meeting.

- **Status Report**

Mr. Wilson reported on the Status Report.

- **Flushing**

Mr. Wilson reported on Flushing. He stated that Chesterfield County is completing the work at the Addison-Evans Water Treatment Plant. They asked that we hold off on the flushing, and we will hold that off until the fall.

- **Financials**

Ms. Wilkins reported on the Financials.

6. Items from Counsel

There were no items from Counsel.

7. **Closed Session**

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

Upon a motion made by Mr. Haltom and seconded by Mr. Massengill the Board went into Closed Session at 3:02 p.m.

For: 5 Against: 0 Abstain: 0

Upon a motion made by Mr. Massengill and seconded by Mr. Haltom the Board came out of Closed Session at 3:55 p.m.

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

Vote:

Doug Smith	Aye
Kevin Massengill	Aye
Joseph Casey	Aye
Frank Haltom	Aye
Lionel Lyons	Aye

Absent During Vote: None

8. **Other Items from Board Members/Staff Not on Agenda**

There were no other items from Board Members/Staff not on Agenda.

9. **Adjourn**

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

Upon a motion by Mr. Massengill and seconded by Mr. Haltom the meeting was adjourned at 3:54 p.m.

MINUTES APPROVED BY:

Frank Haltom
Secretary/Treasurer

CLOSED MEETING RESOLUTION

APPOMATTOX RIVER WATER AUTHORITY

March 18, 2021

I move that we go into a closed meeting (i) for discussion and consideration of the performance and salaries of specific public officers of the Appomattox River Water Authority, specifically regarding the Executive Director's annual review, as permitted by Section 2.2-3711A.1. of the Virginia Freedom of Information Act ("FOIA"), and (ii) for consultation with legal counsel retained by the Authority and briefing by staff members regarding specific legal matters pertaining to actual or probable litigation instituted or which may be instituted by a former employee of the Authority, where such consultation and briefing in open meeting would adversely affect the Authority's negotiating or litigating posture, as permitted by Section 2.2-3711A.7.of FOIA:

MOTION: Haltom

SECOND: Massengill

VOTE

Casey	Aye
Haltom	Aye
Lyons	Aye
Massengill	Aye
Smith	Aye

ABSENT DURING VOTE: None.

ABSENT DURING CLOSED MEETING: None.

SESSION DATE: March 18, 2021

CERTIFICATION OF CLOSED MEETING

WHEREAS, the Board of the Appomattox River Water Authority (the “Authority”) convened a closed meeting on March 18, 2021, pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

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

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

MOTION: Massengill

SECOND: Haltom

VOTE

Casey	Aye
Haltom	Aye
Lyons	Aye
Massengill	Aye
Smith	Aye

ABSENT DURING VOTE: None.

ABSENT DURING CLOSED MEETING: None.



APPOMATTOX RIVER WATER AUTHORITY
21300 Chesdin Road
Petersburg, VA 23803



SOUTH CENTRAL WASTEWATER AUTHORITY
900 Magazine Road
Petersburg, VA 23803

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

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

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

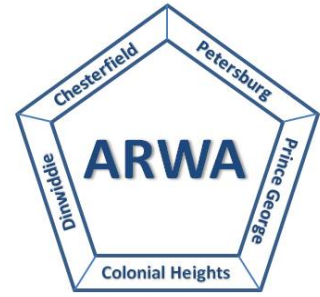
When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group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

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

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

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

Appomattox River Water Authority



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

EXHIBIT C

TO: Appomattox River Water Authority Board of Directors

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

DATE: May 20, 2021

SUBJECT: Fiscal Year 2021-22 Proposed Budget

At the January 21, 2021 meeting we presented the proposed FY2021-22 budget for consideration. The public hearing for the FY2021-22 budget was held at the March 18th meeting.

At the March 18th meeting, there was a discussion after the public hearing was closed by the chairman, where additional questions were raised by members that required further review and edits:

- We changed the name for the “58000 – Replacement Fund Budget” in the operating budget to “58000 – Operating Capital Outlay”. The reason we made this change is the Trust Agreement has a fund called the “Replacement Fund”. The “Replacement Fund Budget” that was illustrated in the annual operating budget should be paid from the Operating Fund and not the Replacement Fund outlined in the Trust Agreement.
- The operating expenses were reduced by removing the vehicle from line item 58060 – Motor Vehicles in FY21/22.
- The expense to purchase vehicles and equipment is placed in the year it is to be purchased. Initially we recommended these expenses be split over ten years with an annual appropriation request to collect and maintain these funds.
- The future of the Branders Bridge Pump Station and Tank has not been decided. This project was removed from the Construction Fund in FY25/26 with specific notes added to the budget. In turn, we removed this project from the five year projections that included proposed member rates for FY25/26.
- The PAC project was also noted and removed from the Construction Fund.
- The budget does contain a 3% merit increase for staff. This increase was still under discussion.

These edits were incorporated into the budget and circulated to members on April 30th for review. From our members review, we did receive one comment where we had a typo on the debt service for the 2012 issuance. We had the debt service at \$302,013 where it should be \$302,103. That correction has been made.

The proposed FY2021-22 budget is included as Attachment #1. Staff is recommending approval of the FY2021-22 budget. The Board resolution for approval is included as Attachment #2.

Board action requested:

Staff requests the Board approve the proposed FY21/22 budget presented in Attachment #1.

Attachment #1

APPOMATTOX RIVER WATER AUTHORITY

Proposed: January 21, 2021

Approved:

Revised:

Revision Approved:

PROPOSED OPERATION & MAINTENANCE BUDGET 2021/2022

	<u>2020/2021</u> <u>Revised</u> Budget	<u>FY2021/2022</u> Budget	Increase/ (Decrease) FY20/21 to FY21/22
O&M EXPENSES			
41000 · Salary	\$1,700,000	\$1,836,000	\$136,000
42000 · Employee Benefits	\$760,200	\$754,100	-\$6,100
42100 · Employer FICA	\$131,000	\$137,000	\$6,000
42200 · Virginia Retirement System	\$97,000	\$90,000	-\$7,000
42210 - Deferred Comp 457	\$7,500	\$0	-\$7,500.00
42300 · Hospitalization Insurance	\$493,100	\$490,000	-\$3,100
42400 · VRS Group Life Insurance	\$22,000	\$22,000	\$0.00
42500 · Group Term Life	\$2,100	\$2,100	\$0.00
42600 · Unemployment Insurance	\$2,000	\$1,000	-\$1,000.00
42800 · Employee Promotions	\$3,500	\$10,000	\$6,500.00
42900 · Other Fringe Benefits - EAP	\$2,000	\$2,000	\$0.00
42950 · OPEB Health Insurance Adj	\$0	\$0	\$0.00
42952 · Net Pension Adjustment			
43000 · Contractual Services	\$1,188,000	\$1,049,500	-\$138,500
43121 · Auditing Services	\$8,000	\$8,000	\$0.00
43122 · Accounting Services	\$16,000	\$16,000	\$0.00
43130 · Legal/Engineering and Reservoir Studies	\$100,000	\$50,000	-\$50,000.00
43140 · Consulting Engineers	\$85,000	\$85,000	\$0.00
43150 · Legal Services	\$75,000	\$75,000	\$0.00
43152 · Medical - Testing	\$2,500	\$2,500	\$0.00
43155 · Other Consulting Services	\$15,000	\$0	-\$15,000.00
43156 · Admin and Maintenance Svc-SCWWA	\$0	\$0	\$0.00

43160 · Trustee Services	\$9,500	\$12,000	\$2,500.00
43162 · Bank Service Charges	\$2,500	\$1,500	-\$1,000.00
43170 · Research	\$17,500	\$17,500	\$0.00
43180 · Potable Water Contract	\$510,000	\$450,000	-\$60,000.00
43190 · Samples and Tests	\$40,000	\$40,000	\$0.00
43200 · Lake Patrol	\$4,000	\$4,000	\$0.00
43201 · Reservoir Management - Invasive Control Program	\$50,000	\$50,000	\$0.00
43210 · Software Support	\$40,000	\$40,000	\$0.00
43220 · VPDES Permit Fee	\$30,000	\$15,000	-\$15,000.00
43310 · Repair Services	\$25,000	\$25,000	\$0.00
43320 · Service Contracts	\$125,000	\$125,000	\$0.00
43500 · Printing and Binding	\$3,000	\$3,000	\$0.00
43600 · Grounds Maintenance	\$30,000	\$30,000	\$0.00
45000 · Other Charges	\$1,055,700	\$1,067,000	\$11,300
45110 · Electricity - Pumping	\$500,000	\$500,000	\$0.00
45111 · Electricity - Purification	\$275,000	\$275,000	\$0.00
45120 · Heating Fuel	\$65,000	\$50,000	-\$15,000.00
45130 · Trash Pickup	\$5,500	\$5,500	\$0.00
45210 · Postal Services	\$1,200	\$1,500	\$300.00
45220 · Freight	\$15,000	\$20,000	\$5,000.00
45230 · Telecommunications	\$35,000	\$35,000	\$0.00
45308 · General Liability Insurance	\$96,000	\$100,000	\$4,000.00
45410 · Lease/Rent of Equipment	\$20,000	\$25,000	\$5,000.00
45510 · Mileage Allowance			\$0.00
45530 · Meals and Lodging	\$5,000	\$5,000	\$0.00
45540 · Education and Training	\$20,000	\$25,000	\$5,000.00
45550 · Safety Supplies	\$18,000	\$25,000	\$7,000.00
46000 · Materials and Supplies	\$2,802,000	\$2,794,000	-\$8,000
46001 · Office Supplies	\$12,000	\$12,000	\$0.00
46004 · Laboratory Supplies	\$75,000	\$77,000	\$2,000.00
46005 · Purification Chemicals	\$2,300,000	\$2,300,000	\$0.00
46006 · Purification Process and Janitorial Supplies	\$25,000	\$15,000	-\$10,000.00
46007 · Repair & Maint Supplies-Shop	\$115,000	\$115,000	\$0.00
46008 · Vehicle and Equipment Fuels	\$25,000	\$25,000	\$0.00
46009 · Vehicle and Equipment Supplies	\$20,000	\$20,000	\$0.00
46010 · Equipment Parts and Small Equipment Purchases	\$55,000	\$55,000	\$0.00
46011 · Uniforms	\$10,000	\$15,000	\$5,000.00
46012 · Dues and Subscriptions	\$25,000	\$25,000	\$0.00
46014 · Repair & Maint Supplies-IT	\$125,000	\$125,000	\$0.00

46015 · Small Equipment Purchases	\$0	\$0	\$0.00
46016 · Operations Supplies and Maintenance	\$15,000	\$10,000	-\$5,000.00
Total Operating Expenses	\$7,505,900	\$7,500,600	(\$5,300)
58000 · Operating Capital Outlay	\$1,172,500	\$1,140,000	(\$32,500)
Debt - 2010 Issue (Refunded as 2019 series)	\$451,220	\$0	(\$451,220)
Debt - 2012 Issue	\$301,636	\$302,103	\$467
Debt - 2017 Issue	\$1,080,517	\$1,080,414	(\$103)
Debt - 2019 Issue (2010 Refunded)	\$257,283	\$705,940	\$448,657
Total Debt	\$2,090,656	\$2,088,457	(\$2,199)
Reserve Policy	\$0	\$0	\$0
Total Expenses	\$10,769,056	\$10,729,057	(\$39,999)

Revenues
Appomattox River Water Authority

FY Budget Year 2021/2022 Proposed Jan. 21, 2021 Adopted Revised
Revision Adopted

	<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	\$ 0.9833	\$ 0.9833	\$ 0.9833	\$ 0.9833	\$ 0.9833
Estimated (\$/quarter)	\$ 1,852,133	\$ 148,406.90	\$ 103,438	\$ 425,378	\$ 64,897	\$ 2,594,251.79
Total annual allocation	\$ 7,408,531	\$ 593,628	\$ 413,752	\$ 1,701,510	\$ 259,587	\$ 10,377,007
% of flows	71.394%	5.721%	3.987%	16.397%	2.502%	100.000%
Estimated (mgd)	20.642	1.654	1.153	4.741	0.723	28.913
Calc. annual usage (bg)	7.534	0.604	0.421	1.730	0.264	10.553
O&M =	\$ 7,500,600	Op. Cap. Outlay \$ 1,140,000	54.38% 2019 Debt (maintenance)	\$ 383,890		
Int./Misc. Income	\$ 30,000	100% 2012 Debt \$ 302,103	100% 2017 Debt \$ 1,080,414	Reserve Policy		\$0
BASE RATE	\$/1000gals	\$ 0.9833	\$ 0.9833	\$ 0.9833	\$ 0.9833	\$ 0.9833
2) Expansion Rate						
Bonds	% Financed					
Rate (cents/1000 gals)		\$ 0.0034	\$ 0.0307	\$ 0.4407	\$ -	\$ 0.3512
2019 expansion (\$/year)	45.62%	\$ 25,345	\$ 18,550	\$ 185,436	\$ -	\$ 92,718
% allocation	7.87%	5.76%	57.58%	0.00%	28.79%	100.00%
FY20/21 Bond Payments	2019 refunding =	\$ 705,940				
TOTAL DEBT SERVICE RATE	\$/1000 gals	\$ 0.0034	\$ 0.0307	\$ 0.4407	\$ -	\$ 0.3512
	\$/year	\$ 25,345	\$ 18,550	\$ 185,436	\$ -	\$ 92,718
						\$ 322,050
3) Total Rate						
TOTAL RATE (BASE + EXPANSION)	\$/1000gals	\$ 0.9867	1.0140	1.4240	0.9833	1.3345
Estimated annual charges	\$/year	\$ 7,433,876	\$ 612,178	\$ 599,188	\$ 1,701,510	\$ 352,305
						\$ 10,699,057
4) Budget Comparison (see note 1)						
FY21/22 Total Rate	\$/1000 gals	\$ 0.9867	\$ 1.0140	\$ 1.4240	\$ 0.9833	\$ 1.3345
FY 20/21 Total Rate	\$/1000 gals	\$ 0.9980	\$ 1.0254	\$ 1.4457	\$ 0.9946	\$ 1.3537
Total Rate Difference	\$/1000 gals	\$ (0.0114)	\$ (0.0113)	\$ (0.0217)	\$ (0.0113)	\$ (0.0191)
Total Rate Difference	%	-1.14%	-1.10%	-1.50%	-1.14%	-1.41%
FY21/22 Revenues	\$/year	\$ 7,433,876	\$ 612,178	\$ 599,188	\$ 1,701,510	\$ 352,305
FY20/21 Revenues	\$/year	\$ 7,475,361	\$ 621,504	\$ 596,473	\$ 1,750,449	\$ 350,869
Annual Cash Difference	\$/year	\$ (41,485)	\$ (9,326)	\$ 2,716	\$ (48,939)	\$ 1,436
Annual Revenue Difference	%	-0.55%	-1.50%	0.46%	-2.80%	0.41%
FY 21/22 Expenses	\$	10,729,057	FY 21/22 Income Revenue	\$	10,729,057	

NOTES:

Reserve Policy: Appomattox River Water Authority FY21/22
Reserve Policy Calculation

ARWA O&M Budget	Reserves as of 6/30/2020	Revenue for FY2020/2021	Total expected reserves on 6/30/2021	Recommended 50% O&M Reserves	Annual Charge to achieve 50% Reserves
\$7,500,600	\$3,784,839	\$15,600	\$3,800,439	\$3,750,300	\$0

APPOMATTOX RIVER WATER AUTHORITY
Operating Capital Outlay - 58000
FY21/22

Acct#	Current Budget 20/21	Proposed Budget 21/22	INFORMATIONAL & PLANNING									
			22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	
58010 - Machinery and Motors-Process	\$ 520,000	\$ 179,000	\$ 179,000	\$ 130,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
58020 - Instrumentation	\$ 40,000	\$ 281,000	\$ 90,000	\$ 100,000	\$ 90,000	\$ 45,000	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ -
58030 - SCADA	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,000
58040 - Computer Equipment	\$ 12,500	\$ -	\$ -	\$ -	\$ 12,000	\$ 13,500	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ 13,500
58050 - Furniture and Fixtures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
58060 - Motor Vehicles	\$ -	\$ -	\$ -	\$ 80,000	\$ 50,000	\$ 40,000	\$ 35,000	\$ -	\$ -	\$ -	\$ -	\$ 110,000
58065 - Maintenance Equipment	\$ -	\$ 40,000	\$ 65,000	\$ -	\$ -	\$ 45,000	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ -	\$ -
58090 - Construction	\$ 350,000	\$ 640,000	\$ 800,000	\$ 850,000	\$ 1,050,000	\$ 350,000	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ 75,000
TOTALS:	\$ 1,172,500	\$ 1,140,000	\$ 1,134,000	\$ 1,160,000	\$ 1,302,000	\$ 603,500	\$ 295,000	\$ 100,000	\$ 115,000	\$ 137,000	\$ 308,500	

NOTE: FY 21/22 OPERATING CAPITAL OUTLAY BUDGET TO BE APPROVED WITH BUDGET

Construction Fund (Capital Projects)
FY21/22

Project Cost Estimate	Budget	Proposed Budget	INFORMATIONAL & PLANNING									
			22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	
ITEM	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	
2012 Bond	\$ 301,636	\$ 302,103	\$ 302,322	\$ 302,293	\$ 302,016	\$ 302,475	\$ 301,671	\$ 301,604				
2017 Bond	\$ 1,080,516	\$ 1,080,414	\$ 1,080,795	\$ 1,080,648	\$ 1,079,973	\$ 1,080,744	\$ 1,080,936	\$ 1,080,550	\$ 1,080,572	\$ 1,079,991	\$ 1,080,781	
2019 Bond (2010 Rebonding)	\$ 708,503	\$ 705,940	\$ 704,760	\$ 703,011	\$ 705,495	\$ 706,888	\$ 712,224	\$ 701,702	\$ 705,204	\$ 702,762	\$ 699,439	
Rebuild Filters 1-8	\$ 5,500,000					\$ 404,633	\$ 404,633	\$ 404,633	\$ 404,633	\$ 404,633	\$ 404,633	
Lagoon Liners	\$ 8,000,000					\$ 588,558	\$ 588,558	\$ 588,558	\$ 588,558	\$ 588,558	\$ 588,558	
Clearwell #4												
Transmission Main - Chesdin Rd. to Pickett Rd												
Transmission Main - Pickett Ave. to Matoaca Tank												
Transmission Main - Matoaca Tank to Branders Bridge												
Transmission Main - Branders Bridge to Lakeview												
Totals	\$ 2,090,655	\$ 2,088,456	\$ 2,087,876	\$ 2,085,952	\$ 2,087,483	\$ 3,083,297	\$ 3,088,022	\$ 3,077,046	\$ 2,778,968	\$ 2,775,944	\$ 2,773,411	

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 Projects. Debt Service was estimated at 3% for 20 years

Total Operating Capital Outlay and Construction Budget											
20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	
\$ 3,263,155	\$ 3,228,456	\$ 3,221,876	\$ 3,245,952	\$ 3,389,483	\$ 3,686,797	\$ 3,383,022	\$ 3,177,046	\$ 2,893,968	\$ 2,912,944	\$ 3,081,911	

ARWA Budget comparisons

Year	O&M Expenses	Operating Capital Outlay	Debt Service 2010 issue	Debt Service 2012 issue	Debt Service 2017 issue	Debt Service 2019 issue	Debt Service 2026 issue	Reserve Policy	Total	Difference	% change	Comments
20/21	\$ 7,505,900.00	\$ 1,172,500.00	\$ 451,220.00	\$ 301,636.00	\$ 1,080,517.00	\$ 257,283.00		\$ -	\$ 10,769,056.00			
21/22	\$ 7,500,600.00	\$ 1,140,000.00		\$ 302,103.00	\$ 1,080,414.00	\$ 705,940.00		\$ -	\$ 10,729,057.00	\$ (39,999.00)	0%	
22/23	\$ 7,725,618.00	\$ 1,134,000.00		\$ 302,322.00	\$ 1,080,795.00	\$ 704,760.00		\$ 62,369.54	\$ 11,009,864.54	\$ 280,807.54	3%	Reserve Fund is 50% of O&M
23/24	\$ 7,957,386.54	\$ 1,160,000.00		\$ 302,293.00	\$ 1,080,648.00	\$ 703,011.00		\$ 115,884.27	\$ 11,319,222.81	\$ 309,358.27	3%	
24/25	\$ 8,196,108.14	\$ 1,302,000.00		\$ 302,016.00	\$ 1,079,973.00	\$ 705,495.00		\$ 119,360.80	\$ 11,704,952.93	\$ 385,730.12	3%	
25/26	\$ 8,441,991.38	\$ 603,500.00		\$ 302,475.00	\$ 1,080,744.00	\$ 706,888.00	\$ 993,191.06	\$ 122,941.62	\$ 12,251,731.06	\$ 546,778.13	5%	See notes (3) and (4)

Notes:

- (1) The 2010 issue was refinanced with the 2019 issue.
- (2) The debt service service shown in 2026 represents:
 - Rebuild filters \$ 404,633.00 replace filters 1-8, end of life - \$5.5M
 - Lagoon Liner \$ 588,558.00 regulatory driven by DEQ based on groundwater monitoring program - \$8.0M
- (3) The Branders Bridge Tank and PS was originally projected for the 2026 debt service estimate. The board has elected to remove this project from the bond issue at this time. The estimated project cost was \$5,000,000 with an estimated debt service of \$367,849. The estimated project cost was \$5,000,000 with an estimated debt service of \$367,849.
- (4) The PAC (Powder Activated Carbon) feed system was removed from the 2026 debt service estimate. Based on historic UCMR sampling results by our members, it does not appear this project is needed. The estimated project cost was \$2,500,000 with an estimated debt service of \$183,924.

ARWA Projected Annual Cost

5 year projections - O&M, Operating Capital Outlay, Reserve Policy, 54.38% 2019 Series, 2012

Series, and 2017 Series

	Chesterfield	Colonial Heights	Dinwiddie	Petersburg	Prince George	total
	71.394%	5.721%	3.987%	16.397%	2.502%	100.000%
FY 22/23	\$ 7,630,812	\$ 611,438	\$ 426,166	\$ 1,752,561	\$ 267,375	\$ 10,688,353
FY 23/24	\$ 7,852,244	\$ 629,181	\$ 438,533	\$ 1,803,417	\$ 275,134	\$ 10,998,509
FY 24/25	\$ 8,126,822	\$ 651,183	\$ 453,867	\$ 1,866,479	\$ 284,755	\$ 11,383,106
FY 25/26	\$ 8,516,734	\$ 682,425	\$ 475,643	\$ 1,956,030	\$ 298,417	\$ 11,929,249

Note: Budget % based on five year average flow consumption (FY15/16 to FY19/20)

5 year projections -2019 Series Debt Service (45.62%)

	Chesterfield	Colonial Heights	Dinwiddie	Petersburg	Prince George	total
Allocation	7.870%	5.760%	57.580%	0.000%	28.790%	100.000%
FY 22/23	\$ 25,303	\$ 18,519	\$ 185,126	\$ -	\$ 92,563	\$ 321,512
FY 23/24	\$ 25,240	\$ 18,473	\$ 184,667	\$ -	\$ 92,333	\$ 320,714
FY 24/25	\$ 25,329	\$ 18,538	\$ 185,319	\$ -	\$ 92,660	\$ 321,847
FY 25/26	\$ 25,379	\$ 18,575	\$ 185,685	\$ -	\$ 92,843	\$ 322,482

5 year projections - \$/year

	Chesterfield	Colonial Heights	Dinwiddie	Petersburg	Prince George	TOTAL
FY 22/23	\$ 7,656,115	\$ 629,958	\$ 611,292	\$ 1,752,561	\$ 359,938	\$ 11,009,865
FY 23/24	\$ 7,877,484	\$ 647,654	\$ 623,199	\$ 1,803,417	\$ 367,467	\$ 11,319,223
FY 24/25	\$ 8,152,151	\$ 669,721	\$ 639,187	\$ 1,866,479	\$ 377,415	\$ 11,704,953
FY 25/26	\$ 8,542,113	\$ 701,000	\$ 661,328	\$ 1,956,030	\$ 391,260	\$ 12,251,731

5 year projections - \$/1000 gallons

	Chesterfield	Colonial Heights	Dinwiddie	Petersburg	Prince George	Average
Annual consumptions (1000 gallons)						10,553,117
Five year a	71.394%	5.721%	3.987%	16.397%	2.502%	
FY 22/23	\$ 1.0162	\$ 1.0435	\$ 1.4528	\$ 1.0128	\$ 1.3634	\$ 1.1777
FY 23/24	\$ 1.0456	\$ 1.0728	\$ 1.4811	\$ 1.0422	\$ 1.3920	\$ 1.2067
FY 24/25	\$ 1.0820	\$ 1.1094	\$ 1.5191	\$ 1.0786	\$ 1.4296	\$ 1.2437
FY 25/26	\$ 1.1338	\$ 1.1612	\$ 1.5717	\$ 1.1304	\$ 1.4821	\$ 1.2958

See Note (1) below

Notes:

- (1) The FY25/26 figures include the proposed debt service for a 2026 Issuance. The projects for the issuance are still under consideration and the funding distribution has not been approved. These figures are subject to change.

Attachment #2

RESOLUTION
OF THE APPOMATTOX RIVER WATER AUTHORITY
APPROVING THE BUDGET FOR FISCAL YEAR 2022
AND SETTING THE RELATED WATER RATES

WHEREAS, in October, November and December of 2020 the staff of the Appomattox River Water Authority (the "Authority") developed the Authority's proposed budget and water rates for Fiscal Year 2022 and at the meeting held on January 21, 2021, presented the proposed budget and water rates to the Authority Board; and

WHEREAS, at the January 21, 2021 meeting the Authority Board provided its preliminary approval of the proposed budget and water rates for Fiscal Year 2022 and scheduled a public hearing to be held at its meeting held on March 18, 2021, in accordance with Virginia Code Section 15.2-5136(G); and

WHEREAS, the Authority Board held the public hearing on the proposed Fiscal Year 2022 budget and water rates at its meeting on March 18, 2021; and

WHEREAS, following the public hearing the Authority staff adjusted the proposed budget and water rates in response to comments received from representatives of the Authority's member jurisdictions;

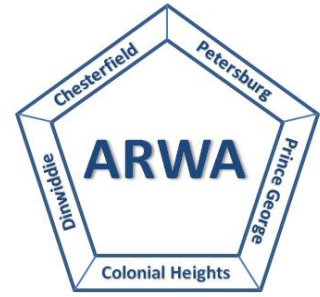
NOW, THEREFORE, BE IT RESOLVED that the Board of the Appomattox River Water Authority hereby approves (a) the Fiscal Year 2022 budget submitted as an attachment to this resolution and (b) the water rates for Fiscal Year 2022 as set forth below:

RATES (cents/1,000 gallons)

	<u>FY2022</u>
Chesterfield County	0.9867
City of Colonial Heights	1.0140
Dinwiddie County	1.4240
City of Petersburg	0.9833
Prince George County	1.3345

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 2022.

Appomattox River Water Authority



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

EXHIBIT D

TO: Appomattox River Water Authority Board of Directors

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

DATE: May 20, 2021

SUBJECT: Trust Agreement Summary and recommended management of excess revenues

Background:

At the January 21st meeting, one of the members advised we had a surplus in the Revenue Fund. We advised we would review our finances, the Trust Agreement and make a recommendation for this surplus at the March 18th meeting during the annual financial policy review. At the March 18th meeting we provided a review of the Trust Agreement and a recommendation for the surplus funds in the Revenue Fund. This surplus is a result of the Revenue Fund not being swept monthly. The presentation given at the March 18th meeting is included as Attachment #1. Since that presentation was the first time the Board was given a recommendation for distribution of the surplus funds, we did not request any action be taken. After the presentation, the Board requested we forward an electronic copy of the presentation from the meeting and copies of the Trust Agreement to members to distribute and review with their respective financial resources. That information was forwarded to members via email on March 19th.

We received comments from two members. In addition to sending the information to the members, it was also forwarded to our financial advisor, Davenport, and legal counsel for review and comment.

As we stated at the March 18th meeting, the Revenue Fund has not been “swept” monthly with surplus funds being returned to the Authority as outlined in the Trust Agreement. The surplus has been accumulating in the Revenue Fund. We reviewed prior budgets and financial reports back to FY14/15 to get an idea of the main factors contributing to this surplus. The main contributing factors to the surplus are:

- Under spending the Operating Capital Outlay (formally called the Replacement Fund Budget, detailed below) for the operating budget. For the last six years that underspending is approximately \$2.3 million.

- Not spending and/or initiating the budgeted funds towards the off-site reservoir, reservoir storage/management, and special studies. These funds were collected and not spent. The amount for the last six years is \$2.15 million.
- Members exceeding their five year running average, i.e., purchasing additional water beyond the total forecasted and additional revenue being collected by the Authority.

Our financial advisor, Mr. Ted Cole of Davenport, is attending the meeting and will provide additional input on how funds flow through the Authority funds, discuss our recommendations, and illustrate how ARWA compares financially to other wholesale authorities in the Commonwealth. Mr. Cole's presentation is included as Attachment #2.

We are recommending the surplus be used as follows:

- \$2,088,457 be put in the Bond Fund to pre-fund the Bond fund Principal and Interest Accounts.
- \$2,000,000 be added to the Replacement Fund to increase the total to \$2,500,000. We also requested the "Replacement Fund" be renamed the "Equipment Repair and Replacement Fund or ERRF" to be consistent with SCWWA.
- \$1,200,000 be used for the upcoming VWP permit renewal. This expense is included in Davenport's presentation.
- Increase the Operating Reserve from six months to twelve months over time.
- Annual review of surplus funds to either go to specific Board designated projects or a true-up.

Currently the only account controlled by the Authority is the Operating Fund. This is not an appropriate account to hold the surplus funds. Pursuant to the Bylaws, we are requesting the Board authorize staff to set up a separate Authority controlled account to deposit the surplus funds. This will provide a holding location for the funds. Then, at the July 22nd meeting, staff will come back to the Board with proposed updates to the financial policies, provide recommendations for distribution of the surplus (see above recommendations) and proposed amendments to the Trust Agreement and, if necessary, the Service Agreements. No funds will be moved from this newly created account for the surplus funds until after the July 22nd meeting and formal direction is provided by the Board.

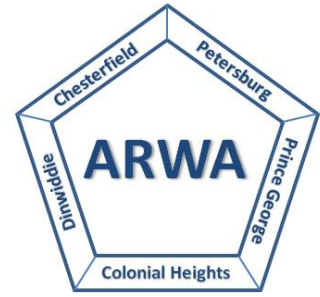
The Operating Reserve is currently held by the Trustee. Since the Operating Reserve is an internal financial policy for the Authority, we are recommending that another account be set up under Authority control for the Operating Reserve. Again, we are recommending a separate account for transparency and ease of tracking for the Board.

Board Action Requested:

Staff requests that the Board authorize the executive director to open two accounts; (1) for surplus funds from the Revenue Fund and (2) to transfer funds from the Trustee held Operating Reserve to the Authority held Operating Reserve. In addition, staff requests that the Board authorize staff to work with Davenport, legal counsel and the financial staffs of the member jurisdictions to prepare documents to implement staff's recommendation as outlined above for presentation at the July 22nd meeting for the Board's consideration.

Attachment #1

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 18, 2021

SUBJECT: Financial Policies Guidelines

As part of each budget cycle, we provide the current Financial Policies for review and discussion. Attachment 1 is the bucket diagram that illustrates how collected revenues are dispersed through the Authority's funds per the 1986 Agreement of Trust (Trust Agreement). This attachment also includes the Financial Policies to date and the definition of a Tier 1 and Tier 2 Reserve.

Prior to the beginning of the January 22nd meeting one of the members requested clarification on how the Authority manages excess revenue. The quick analysis that was performed showed an excess revenue in the Revenue Fund of approximately \$5.8 million. During the meeting I advised the Board of the questions raised and that we would go back through our Financial Policies and the Trust Agreement and make a recommendation at the March 18th meeting on how to manage these excess revenues.

When the budget is developed for the following fiscal year, staff determines the total costs for the year. Next staff reviews the consumption for each participating member for the previous five years to calculate a five year running average. This five year running average is used to calculate an estimated total consumption to calculate a weighted average to determine the member's portion of O&M expenses, replacement expenses, and debt service expenses for maintenance related improvements and break that cost down to a \$/1,000 gallon. The debt service for the 2019 issuance has a percentage, approximately 46%, that is assessed per member on other factors.

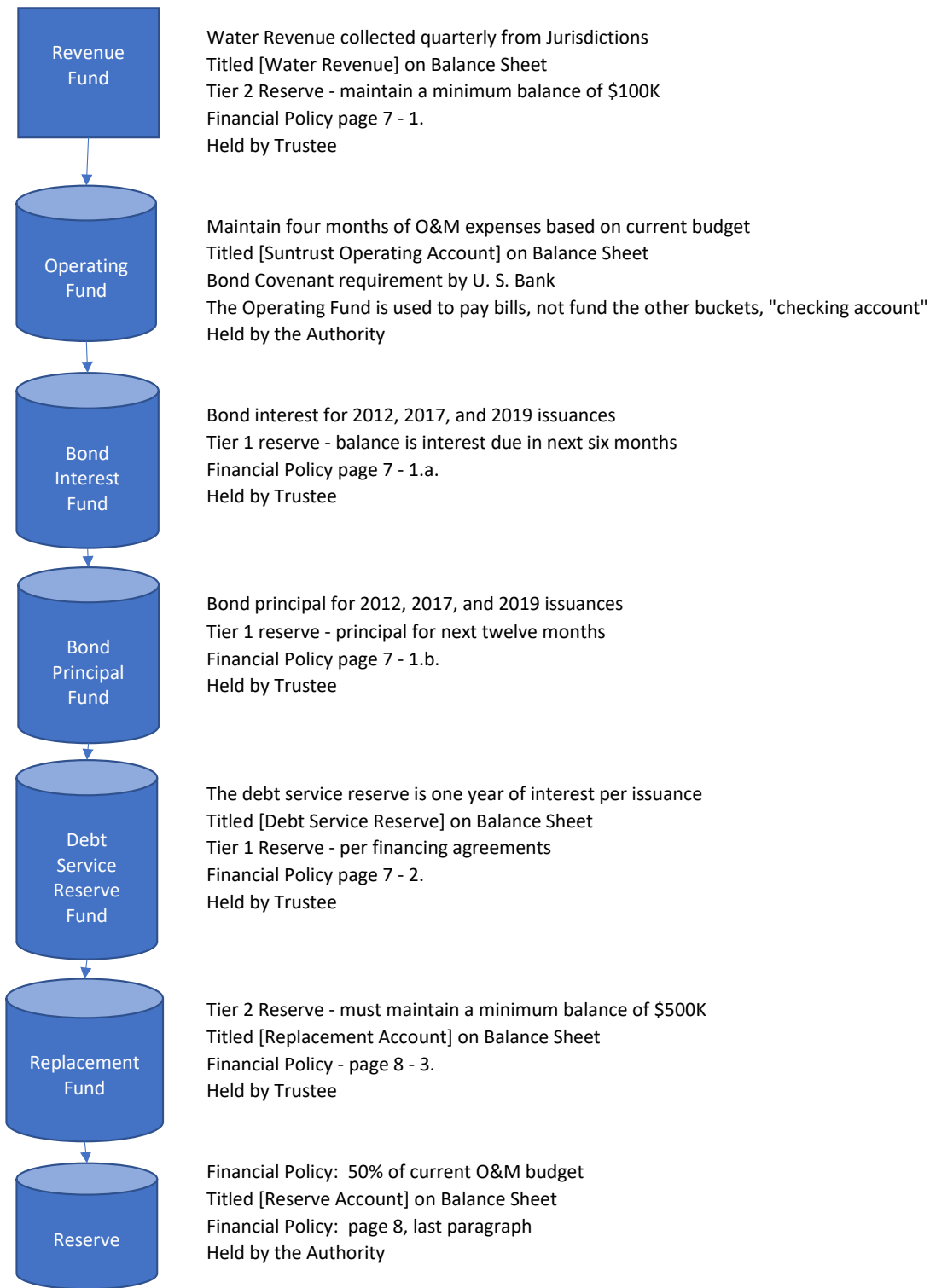
The Trust Agreement has provisions for the Trustee to make monthly transfers for excess funds in the Revenue Fund to the Authority more than \$100,000. This has not been taking place and is a challenge since the Authority is collecting revenue on a quarterly basis to pay bills for the following quarter. Since the January meeting, we have met with the Authority's financial consultant, Ted Cole with Davenport, and counsel. Attachment 2 is a summary of the Trust Agreement functionality and requirements and staff's recommendation for managing excess revenue in the Revenue Fund. Since this is the first time this information is being presented to the Board, we are not requesting action at this time. Furthermore, we

have not revised any of the existing Financial Policies pending review, discussion and direction by the Board. Our intent is to present our recommendation and allow members to review and discuss. We will be requesting further discussion and possible action at the May 20th meeting. Based on the results of the discussion and direction at the May 20th meeting we would make the necessary revisions, if any, to the Financial Policies and present to the Board for consideration.

Board Action Requested:

No board action is requested.

ARWA Fund Flows - Set up as a Trust



Financial Policy Guidelines

Appomattox River Water Authority

Adopted: May 21, 2015



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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.

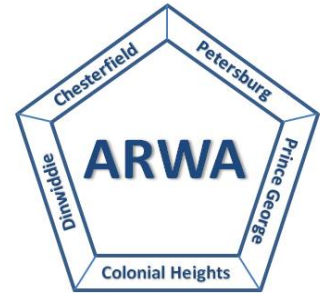
2. The Operating Fund, held by the Authority, is the Authority's daily cash account. This fund is required to be funded in an amount equal to the operating expenses for the next succeeding four months as provided in the annual budget and the aggregate amount, as certified by an authorized representative 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.

Appomattox River Water Authority



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

Attachment 2

TO: Appomattox River Water Authority Board of Directors

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

DATE: March 18, 2021

SUBJECT: Trust Agreement Summary and recommended management of excess revenues

The procedures for applying the revenues received by the Appomattox River Water Authority (ARWA) are found in two documents: (i) the 1986 Agreement of Trust (the Trust Agreement) between ARWA and US Bank, as Trustee, and (ii) ARWA's Financial Policy Guidelines adopted May 21, 2015 (the Financial Policies).

The ARWA Board entered into the Trust Agreement primarily to provide security for the holders of ARWA's bonds. The Trust Agreement constitutes a contract with the Trustee and the bondholders. Material amendments may require consent of all or a majority of the bondholders, depending on the type of the proposed amendment. Most non-material amendments do not require bondholder consent.

The Financial Policies cover a range of topics intended to promote the sound financial management of ARWA. The Financial Policies are not a contract with bondholders or anyone else, and the ARWA Board has full discretion to amend them at any time.

Current Trust Agreement.

The current Trust Agreement establishes five funds to be applied as described below:

- **Revenue Fund.** This is the fund where all revenue from billing the five participating jurisdictions is deposited initially. It is held by the Trustee. Participating jurisdictions are billed on a quarterly basis—9/30 (payment due 10/25), 12/31 (due 1/25), 3/31 (due 4/25), and 6/30 (due 7/25). The minimum balance in the Revenue Fund cannot go below \$100,000. Currently, on a quarterly basis, the Trustee makes deposits to the other four funds in the order listed below. ARWA (acting through the business manager) normally directs the Trustee through each step of the process.

- **Operating Fund.** This is the fund that ARWA uses to pay all the expenses for operating and maintenance. This fund is held by ARWA. On a quarterly basis the business manager advises the Trustee of the upcoming expenses for the next four months. The Trustee transfers funds from the Revenue Fund to the Operating Fund the amount necessary, less any money already on deposit, to fund any outstanding checks plus four months of operating and maintenance expenses, including budgeted rehabilitation costs, based on the current ARWA annual budget. ARWA then processes checks on the Operating Fund for payment of expenses. The reason for the four months amount of expenses is that participating jurisdictions are billed quarterly and have until the 25th of the following month to pay their invoice, which works out to four months.
- **Bond Fund.** This is the fund for the debt service and interest payments for the coming fiscal year. This fund is held by the Trustee. Once the Trustee has transferred sufficient money to ARWA to fully fund the Operating Fund, the Trustee then transfers money to the Interest Account of the Bond Fund to make the next six months of interest payments and to the Principal Account of the Bond Fund enough to make the next 12 months of principal payments. The Trust Agreement is designed to accommodate ideally fixed rate bonds that pay interest semiannually and principal once a year. And currently ARWA has three outstanding bonds (issued in 2012, 2017 and 2019) each of which bears interest at a fixed rate payable on each October 1 and April 1 and pays principal on each October 1. The Trustee applies the balances in the Interest Account and Principal Account to make the debt service payments on each bond when due.
- **Debt Service Reserve Fund.** The Debt Service Reserve Fund is held by the Trustee and is designed to maintain a minimum balance of one year of debt service on all of the outstanding bonds. If there is ever a deficiency in the Bond Fund to pay debt service on the bonds and the deficiency is not covered by amount in the Replacement Fund (as described below), the Trustee will apply the Debt Service Reserve Fund to the extent necessary to cover the deficiency. Each quarter after the Trustee makes the required transfers from the Revenue Fund to the Operating Fund and the Bond Fund, the Trustee will then transfer the amount, if any, necessary to restore the Debt Service Reserve Fund to its minimum balance.
- **Replacement Fund.** The Replacement Fund is held by the Trustee. After the Trustee makes the required transfers to the Operating Fund, Bond Fund and Debt Service Reserve Fund, it will then transfer from the Revenue Fund to the Replacement Fund the amount, if any, necessary to restore the balance in the Replacement Fund to \$500,000. The Replacement Fund is to be used in the following order of priority:
 - To pay Operating Expenses if the Operating Fund is insufficient.
 - To make transfers to the Bond Fund as needed to pay debt service.
 - To make transfers to the Debt Service Reserve Fund to restore its minimum balance.
 - To pay reasonable and necessary expenses with respect to the System for major repairs and replacements, System reconstruction or the construction of additions to, or extensions of, the System.

The Trust Agreement provides that any amount remaining in the Revenue Fund following the required transfers to the Operating Fund, Bond Fund, Debt Service Reserve Fund and Replacement Fund may be transferred to ARWA to be used for any of several listed purposes, including to pay the cost of System improvements or extensions and for any lawful purpose permitted by the [Virginia Water and Waste Authorities Act] and this [Trust Agreement]. ARWA has historically not instructed the Trustee to send it any of the excess money and as such the Revenue Fund has accumulated a balance of approximately \$6.5 million.

Proposed Amendments to the Trust Agreement.

The minimum balance for the Replacement Fund of \$500,000 was established thirty-five years ago. We are recommending that the Board increase the minimum balance for the Replacement Fund to \$2,500,000. The Replacement Fund minimum balance of \$2,500,000 would be consistent with the Equipment Repair and Replacement Fund (ERRF) for SCWWA. Furthermore, we are recommending that the “Replacement Fund” be renamed the “Equipment Repair and Replacement Fund.” We recommend that the Equipment Repair and Replacement Fund be viewed primarily as a reserve to address catastrophic events.

The Trust Agreement does not clearly address how to manage excess revenues. As described above, excess revenues are currently retained in the Revenue Fund. We are recommending that the Trust Agreement be modified to specify that once a year the Executive Director will direct the Trustee to transfer excess revenues out of the Revenue Fund. The excess revenues would be transferred within thirty days after acceptance and approval of the annual audit by the Board. The annual audit will be the formal process to identify the amount of excess revenues available for transfer to ARWA. The excess revenues will be deposited into two funds to be established pursuant to the Financial Policies (and outside of the Trust Agreement) as described below.

For FY22 and all future fiscal years, we are recommending that funds be transferred from the Revenue Fund to each fund so that each “bucket” is full July 1st. A table to illustrate the amounts required appears below:

Fund	Amount	Notes
Operating Fund		
1/4 FY21/22 Operating Expenses	\$1,875,150.00	operating \$7,500,600
1/4 FY21/22 Rehabilitation Fund	\$299,500.00	rehab portion of budget \$1,198,000
	\$2,174,650.00	
Bond Fund		
2012 Issuance	\$302,013.00	FY21/22 payment schedule
2017 Issuance	\$1,080,414.00	
2019 Issuance	\$705,940.00	
	\$2,088,367.00	
Equipment Repair and Replacement Fund		
	\$2,000,000.00	Current balance \$500K
Total July 1st transfers	\$6,263,017.00	FY21/22 transfer from Revenue Fund

These changes will require amendments to the Trust Agreement. Counsel has advised that the proposed changes will not require consent of the bondholders because they are either non-material or increase the security for the bondholders.

Current Financial Policies.

Described in the current Financial Policies are two tiers of reserves and funds. “Tier 1 Reserves” include funds established and held by the Trustee under the Trust Agreement and restricted for specific purposes. The Tier 1 Reserves include the Bond Fund, the Debt Service Reserve Fund and the various project construction funds funded with the proceeds of bonds issued under the Trust Agreement.

“Tier 2 Reserves” are those required or permitted by the Trust Agreement and are either held by ARWA or have purposes that are not narrowly restricted or have more flexible required minimum balances. Included as Tier 2 Reserves are the Revenue Fund, the Operating Fund and the Replacement Fund. ARWA has also included as a Tier 2 Reserve the operating reserve fund balance of 182.5 days operating cash on hand, which we reference in the ARWA budget as the “Reserve Policy” amount.

The current Financial Policies recommend that ARWA maintain a *combined* total of all Tier 2 Reserve funds equal to at least 50% of ARWA’s annual operating and maintenance budget. However, due primarily to the lack of clarity in the Trust Agreement as to the disposition of excess money in the Reserve Fund, ARWA has counted only the Reserve Policy amount towards the Tier 2 Reserve combined total, disregarding the balances carried in the Reserve Fund, Operating Reserve and the Replacement Fund.

Proposed Changes to the Financial Policies.

We recommend two changes to the Financial Policies.

The first proposed change would be to move the Revenue Fund, the Operating Fund and the Replacement Fund (proposed to be changed to the Equipment Repair and Replacement Fund) from Tier 2 to Tier 1 Reserve status. The Revenue Fund and the Replacement Fund are held by the Trustee and pledged to the bondholders and have limited permitted uses. With the proposed change to the Trust Agreement to require the executive director to clean out the excess in the Revenue Fund each year, large balances will not accumulate in the Revenue Fund. Although ARWA holds the Operating Fund, the permitted uses and balance in that fund are strictly regulated, which make it a better fit as a Tier 1 Reserve.

The second change is to create two Tier 2 Reserves, an Operating Reserve (existing) and a Rate Stabilization Fund, both to be held by ARWA. To reiterate, these would be created by policy and not by contract in the Trust Agreement, so they can be changed (and even eliminated) without any need for consent from the Trustee or the bondholders. The new reserves will not be pledged to the bondholders.

The Operating Reserve would be the place to maintain the minimum of 182.5 days operating cash on hand as recommended by the “Reserve Policy.” The first application of the excess revenues withdrawn each year from the Revenue Fund after the annual audit will be to restore or increase the balance in the Operating Reserve to the 182.5 days level. The amount necessary to maintain the minimum balance will be included in ARWA’s annual budget. For FY22, the Operating Reserve minimum balance will be

\$3,750,300.00, which we have on hand. Unlike the Operating Fund, the Operating Reserve only represents operating expenses and does not include rehabilitation projects identified in the budget.

The next application of excess revenues will be to fund the Operating Reserve up to 365 days of operating cash on hand. There will be no requirement to fund any amount over 182.5 days through the budget process, but ARWA will be allowed to accumulate the higher amount. Funding the operating Reserve to a level equal to 365 days of operating expenses will help to further insulate the Authority and its participating jurisdictions from any unexpected operational or financial disruptions and is in keeping with both best practices and accepted credit rating criteria for higher-rated utility credits. Further, this enhanced level of reserves will help the Authority to gain better access to the credit markets through certain State/Federal funding programs, bank financing or the public municipal bond market.

Any excess revenues left after the Operating Reserve is funded to the 365-day level will be deposited in the Rate Stabilization Fund. The Financial Policies will not recommend any minimum balance in the Rate Stabilization Fund. This fund will be a Board-designated fund and require Board approval for distribution. The Rate Stabilization Fund is not intended to be used to offset operating expenses, but rather to pay the costs of future large capital projects. Recommendations for use of the Rate Stabilization Fund will be suggested during each budget presentation with final approval being given the Board.

In their role as Financial Advisor to the Authority, Davenport has reviewed and discussed these amendments with Authority staff and counsel and is comfortable that these amendments will not weaken the Authority's financial or credit profiles. Further, they are of the opinion that these amendments will enhance the Authority's financial position and credit profile and that they will be well received by the credit and lending communities, thus enhancing the Authority's access to capital funding.

Conclusion.

These proposed changes to the Trust Agreement and Financial Policies will provide additional transparency for ARWA's finances as well as a process for investing excess revenue for future fiscal strength and capital project funding.

Attachment #2

Discussion Materials

Appomattox River Water Authority



May 20, 2021

Topics for Discussion

1 Cash Flow Analysis

2 Capital Improvement Plan

Appendix

A Credit Rating Overview & Peer Comparatives

B Select Virginia Wholesaler Credit Comparison

C Outstanding Debt Details

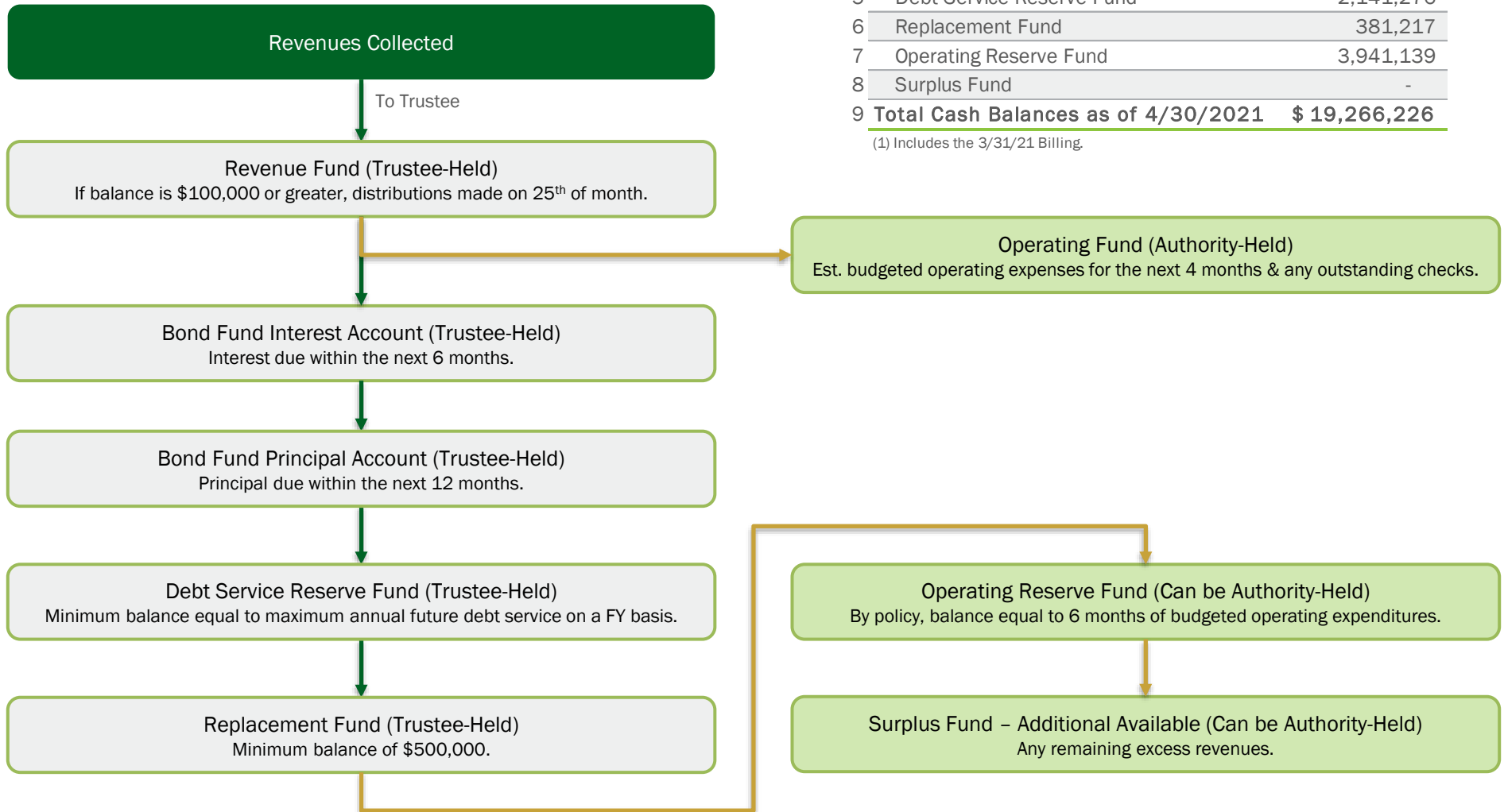
1. Cash Flow Analysis

Overview | Authority Flow of Funds

- Revenues are distributed in the order outlined below to fulfill the requirements set forth for each fund in the Indenture or Authority Policies.

Cash Balances as of 4/30/2021		Amount
1	Revenue Fund ⁽¹⁾	\$ 8,450,202
2	Operating Fund	3,587,092
3	Bond Fund Interest Account	98,155
4	Bond Fund Principal Account	667,146
5	Debt Service Reserve Fund	2,141,276
6	Replacement Fund	381,217
7	Operating Reserve Fund	3,941,139
8	Surplus Fund	-
9	Total Cash Balances as of 4/30/2021	\$ 19,266,226

(1) Includes the 3/31/21 Billing.



Overview | Monthly Cash Flow Analysis

- The Authority bills its Member Jurisdictions on a quarterly basis in arrears based on actual flows occurring in the prior quarter:

Quarter of Fiscal Year	First	Second	Third	Fourth
Meter Read/Invoice Date	September 30	December 31	March 31	June 30
Invoice Paid/Cash Received	October 25	January 25	April 25	July 25
Cash Available to ARWA	November	February	May	August

- The projections for FY 2022 and FY 2023 in this analysis are based on the FY 2022 Budgeted Expenditures (\$10,729,057) and flow (28.913 MGD) allocated by month based on 5-year historical averages.

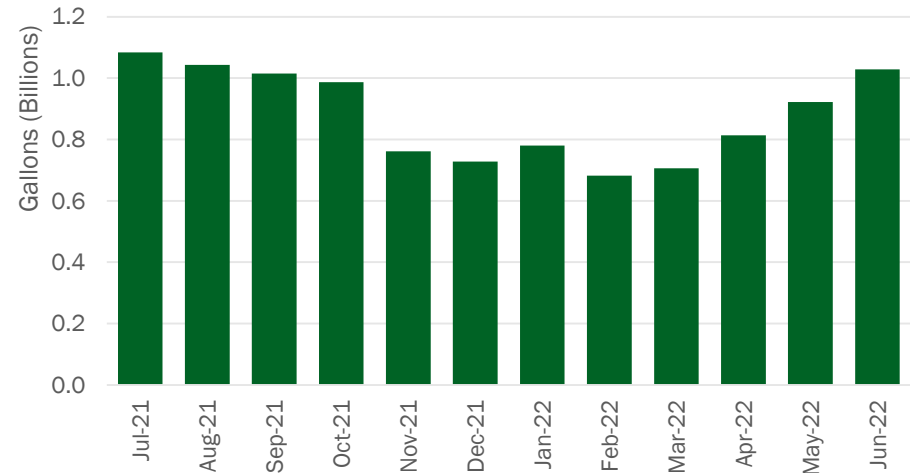
FY 2022 Budgeted Expenditures	Amount	%
1 Salaries/Benefits/Others	\$ 5,200,600	48%
2 Chemicals	2,300,000	21%
3 Debt Service	2,088,457	19%
4 Operating Capital Outlay	1,140,000	11%
5 Total FY 2022 Expenditures	\$ 10,729,057	100%

- The purchase of chemicals, which represents 21% of the Authority’s expenditures, are required to be purchased throughout the year with higher expenditures in months with higher flows.
 - As a result, the FY 2022 budgeted chemical expenditures of \$2,300,000 are allocated by month based on 5-year historical averages.
- The Authority’s annual debt service payments, which represent approximately 19% of the Authority’s expenditures, are due to the Bond Trustee as follows:
 - Principal and Interest on September 25 (ahead of the October 1st payment); and
 - Interest only on March 25 (ahead of the April 1st payment).
- For the purposes of this analysis, the remaining expenditures (Salaries/Benefits/Other and Operating Capital Outlay) are assumed to be paid evenly throughout the fiscal year.

FY 2022 Projected Monthly Flows

- The table below reflects the average monthly percentage of flows by Member Jurisdiction from FY 2016 to FY 2020.
- Based on these monthly historical averages and the total annual flows included in the FY 2022 Budget for each Member Jurisdiction, estimates for the monthly flows for FY 2022 were calculated.

Total Estimated FY 2022 Flows



A Month	B Chesterfield		C Colonial Heights		D Dinwiddie		E Petersburg		F Prince George		G Total	
	Avg. % of Annual	Est. Monthly Flows (000)	Avg. % of Annual	Est. Monthly Flows (000)	Avg. % of Annual	Est. Monthly Flows (000)	Avg. % of Annual	Est. Monthly Flows (000)	Avg. % of Annual	Est. Monthly Flows (000)	Avg. % of Annual	Est. Monthly Flows (000)
Jul-21	10.8%	812,830	9.7%	58,301	9.7%	40,753	8.5%	147,521	9.4%	24,926	10.3%	1,084,331
Aug-21	10.3%	774,789	9.5%	57,194	9.4%	39,743	8.5%	147,375	9.1%	23,906	9.9%	1,043,008
Sep-21	10.0%	755,642	9.2%	55,311	8.8%	37,101	8.4%	144,837	8.6%	22,659	9.6%	1,015,550
Oct-21	9.7%	729,353	9.1%	54,880	8.4%	35,501	8.4%	144,802	8.5%	22,494	9.4%	987,030
Nov-21	7.0%	524,617	7.8%	47,127	7.5%	31,753	8.0%	138,491	7.4%	19,662	7.2%	761,650
Dec-21	6.5%	487,937	7.8%	46,904	7.4%	30,976	8.3%	142,786	7.5%	19,693	6.9%	728,297
Jan-22	6.9%	517,231	7.7%	46,400	8.0%	33,574	9.3%	161,474	8.0%	21,176	7.4%	779,856
Feb-22	6.0%	453,676	7.0%	42,528	7.2%	30,204	7.8%	135,639	7.4%	19,665	6.5%	681,713
Mar-22	6.2%	464,318	7.6%	45,886	8.0%	33,796	8.2%	141,290	7.9%	20,894	6.7%	706,185
Apr-22	7.6%	573,405	7.6%	46,077	7.7%	32,486	8.2%	141,393	7.8%	20,703	7.7%	814,064
May-22	8.9%	669,299	8.4%	50,583	8.3%	35,005	8.3%	143,544	9.1%	24,049	8.7%	922,480
Jun-22	10.2%	770,981	8.7%	52,534	9.5%	39,886	8.2%	141,255	9.2%	24,170	9.7%	1,028,826
Total (G)		7,534,079		603,726		420,778		1,730,408		263,998		10,552,989
Total (mgd)		20.642		1.654		1.153		4.741		0.723		28.913

Estimated Revenue & Operating Expense Cash Flows



- The table below reflects an estimate of the revenues and operating expenses for the Authority for the remainder of FY 2021 (estimated) and the FY 2022 Budget. FY 2023 figures shown assume no change from the FY 2022 Budget.

A Month Ending	B Est. % of Annual Flow	C Total Estimated Flow	D Monthly Revenue Earned	E Quarterly Memb. Jurisd. Payment Available ⁽²⁾	H Operating Expenses ⁽³⁾					J Next 4 Months
					F Chemicals	G Other	I Operating Capital Outlay		Total	
FY 2021⁽¹⁾										
4/30/2021	7.7%	891,460,000	913,339	-						3,008,320
5/31/2021	8.7%	1,081,430,451	1,105,136	2,716,011	200,974	433,825	97,708	732,508		3,025,544
6/30/2021	9.7%	1,212,416,375	1,216,981	-	224,037	433,825	97,708	755,570		3,013,725
FY 2022										
7/31/2021	10.3%	1,084,331,075	1,097,490	-	236,331	433,383	95,000	764,714		2,943,345
8/31/2021	9.9%	1,043,007,742	1,055,890	3,235,455	227,144	433,383	95,000	755,528		2,875,025
9/30/2021	9.6%	1,015,549,955	1,027,166	-	221,349	433,383	95,000	749,733		2,823,775
10/31/2021	9.4%	987,029,651	998,256	-	215,367	433,383	95,000	743,750		2,757,052
11/30/2021	7.2%	761,649,670	773,059	3,180,546	165,952	433,383	95,000	694,335		2,745,168
12/31/2021	6.9%	728,296,680	739,800	-	158,824	433,383	95,000	687,207		2,763,556
1/31/2022	7.4%	779,856,469	792,249	-	170,099	433,383	95,000	698,482		2,794,431
2/28/2022	6.5%	681,713,281	693,394	2,511,116	148,644	433,383	95,000	677,028		2,869,823
3/31/2022	6.7%	706,184,697	719,611	-	154,067	433,383	95,000	682,451		2,952,087
4/30/2022	7.7%	814,063,864	825,420	-	177,211	433,383	95,000	705,595		3,002,020
5/31/2022	8.7%	922,479,644	934,775	2,205,254	200,974	433,383	95,000	729,358		3,022,394
6/30/2022	9.7%	1,028,826,017	1,041,945	-	224,037	433,383	95,000	752,420		3,013,725
FY 2023										
7/31/2022	10.3%	1,084,331,075	1,097,490	-	236,331	433,383	95,000	764,714		2,943,345
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5/31/2023	8.7%	922,479,644	934,775	2,205,254	200,974	433,383	95,000	729,358		3,022,394
6/30/2023	9.7%	1,028,826,017	1,041,945	-	224,037	433,383	95,000	752,420		3,013,725

(1) The Total Flows for April 2021 are actual amounts. The Total Estimated Flows by month for May 2021 and June 2021 are calculated based on the Average Flows by month from FY 2016 to FY 2020 for each member and based on the to-date annual usage for FY 2021.

(2) Revenues are calculated on a member-by-member basis using the Estimated Flows, Base Rate, and Expansion Rates included in the FY 2021 & 2022 Budget. Members are billed quarterly on 9/30, 12/31, 3/31, and 6/30 with payment being received by the 25th of the subsequent month (10/25, 1/25, 4/25, and 7/25) and funds not made available until the following month (November, February, May, and August). The Authority will receive funds in August 2021 for revenues related to the final FY 2021 billing (6/30). For the purposes of this analysis. Excludes Hydro Revenues.

(3) FY 2021 Expenditures are based on the FY 2021 Adopted Budget. Expenditure cash flows related to Chemicals for FY 2021-23 are allocated based on the Average Flows for FY 2016 to FY 2020 for the entire system.

Minimum Cash Balances | FY 2022

- Per the Bond Indenture, the Authority is required to maintain minimum balances in its various funds, as outlined below for FY 2022.
 - In addition to the requirements in the Indenture, the Authority's financial policies recommend maintaining additional reserves.

Fund	Minimum Balance Requirement/Policy at July 1		
	FY22 Req. Bal.	Requirement	Included In
1 Revenue Fund	\$ -	No minimum requirement.	Indenture
2 Operating Fund	3,013,725	Next 4 Months of O&M (1/3 of Budget) ⁽¹⁾	Indenture
3 Bond Fund Interest Account	253,463	Interest Payments due in next 6 months ⁽²⁾	Indenture
4 Bond Fund Principal Account	1,601,000	Principal Payments due in next 12 months ⁽²⁾	Indenture
5 Debt Service Reserve Fund	2,094,831	Maximum Annual Future Debt Service	Indenture
6 Replacement Fund	500,000	Minimum of \$500,000	Indenture
7 Operating Reserve Fund	3,750,300	6 Months of O&M (1/2 of Budget) ⁽³⁾	Financial Policies
8 Total	\$ 11,213,319		

(1) Includes the next 4 months of the estimated Chemicals, Other Operating, and Operating Capital Outlay Expenses (Columns F, G, & H on p. 6).

(2) As quarterly revenues are made available to the Authority, the Trustee deposits 1/2 of the next upcoming debt service payment into the Bond Fund.

By July 1, the Trustee will have deposited 1/2 of the October 1st debt service payment in the Bond Fund when funds became available in May.

(3) Includes 1/2 of the total budgeted Chemicals & Other Operating (Columns F & G on p. 6). Does not include Operating Capital Outlay.

- The Authority is legally required to maintain the balances set forth in the Indenture, but draws may be made from the relevant accounts if reserves on hand are insufficient to cash flow.

- Based on the preceding Cash Flow Analysis for May 2021 through June 2022 and assuming all revenues and expenditures are recognized as budgeted and flows materialize as projected:
 - Additional reserves of \$6.1 Million are estimated to be available over and above the required Indenture and Policy minimum levels as of 6/30/2021.

- The Authority is required to deposit all Revenue received into the Revenue Fund at the Trustee. On the 25th of every month, the Trustee should disburse balances in the Revenue Fund, provided there is at least a \$100,000 balance, as follows:
 - First to the Operating Fund to bring the balance equal to the next four months of budgeted operating expenses (excluding debt service).
 - The Authority shall pay operating expenses from the Operating Fund as the same become due and in accordance with the purposes and amounts provided in the Annual Budget (see Section 606 and Definitions of Indenture).
 - Next to the Bond Fund Interest Account to bring the balance equal to the next semi-annual interest payment due.
 - Next to the Bond Fund Principal Account to bring the balance equal to the next annual interest payment due.
 - Next to the Debt Service Reserve Fund to maintain a minimum balance equal to the Authority’s maximum annual debt service. Balances can only be drawn below the minimum required to make a debt service payment.
 - Next to the Replacement Fund to maintain a minimum balance of \$500,000. Permitted uses of these funds include replenishing the Operating Fund, Bond Fund, and Debt Service Reserve Fund to required minimum balances and major capital projects (with Authority direction), in that order.
 - The remainder would be returned to the Authority for any lawful purpose, which could be applied as follows:
 - First to the Operating Reserve Fund to maintain the Policy level of 6 months of Operating and Maintenance Expenses (1/2 of the annual budget).
 - Then to any additional reserves set forth by the Board or for redistribution to the Member Jurisdictions.

Observations (Cont.)

- Given the reserve requirements stated on the prior page, the Authority may consider what additional reserves, if any, should be established going forward.
 - Based on our analysis, there are approximately \$6.1 Million of additional reserves available that could be used to fund additional reserves or be redistributed to Member Jurisdictions.

- Staff Recommendations for these additional reserves available include:
 1. Board authorizes the establishment of Authority-held bank accounts for the Operating Reserve Fund and Surplus Fund.
 2. Pre-fund the Bond Fund Principal and Interest Accounts on July 1 (For FY 2022, this will be done under the rules of the Indenture).
 3. Increase the Replacement Fund minimum balance from \$500,000 to \$2.5 Million.
 4. Maintain the Operating Reserve minimum policy balance equal to 6 months of Operating & Maintenance Expenses (excluding Debt Service and Operating Capital Outlay) and provide for the funding of up to an additional 6 months of Operating & Maintenance Expenses from available surplus funds.
 5. Pre-fund/fund Board-designated projects from remaining available surplus funds.
 6. Make an annual True-Up payment to Member Jurisdictions from remaining available surplus funds.

2. Capital Improvement Plan

Capital Improvement Plan | FY 2022 - 2031



- The Authority's current 10-Year Capital Improvement Plan (CIP) is summarized below.

FY 2022-31 Proposed CIP	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Operating Capital Outlay											
1 Machinery & Motors - Process	\$ 179,000	\$ 179,000	\$ 130,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 1,188,000
2 Instrumentation	281,000	90,000	100,000	90,000	45,000	25,000	-	-	25,000	-	656,000
3 SCADA	-	-	-	-	10,000	-	-	-	-	10,000	20,000
4 Computer Equipment	-	-	-	12,000	13,500	-	-	-	12,000	13,500	51,000
5 Furniture & Fixtures	-	-	-	-	-	-	-	-	-	-	TBD
6 Motor Vehicles	-	-	80,000	50,000	40,000	35,000	-	-	-	110,000	315,000
7 Maintenance Equipment	40,000	65,000	-	-	45,000	35,000	-	15,000	-	-	200,000
8 Construction	640,000	800,000	850,000	1,050,000	350,000	100,000	-	-	-	75,000	3,865,000
9 Total Oper. Capital Outlay	\$ 1,140,000	\$ 1,134,000	\$ 1,160,000	\$ 1,302,000	\$ 603,500	\$ 295,000	\$ 100,000	\$ 115,000	\$ 137,000	\$ 308,500	\$ 6,295,000
Construction Fund											
10 Rebuild Filters 1-8	\$ -	\$ -	\$ -	\$ -	\$ 5,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,500,000
11 Lagoon Liners	-	-	-	-	8,000,000	-	-	-	-	-	8,000,000
12 Clearwell #4	-	-	-	-	-	-	-	-	-	-	TBD
13 Pickett Rd	-	-	-	-	-	-	-	-	-	-	TBD
14 Matoaca Tank	-	-	-	-	-	-	-	-	-	-	TBD
15 Branders Bridge	-	-	-	-	-	-	-	-	-	-	TBD
16 To Lakeview	-	-	-	-	-	-	-	-	-	-	TBD
17 Total Construction Fund	\$ -	\$ -	\$ -	\$ -	\$ 13,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,500,000
18 Total 10-Year CIP	\$ 1,140,000	\$ 1,134,000	\$ 1,160,000	\$ 1,302,000	\$ 14,103,500	\$ 295,000	\$ 100,000	\$ 115,000	\$ 137,000	\$ 308,500	\$ 19,795,000
19 Cumulative Projects	\$ 1,140,000	\$ 2,274,000	\$ 3,434,000	\$ 4,736,000	\$ 18,839,500	\$ 19,134,500	\$ 19,234,500	\$ 19,349,500	\$ 19,486,500	\$ 19,795,000	

Potential Funding Options

- Pay-Go Capital

- Contributions from Member Jurisdictions

- Federal Programs – USDA/WIFIA/Other

- Debt Funding
 - Virginia Resources Authority (“VRA”)/State Revolving Loans (administered by VRA)
 - *May require Member Jurisdiction Support Agreements.*
 - Public Sale of Revenue Bonds
 - May require at least one bond rating.
 - Direct Bank Loan Revenue Bond
 - Funding subject to bank credit review.

- **System size and assessment base**
 - Larger systems can achieve economies of scale
 - Smaller systems may have trouble raising revenues to meet large fixed costs
- **Economy and customer base**
 - Diverse customer base protects against loss of large customers
 - Growing economy / population increase can stress a system's ability to meet capital and operating needs
 - Wealth and income levels provide insight into the economic resources of the service area
- **Governance / Legal Provisions**
 - An independent Board often counters politicization of a utility
 - Trust Agreements set minimum operating / financial standards for issuers in a contract with bond holders
 - Rate Covenant
 - Additional Bonds Test
 - Debt Service Reserve Fund
- **Management**
 - Adaptability to regulatory changes and financial constraints
 - Sound staffing practices
 - Established track record of financial management and regulatory compliance
 - Financial Policy Guidelines
- **Strategic Focus**
 - Multi-year Capital Improvement Plan (“CIP”) which includes current and projected capital needs for asset maintenance and expansion of user base
 - Identified funding sources for CIP with a balanced mix of debt and pay-go financing
- **Rates, rate structure, and rate-making flexibility**
 - Ability and willingness to set/raise rates to a sufficient level to meet all obligations and maintain reserves for emergencies
 - Debt Service Coverage
 - Liquidity
 - Reasonableness and affordability of rate levels can affect asset maintenance and expansion of user base
- **Liquidity**
 - Systems with large, completed, and compliant capital improvement programs can afford narrower margins
 - Adequate excess revenues (i.e. strong debt service coverage ratio) enable systems to cash-fund more capital needs
- **System Capacity**
 - Ability of current system capacity to support existing customers and future growth
 - Near-term and long-term system improvements required to meet state or federal mandates
- **Financial Policies**
 - Financial Policies provide comfort for the Rating Agencies and investors that the Authority's Debt and Reserves are managed in a responsible manner

Appendix

A. Rating Overview and Peer Comparatives

Current Bond Ratings

Current Bond Ratings

- The Authority is not currently rated by the National Rating Agencies.
- Rated entities must periodically update the Rating Agencies on a wide variety of topics relevant to financial performance and prospects. This takes place at the time of each new debt issuance or roughly every 12-24 months under each rating agency’s surveillance program.
 - This rating process may result in the affirmation of the Authority’s existing ratings, an upgrade, or a downgrade. In some cases, the rating itself may not change, but the Rating Agency may assign an Outlook descriptor of Stable, Positive, or Negative.
- Maintaining and/or enhancing a credit rating is critical to capital markets access and obtaining the lowest cost of funds.

Rating Scale

Moody's Investors Service	Standard & Poor's	Fitch Ratings
Aaa	AAA	AAA
Aa1	AA+	AA+
Aa2	AA	AA
Aa3	AA-	AA-
A1	A+	A+
A2	A	A
A3	A-	A-
Baa1	BBB+	BBB+
Baa2	BBB	BBB
Baa3	BBB-	BBB-

Rating Agency Methodology Updates

Moody's

- Under Moody's methodology, an initial indicative rating is calculated from a weighted average of four key factors:

US Municipal Utility Revenue Debt Rating Methodology	
1. System Characteristics	30%
Asset Condition (Remaining Useful Life)	10.0%
Service Area Wealth (Median Family Income)	12.5%
System Size (O&M)	7.5%
2. Financial Strength	40%
Annual Debt Service Coverage	15%
Days Cash on Hand	15%
Debt to Operating Revenues	10%
3. Management	20%
Rate Management	10%
Regulatory Compliance and Capital Planning	10%
4. Legal Provisions	10%
Rate Covenant	5%
Debt Service Reserve Requirement	5%

- Up to a one-notch adjustment can be made from the indicative rating based on other qualitative factors.

S&P

- Under S&P's methodology, an initial indicative rating is calculated from a weighted average of two key factors, with 4 subfactors:

US Public Finance Waterworks, Sanitary Sewer, and Drainage Utility Systems Methodology	
Enterprise Risk Profile Assessment	100%
Economic Fundamentals	45%
Industry Risk	20%
Market Position	25%
Operational Management Assessment	10%
Financial Risk Profile Assessment	100%
All-In Coverage	40%
Liquidity and Reserves	40%
Debt and Liabilities	10%
Financial Management Assessment	10%

- Up to a one-notch adjustment can be made from the indicative rating based on other qualitative factors.

Virginia Peer Group Overview

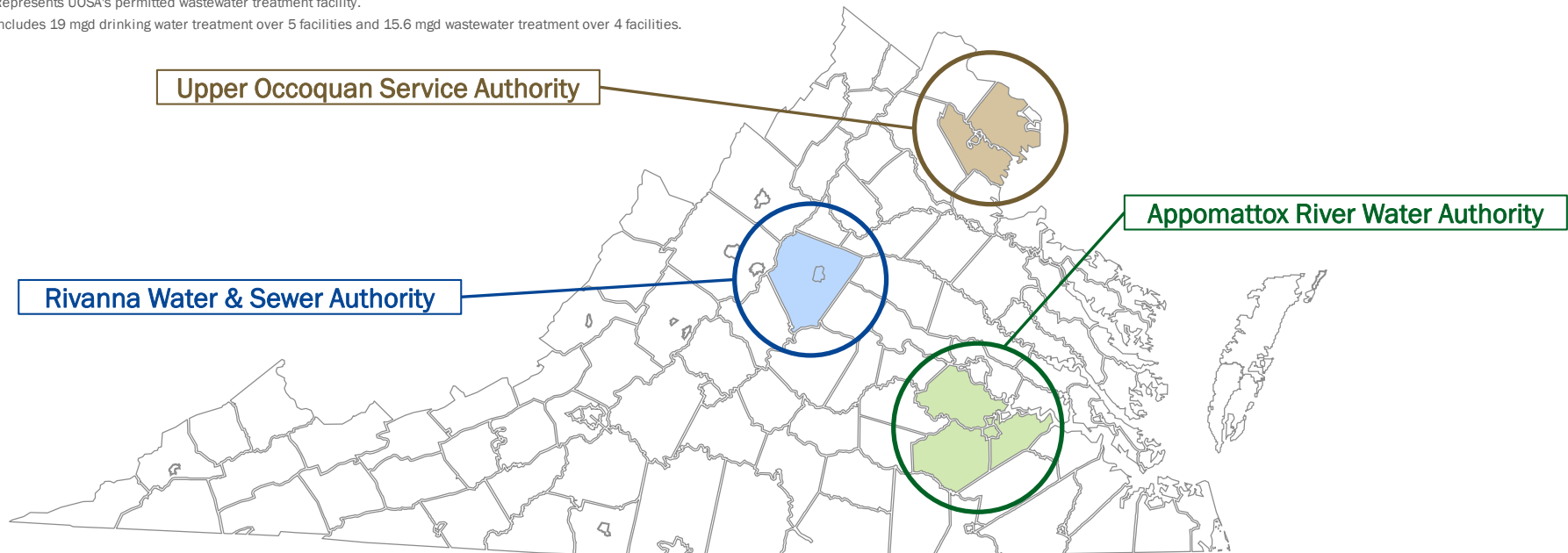
	Ratings:	Revenue			General Obligation			FY 2020 Utility	Facility
		Moody's	S&P	Fitch	Moody's	S&P	Fitch	Debt Outstanding	Capacity
Wholesaler: Appomattox River Water Authority (ARWA)		NR	NR	NR	N/A	N/A	N/A	\$21,381,000	96 mgd ⁽²⁾
Members:									
Chesterfield		Aaa	NR	AAA	Aaa	AAA	AAA	34,105,000	
Colonial Heights		NR	NR	NR	Aa2	AA+	AA+	3,934,998	
Dinwiddie ⁽¹⁾		NR	NR	NR	Aa3	AA	NR	4,679,000	
Petersburg		NR	NR	NR	NR	BBB+	NR	11,483,107	
Prince George		NR	NR	NR	Aa2	AA+	NR	1,515,000	
Wholesaler: Upper Occoquan Service Authority (UOSA)		Aa1	AAA	AAA	N/A	N/A	N/A	\$484,813,205	54 mgd ⁽³⁾
Members:									
Fairfax County		Aaa	NR	AAA	Aaa	AAA	AAA	564,330,000	
Manassas		NR	NR	NR	Aa1	AAA	NR	45,193,933	
Manassas Park		NR	NR	NR	A1	AA-	NR	10,227,377	
Prince William County Service Authority		Aaa	AAA	NR	N/A	N/A	N/A	106,769,819	
Wholesaler: Rivanna Water & Sewer Authority		Aa2	AA+	NR	N/A	N/A	N/A	\$184,320,942	35 mgd ⁽⁴⁾
Members:									
Albemarle County Service Authority		NR	NR	NR	N/A	N/A	N/A	6,472,000	
Charlottesville		NR	NR	NR	Aaa	AAA	NR	41,021,039	

(1) Utility-related debt for Dinwiddie reflects the outstanding debt for Dinwiddie County Water Authority, for which the County is party to a Support Agreement.

(2) The 96 mgd reflected above represents the capacity of the drinking water treatment facility. The maximum Chesdin withdrawal is 86 mgd.

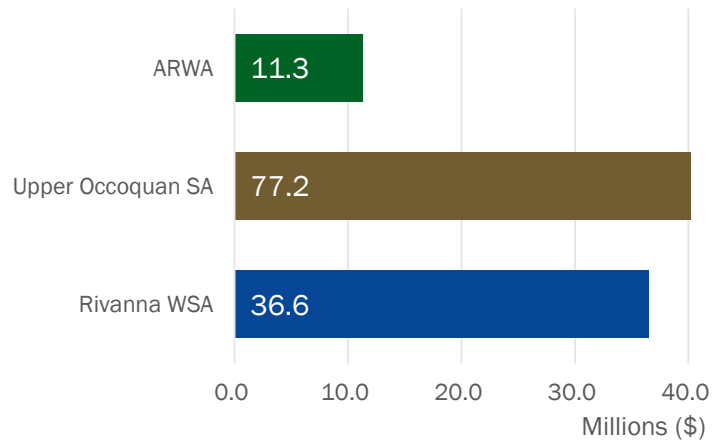
(3) Represents UOSA's permitted wastewater treatment facility.

(4) Includes 19 mgd drinking water treatment over 5 facilities and 15.6 mgd wastewater treatment over 4 facilities.

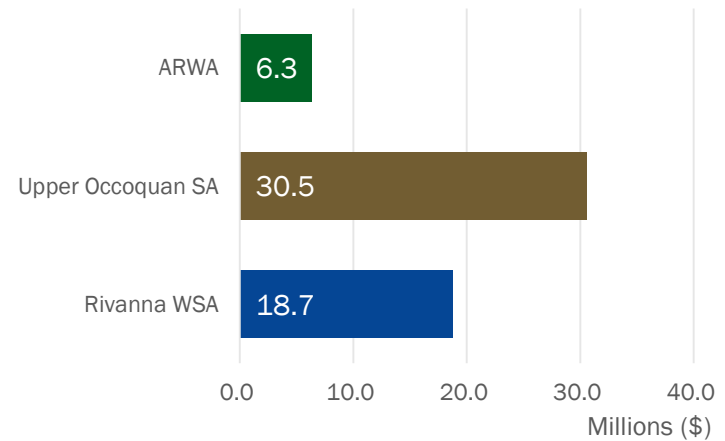


Gross Revenues & Operating Expenditures

Gross Revenues



Operating & Maintenance Expenditures



■ Moody’s Commentary: “Larger systems tend to be more diverse and enjoy economies of scale. The size of a system implies the flexibility and resilience not only of its operations, but of its service base.”

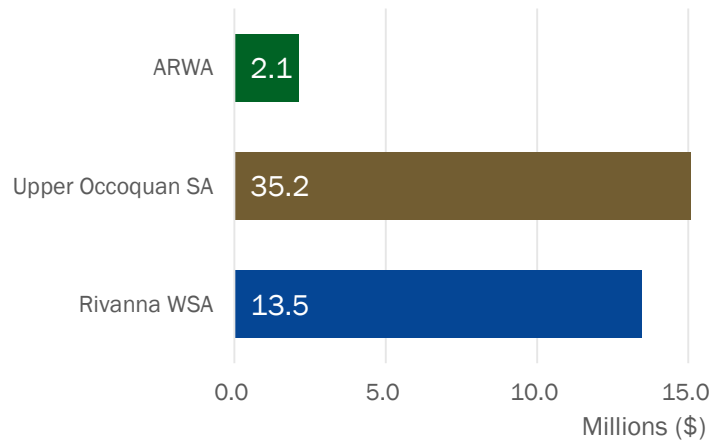
■ Rating Considerations: **Moody’s**

➤ O&M Expense counts as 7.5% of the scorecard

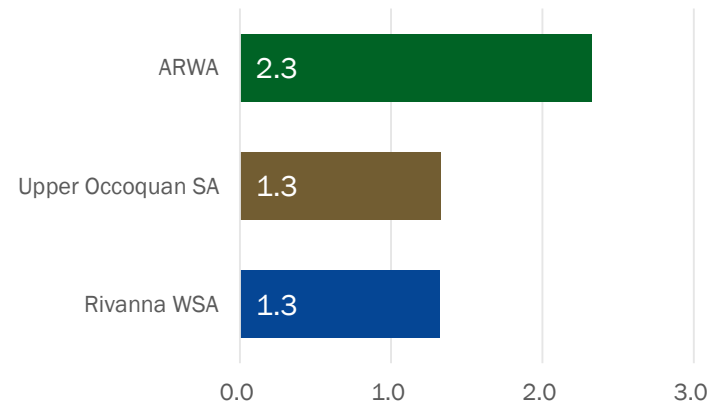
- Very Strong (Aaa): > \$65 Million
- Strong (Aa): \$65 – \$30 Million
- Moderate (A): \$30 – \$10 Million
- Weak (Baa): \$10 – \$3 Million
- Poor (Ba): \$3 – \$1 Million
- Very Poor (B and below): < \$1 Million

Debt Service Coverage Ratio

FY 2020 Debt Service



Debt Service Coverage



■ Rating Considerations: **Moody's**

➤ This metric counts as 15% of the scorecard

- Very Strong (Aaa): > 2.00x
- Strong (Aa): 2.00x – 1.70x
- Moderate (A): 1.70x – 1.25x
- Weak (Baa): 1.25x – 1.00x
- Poor (Ba): 1.00x – 0.70x
- Very Poor (B and below): < 0.70x

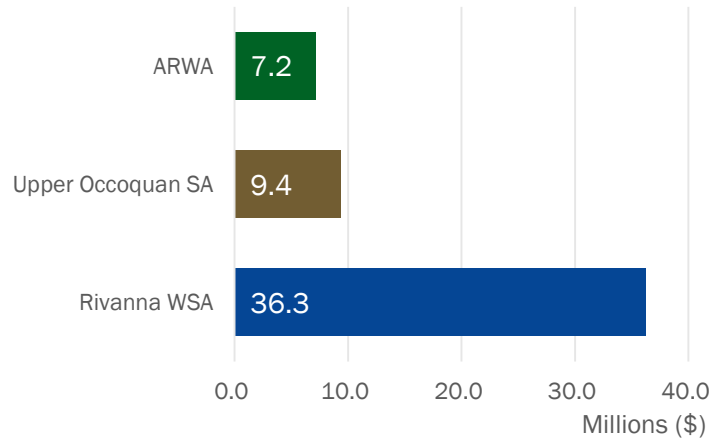
■ Rating Considerations: **S&P**

➤ This metric counts as 40% of the Financial Risk Profile Assessment

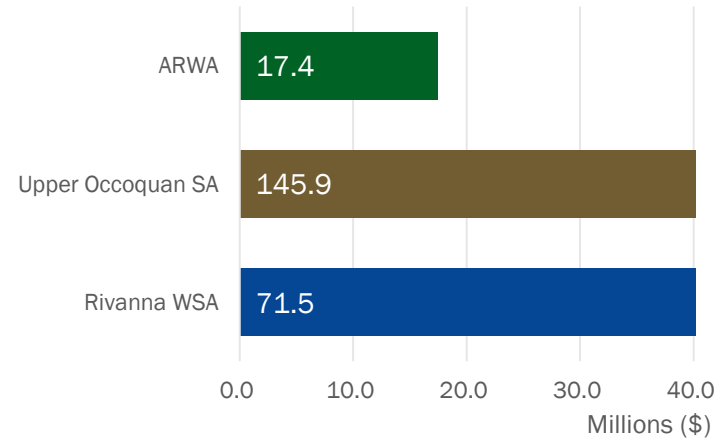
- Extremely Strong (AAA): > 1.60x
- Very Strong (AA+): 1.60x – 1.40x
- Strong (AA-): 1.40x – 1.20x
- Adequate (A): 1.20x – 1.10x
- Vulnerable (BBB): 1.10x – 1.00x
- Highly Vulnerable (BB): < 1.00x

Cash, Cash Equivalents, & Investments

Unrestricted Cash, Cash Equivalents, & Investments



Total Cash, Cash Equivalents, & Investments

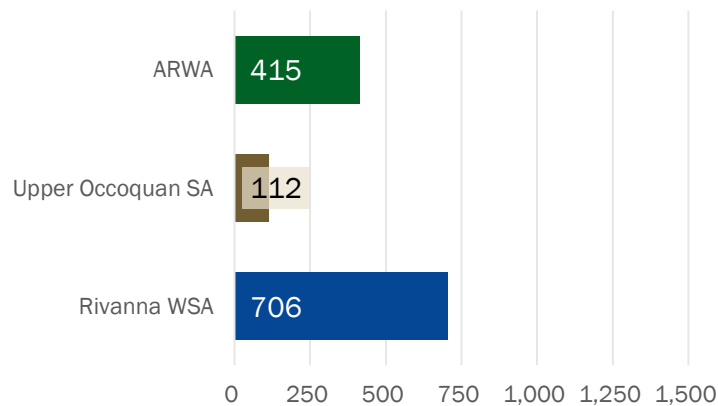


- Unrestricted Cash, Cash Equivalents, and Investments above is aligned with Moody’s definition for *Total Cash, Cash Equivalents, and Investments* and represents the entity’s total cash, investments, and equivalent highly liquid assets. Typically, this metric excludes restricted cash and investments.

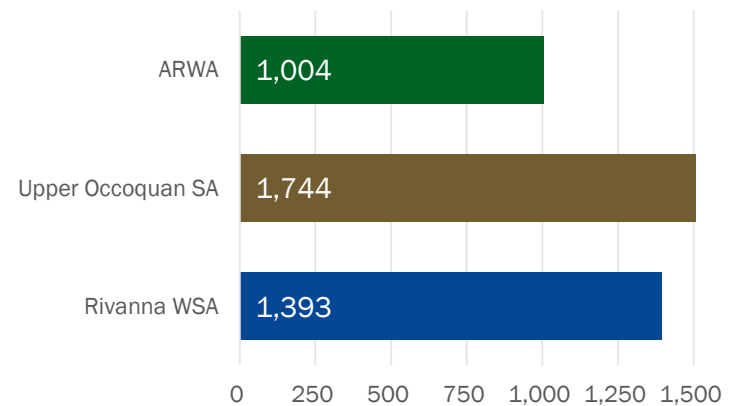
- For perspective, the chart above reflects the *Total Cash, Cash Equivalents, and Investments* tracked by Moody’s as well as the entity’s Restricted Cash & Investments.

Days Cash on Hand | Unrestricted & Total

Days Unrestricted Cash on Hand



Days Total Cash on Hand



■ Rating Considerations: **Moody's**

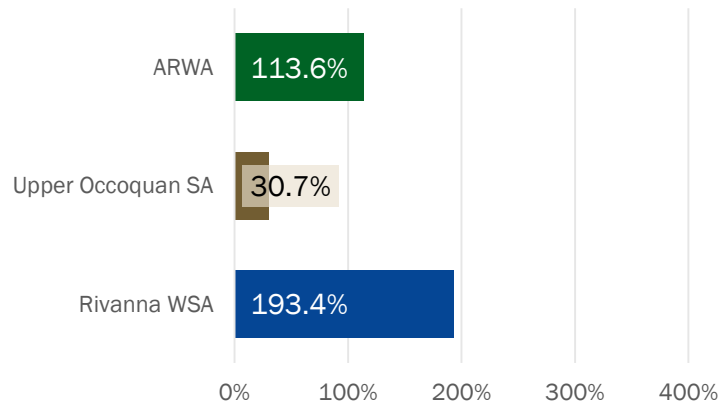
- This metric counts as 15% of the scorecard
 - Very Strong (Aaa): > 250 days
 - Strong (Aa): 250 – 150 days
 - Moderate (A): 150 – 35 days
 - Weak (Baa): 35 – 15 days
 - Poor (Ba): 15 – 7 days
 - Very Poor (B and below): < 7 days

■ Rating Considerations: **S&P**

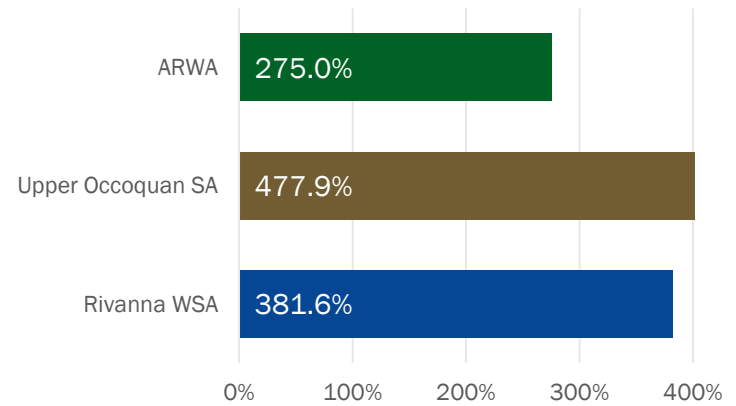
- This metric counts as one metric of the liquidity and reserves portion of the financial risk profile (40% of total).
 - Extremely Strong (AAA): > 150 days
 - Very Strong (AA+): 90 – 150 days
 - Strong (AA-): 60 – 90 days
 - Adequate (A): 30 – 60 days
 - Vulnerable (BBB): 15 – 30 days
 - Highly Vulnerable (BB): < 15 days

Cash & Investments as % of O&M | Unrestricted & Total

Unrestricted Cash & Investments as % of O&M



Total Cash & Investments as % of O&M



B. Select Virginia Wholesaler Credit Comparison

Peer Overview | Upper Occoquan Service Authority

Current Ratings: Aa1/AAA/AAA



- UOSA’s Service Agreement allows for charges to be invoiced to its Member Jurisdictions based on their purpose:
 - Charges for the cost of operation and maintenance of the system are determined by the proportion of annual flow allocable to each Member Jurisdiction;
 - Charges for the cost of replacements and necessary improvements to the system are determined by the total maximum capacity allocation, as determined by DEQ; and
 - Debt service is billed quarterly in advance by UOSA based on each Member Jurisdiction’s share of incremental plant and delivery costs being financed by a bond issue, as determined at the time of issuance.

- There are no formal policies in place that build upon the requirements of the Indenture.

- In addition to those included in the table to the right, UOSA also has a “Step-Up” Provision in its Indenture:
 - Should any of the Member Jurisdictions fail to pay its/their share of debt service, the indenture requires that the Debt Service Reserve Fund (DSRF) be used to make the payment.
 - In order to replenish the DSRF, UOSA would charge the remaining non-defaulting Member Jurisdictions based on their existing allocations.
 - For each year that the non-paying Member(s) continue in default, this cycle would continue.

Key Statistics (FY 2020)		
1	Gross Revenues	77,161,000
2	O&M (Net of Depreciation)	30,530,527
3	Debt Service	35,164,000
4	Debt Outstanding	484,813,205
5	5-Year CIP Total (FY22-26)	169,910,000
6		
7	Rate Covenant	
8	Indenture	1.0x
9	Policy	N/A
10		
11	Required Reserves	
12	Indenture	Operating Fund
13		Minimum of next 6 months of Operating
14		Expenses on deposit in Operating Fund
15		at the start of each calendar quarter.
16		Maintenance Fund
17		Maximum of \$2 Million or estimated
18		cost of replacements & necessary
19		improvements in annual budget.
20		Debt Service Reserve Fund
21		Balance equal to the maximum current
22		or future annual debt service.
23		
24	Policy	UOSA does not have any formal policies
25		in place in addition to the requirements
26		laid out in the Indenture.
27		
28		
29		
30		
31		

Source: Annual Financial Report, Indenture, Service Agreement, Policies.

Moody's Scorecard Results | UOSA

Current Moody's Rating: Aa1



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Scorecard - Moody's Numerical Score		Very Strong (Aaa)		Strong (Aa)		Moderate (A)		Weak (Baa)		Poor (Ba)		Very Poor (B & Below)		UOSA Value	Weight	Est. Score	Est. Weighted Score
		0.50	1.49	1.50	2.49	2.50	3.49	3.50	4.49	4.50	5.49	5.50	6.50				
1 System Characteristics (30%)																	
2	Asset Condition	Net fixed assets divided by annual depreciation	> 75 years	75 years >	> 25 years	25 years >	> 12 years	12 years >	> 9 years	9 years >	> 6 years	< 6 years		15.0	10.0%	3.27	0.33
3	Service Area Wealth	Median Family Income as a Percentage of the U.S.	> 150%	150% >	> 90%	90% >	> 75%	75% >	> 50%	50% >	> 40%	< 40%		187%	12.5%	0.75	0.09
4	System Size	Most recent year's operating and maintenance expenditures expressed in dollars	> \$65 Million	\$65M >	> \$30M	\$30M >	> \$10M	\$10M >	> \$3M	\$3M >	> \$1M	< \$1M		\$30,530,000	7.5%	2.48	0.19
5 Financial Strength (40%)																	
6	Annual Debt Service Coverage	Most recent year's net revenues divided by most recent year's debt service	> 2.00x	2.00x >	> 1.70x	1.70x >	> 1.25x	1.25x >	> 1.00x	1.00x >	> 0.70x	< 0.70x		1.33x	15.0%	3.32	0.50
7	Days Cash on Hand	Unrestricted cash and liquid investments divided by O&M expenses per day	> 250 Days	250 Days >	> 150 Days	150 Days >	> 35 Days	35 Days >	> 15 Days	15 Days >	7 > 7 Days	< 7 Days		112	15.0%	2.83	0.42
8	Debt to Operating Revenues	Net debt divided by most recent year's operating revenues	< 2.00x	2.00x <	< 4.00x	4.00x <	< 7.00x	7.00x <	< 8.00x	8.00x <	< 9.00x	> 9.00x		13.40	10.0%	6.50	0.65
9 Management (20%)																	
10	Rate Management	Excellent rate-setting record; no material political, practical, or regulatory limits on rate increases	Strong rate-setting record; little political, practical, or regulatory limits on rate increases	Average rate-setting record; some political, practical, or regulatory limits on rate increases	Adequate rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Below average rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Record of insufficiently adjusting rates; political, practical, or regulatory obstacles prevent implementation of necessary rate increases							Aaa	10.0%	1.00	0.10
11	Regulatory Compliance and Capital Planning	Fully compliant OR proactively addressing compliance issues; Maintains sophisticated and manageable Capital Improvement Plan that addresses more than a 10-year period	Actively addressing minor compliance issues; Maintains comprehensive and manageable 10-year Capital Improvement Plan	Moderate violations with adopted plan to address issues; Maintains manageable 5-year Capital Improvement Plan	Significant compliance violations with limited solutions adopted; Maintains single year Capital Improvement Plan	Not fully addressing compliance issues; Limited or weak capital planning	Not addressing compliance issues; No capital planning							Aaa	10.0%	1.00	0.10
12 Legal Provisions (10%)																	
13	Rate Covenant	Covenant governing net revenues divided by annual debt service, expressed as a multiple	> 1.30x	1.30x >	> 1.20x	1.20x >	> 1.10x	1.10x >	> 1.00x	< 1.00x				1.00x	5.0%	4.50	0.23
14	Debt Service Reserve Requirement	DSRF funded at MADS	DSRF funded at lesser of standard 3-prong test	DSRF funded at less than 3-prong test OR springing DSRF	No explicit DSRF; Or funded with speculative grade surety									Aa	5.0%	2.00	0.10
15 Above-the-line score														A1			2.71

■ Note: the scorecard reflected above is an unadjusted indicative rating. Final ratings can differ after accounting for qualitative strengths/weaknesses that are captured in below-the-line notching adjustments.

Moody's Rating Scorecard: Indicative Ratings		
HI	LO	Rating
0.50	1.49	Aaa
1.50	1.82	Aa1
1.83	2.16	Aa2
2.17	2.50	Aa3
2.50	2.83	A1

Peer Overview | Rivanna Water & Sewer Authority

Current Ratings: Aa2/AA+/NR



- RWSA charges its Member Jurisdictions for O&M Expenses as well as reserves for replacements and improvements based on the total amount of flow to/from those Member Jurisdictions at the predetermined rates established annually.
- RWSA charges its Member Jurisdictions a fixed monthly charge equal to 1/12 of its annual debt service payment.
- RWSA maintains policies related to the Operating Budget, Capital Improvement Budget, Debt, and Reserves that supplement the requirements included in the Indenture.

Key Statistics (FY 2020)

1	Gross Revenues	36,556,524
2	O&M (Net of Depreciation)	18,744,758
3	Debt Service	13,459,000
4	Debt Outstanding	184,320,942
5	5-Year CIP Total (FY22-26)	169,653,330

Rate Covenant

8	Indenture	1.0x
9	Policy	1.5x

Required Reserves

12	Indenture	Operating Fund
13		Recommended (not required) to have a
14		min. balance of 20% of annual budget.
15		Improvement Fund
16		Balance no less than \$500,000.
17		Bond Fund
18		Req. monthly deposits of 1/12 of next
19		principal & 1/6 of next interest.
20		Debt Service Reserve Fund
21		Balance equal to the maximum current
22		or future annual debt service, if
23		required.
24	Policy	Operating Fund
25		Targeted 60 days of total annual budget.
26		Additional Reserve Funds
27		Discret., Rate Stab., Watershed/Water
28		Quality, & Vehicle Repl. Reserves.
29		Recommended Levels
30		Combined Operating & Reserve Funds
31		of 150% of O&M (548 days cash).

Source: Annual Financial Report, Indenture, Service Agreement, Policies.

Moody's Scorecard Results | Rivanna

Current Moody's Rating: Aa2



		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Scorecard - Moody's Numerical Score		Very Strong (Aaa)		Strong (Aa)		Moderate (A)		Weak (Baa)		Poor (Ba)		Very Poor (B & Below)		Rivanna WSA Value	Weight	Est. Score	Est. Weighted Score		
		0.50	1.49	1.50	2.49	2.50	3.49	3.50	4.49	4.50	5.49	5.50	6.50						
1 System Characteristics (30%)																			
2	Asset Condition	Net fixed assets divided by annual depreciation	> 75 years	75 years >	> 25 years	25 years >	> 12 years	12 years >	> 9 years	9 years >	> 6 years	< 6 years		38.0	10.0%	2.24	0.22		
3	Service Area Wealth	Median Family Income as a Percentage of the U.S.	> 150%	150% >	> 90%	90% >	> 75%	75% >	> 50%	50% >	> 40%	< 40%		131%	12.5%	1.83	0.23		
4	System Size	Most recent year's operating and maintenance expenditures expressed in dollars	> \$65 Million	\$65M >	> \$30M	\$30M >	> \$10M	\$10M >	> \$3M	\$3M >	> \$1M	< \$1M		\$18,744,000	7.5%	3.06	0.23		
5 Financial Strength (40%)																			
6	Annual Debt Service Coverage	Most recent year's net revenues divided by most recent year's debt service	> 2.00x	2.00x >	> 1.70x	1.70x >	> 1.25x	1.25x >	> 1.00x	1.00x >	> 0.70x	< 0.70x		1.32x	15.0%	3.34	0.50		
7	Days Cash on Hand	Unrestricted cash and liquid investments divided by O&M expenses per day	> 250 Days	250 Days >	> 150 Days	150 Days >	> 35 Days	35 Days >	> 15 Days	15 Days >	7 > 7 Days	< 7 Days		706	15.0%	0.59	0.09		
8	Debt to Operating Revenues	Net debt divided by most recent year's operating revenues	< 2.00x	2.00x <	< 4.00x	4.00x <	< 7.00x	7.00x <	< 8.00x	8.00x <	< 9.00x	> 9.00x		5.26	10.0%	2.92	0.29		
9 Management (20%)																			
10	Rate Management	Excellent rate-setting record; no material political, practical, or regulatory limits on rate increases	Strong rate-setting record; little political, practical, or regulatory limits on rate increases	Average rate-setting record; some political, practical, or regulatory limits on rate increases	Adequate rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Below average rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Record of insufficiently adjusting rates; political, practical, or regulatory obstacles prevent implementation of necessary rate increases							Aa	10.0%	2.00	0.20		
11	Regulatory Compliance and Capital Planning	Fully compliant OR proactively addressing compliance issues; Maintains sophisticated and manageable Capital Improvement Plan that addresses more than a 10-year period	Actively addressing minor compliance issues; Maintains comprehensive and manageable 10-year Capital Improvement Plan	Moderate violations with adopted plan to address issues; Maintains manageable 5-year Capital Improvement Plan	Significant compliance violations with limited solutions adopted; Maintains single year Capital Improvement Plan	Not fully addressing compliance issues; Limited or weak capital planning	Not addressing compliance issues; No capital planning							A	10.0%	3.00	0.30		
12 Legal Provisions (10%)																			
13	Rate Covenant	Covenant governing net revenues divided by annual debt service, expressed as a multiple	> 1.30x	1.30x >	> 1.20x	1.20x >	> 1.10x	1.10x >	> 1.00x		< 1.00x			1.00x	5.0%	4.50	0.23		
14	Debt Service Reserve Requirement	DSRF funded at MADS	DSRF funded at lesser of standard 3-prong test	DSRF funded at less than 3-prong test OR springing DSRF	No explicit DSRF; Or funded with speculative grade surety									A	5.0%	3.00	0.15		
15 Above-the-line score														Aa3			2.44		

■ Note: the scorecard reflected above is an unadjusted indicative rating. Final ratings can differ after accounting for qualitative strengths/weaknesses that are captured in below-the-line notching adjustments.

Moody's Rating Scorecard: Indicative Ratings		
HI	LO	Rating
0.50	1.49	Aaa
1.50	1.82	Aa1
1.83	2.16	Aa2
2.17	2.50	Aa3
2.50	2.83	A1

Overview | Appomattox River Water Authority

Current Ratings: Not Rated



- The Authority charges its Member Jurisdictions for O&M Expenses, reserves for replacements and improvements, and debt service based on the total amount of water delivered to those Member Jurisdictions at the predetermined rates established annually.
 - The invoice for the final quarter includes an adjustment to the Expansion Rate such that the total amount collected for the fiscal year equals the total amount of debt service related to expansion.

- ARWA maintains policies related to the Operating Budget, Capital Improvement Budget, Debt, and Reserves that supplement the requirements included in the Indenture.

Key Statistics (FY 2020)

1	Gross Revenues	11,297,440
2	O&M (Net of Depreciation)	6,328,484
3	Debt Service	2,141,174
4	Debt Outstanding	21,381,000
5	5-Year CIP Total (FY22-26)	24,169,500

Rate Covenant

8	Indenture	1.0x
9	Policy	1.5x

Required Reserves

12	Indenture	Operating Fund
13		Next 4 months of O&M + all outstanding checks.
14		
15		Bond Fund
16		Balance equal to interest due in next 6 months & principal due in next 12 months.
17		
18		Debt Service Reserve Fund
19		Balance equal to the maximum current or future annual debt service.
20		
21		Replacement Fund
22		Minimum balance of \$500,000.
23		
24	Policy	Recommended Levels
25		Combined Revenue, Operating, Replacement, & Reserve Funds equal to 50% of O&M (182.5 days cash).
26		
27		
28		
29		
30		
31		

Source: Annual Financial Report, Indenture, Service Agreement, Policies.

Estimated Moody's Scorecard Results | ARWA

Current Moody's Rating: Not Rated



		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Scorecard - Moody's Numerical Score		Very Strong (Aaa)		Strong (Aa)		Moderate (A)		Weak (Baa)		Poor (Ba)		Very Poor (B & Below)		ARWA Value	Weight	Est. Score	Est. Weighted Score		
		0.50	1.49	1.50	2.49	2.50	3.49	3.50	4.49	4.50	5.49	5.50	6.50						
1 System Characteristics (30%)																			
2	Asset Condition	Net fixed assets divided by annual depreciation	> 75 years	75 years >	> 25 years	25 years >	> 12 years	12 years >	> 9 years	9 years >	> 6 years	< 6 years		20.5	10.0%	2.84	0.28		
3	Service Area Wealth	Median Family Income as a Percentage of the U.S.	> 150%	150% >	> 90%	90% >	> 75%	75% >	> 50%	50% >	> 40%	< 40%		126% ⁽¹⁾	12.5%	1.90	0.24		
4	System Size	Most recent year's operating and maintenance expenditures expressed in dollars	> \$65 Million	\$65M >	> \$30M	\$30M >	> \$10M	\$10M >	> \$3M	\$3M >	> \$1M	< \$1M		\$6,328,484	7.5%	4.02	0.30		
5 Financial Strength (40%)																			
6	Annual Debt Service Coverage	Most recent year's net revenues divided by most recent year's debt service	> 2.00x	2.00x >	> 1.70x	1.70x >	> 1.25x	1.25x >	> 1.00x	1.00x >	> 0.70x	< 0.70x		2.32x	15.0%	1.18	0.18		
7	Days Cash on Hand	Unrestricted cash and liquid investments divided by O&M expenses per day	> 250 Days	250 Days >	> 150 Days	150 Days >	> 35 Days	35 Days >	> 15 Days	15 Days >	7> 7 Days	< 7 Days		415	15.0%	1.17	0.18		
8	Debt to Operating Revenues	Net debt divided by most recent year's operating revenues	< 2.00x	2.00x <	< 4.00x	4.00x <	< 7.00x	7.00x <	< 8.00x	8.00x <	< 9.00x	> 9.00x		1.89	10.0%	1.45	0.14		
9 Management (20%)																			
10	Rate Management	Excellent rate-setting record; no material political, practical, or regulatory limits on rate increases	Strong rate-setting record; little political, practical, or regulatory limits on rate increases	Average rate-setting record; some political, practical, or regulatory limits on rate increases	Adequate rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Below average rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Record of insufficiently adjusting rates; political, practical, or regulatory obstacles prevent implementation of necessary rate increases							Aa	10.0%	2.00	0.20		
11	Regulatory Compliance and Capital Planning	Fully compliant OR proactively addressing compliance issues; Maintains sophisticated and manageable Capital Improvement Plan that addresses more than a 10-year period	Actively addressing minor compliance issues; Maintains comprehensive and manageable 10-year Capital Improvement Plan	Moderate violations with adopted plan to address issues; Maintains manageable 5-year Capital Improvement Plan	Significant compliance violations with limited solutions adopted; Maintains single year Capital Improvement Plan	Not fully addressing compliance issues; Limited or weak capital planning	Not addressing compliance issues; No capital planning							Aa	10.0%	2.00	0.20		
12 Legal Provisions (10%)																			
13	Rate Covenant	Covenant governing net revenues divided by annual debt service, expressed as a multiple	> 1.30x	1.30x >	> 1.20x	1.20x >	> 1.10x	1.10x >	> 1.00x		< 1.00x			1.00x	5.0%	4.50	0.23		
14	Debt Service Reserve Requirement	DSRF funded at MADS	DSRF funded at lesser of standard 3-prong test	DSRF funded at less than 3-prong test OR springing DSRF	No explicit DSRF; Or funded with speculative grade surety									Aaa	5.0%	1.00	0.05		
15 Preliminary/Estimated Above-the-line score																Aa2		2.00	

(1) Estimated based on the Service Area Wealth provided for Chesterfield Water & Sewer Enterprise System. The actual value for Service Area Wealth would be determined based upon the value for the largest/dominant member as well as a combined average approach.

■ Note: the scorecard reflected above is an unadjusted indicative rating. Final ratings can differ after accounting for qualitative strengths/weaknesses that are captured in below-the-line notching adjustments.

HI	LO	Rating
0.50	1.49	Aaa
1.50	1.82	Aa1
1.83	2.16	Aa2
2.17	2.50	Aa3
2.50	2.83	A1

C. Outstanding Debt Details

Debt Outstanding | Total

Total Debt Outstanding

FY	Principal	Interest	Total
2021	\$ 1,558,000	\$ 532,655	\$ 2,090,655
2022	1,601,000	487,456	2,088,456
2023	1,640,000	447,876	2,087,876
2024	1,679,000	406,952	2,085,952
2025	1,723,000	364,483	2,087,483
2026	1,770,000	320,106	2,090,106
2027	1,821,000	273,831	2,094,831
2028	1,858,000	225,855	2,083,855
2029	1,605,000	180,777	1,785,777
2030	1,644,000	138,753	1,782,753
2031	1,685,000	95,220	1,780,220
2032	1,730,000	49,950	1,779,950
2033	1,067,000	13,423	1,080,423
Totals	\$ 21,381,000	\$ 3,537,337	\$ 24,918,337

Debt Outstanding | By Series



\$3,623,000

Water Revenue Bond, Series 2012 (Carter Bank & Trust)

FY	Coupon	Principal	Interest	Total
Totals		\$ 2,140,000	\$ 276,117	\$ 2,416,117
2021	3.100%	239,000	62,636	301,636
2022	3.100%	247,000	55,103	302,103
2023	3.100%	255,000	47,322	302,322
2024	3.100%	263,000	39,293	302,293
2025	3.100%	271,000	31,016	302,016
2026	3.100%	280,000	22,475	302,475
2027	3.100%	288,000	13,671	301,671
2028	3.100%	297,000	4,604	301,604
2029				
2030				
2031				
2032				
2033				

Dated Date: 5/30/2012 Next Call: Whole/Part, Any Time, No Penalty
 Purpose: Repair & Maintenance Project Insurance: None
 Coupon Dates: 4/1, 10/1 Maturity Date: 10/1/2027
 Source: Closing Memo

\$13,500,000

Water Revenue Bond, Series 2017 (U.S. Bank)

FY	Coupon	Principal	Interest	Total
Totals		\$ 11,981,000	\$ 2,065,271	\$ 14,046,271
2021	2.516%	789,000	291,516	1,080,516
2022	2.516%	809,000	271,414	1,080,414
2023	2.516%	830,000	250,795	1,080,795
2024	2.516%	851,000	229,648	1,080,648
2025	2.516%	872,000	207,973	1,079,973
2026	2.516%	895,000	185,744	1,080,744
2027	2.516%	918,000	162,936	1,080,936
2028	2.516%	941,000	139,550	1,080,550
2029	2.516%	965,000	115,572	1,080,572
2030	2.516%	989,000	90,991	1,079,991
2031	2.516%	1,015,000	65,781	1,080,781
2032	2.516%	1,040,000	39,929	1,079,929
2033	2.516%	1,067,000	13,423	1,080,423

Dated Date: 12/21/2017 Next Call: Any Payment Date
 Purpose: New Money Insurance: None
 Coupon Dates: 4/1, 10/1 Maturity Date: 10/1/2032
 Source: Closing Memo, Ninth Supplemental Agreement of Trust

\$6,820,000

Taxable Water Revenue Refunding Bond, Series 2019 (VRA)

FY	Coupon	Principal	Interest	Total
Totals		\$ 6,820,000	\$ 1,184,729	\$ 8,004,729
2021	1.953%	90,000	167,283	257,283
2022	2.005%	545,000	160,940	705,940
2023	2.060%	555,000	149,760	704,760
2024	2.136%	565,000	138,011	703,011
2025	2.236%	580,000	125,495	705,495
2026	2.395%	595,000	111,888	706,888
2027	2.452%	615,000	97,224	712,224
2028	2.575%	620,000	81,702	701,702
2029	2.661%	640,000	65,204	705,204
2030	2.726%	655,000	47,762	702,762
2031	2.805%	670,000	29,439	699,439
2032	2.905%	690,000	10,021	700,021
2033				

Dated Date: 11/20/2019 Next Call: 11/1/2029
 Purpose: Refunding of 2010 VRA Bonds Insurance: None
 Coupon Dates: 4/1, 10/1 Maturity Date: 10/1/2031
 Source: Closing Memo

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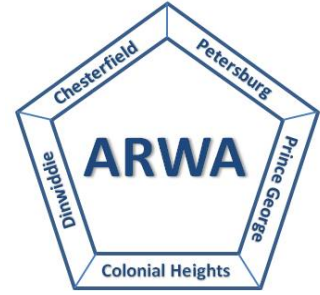
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Appomattox River Water Authority



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

EXHIBIT E

TO: Appomattox River Authority Board of Directors

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

DATE: May 20, 2021

SUBJECT: Ongoing Projects\Operations

Operating Status Report

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

➤ General

- The next scheduled Board of Directors Meeting is Thursday, July 22, 2021 at the Appomattox River Water Authority at 2:00 pm.
- The executive director is scheduled for vacation from May 24th to June 4th. The assistant executive director is scheduled to be in the office during that timeframe.
- The website, www.arwava.org, has been updated and placed on a new platform.
- Joined the VMDWA (Virginia Municipal Drinking Water Association) and recommended members consider doing the same.
- One of the maintenance mechanics retired on April 30th. We are currently going through the process to replace that position.
- One of shift operators has accepted a position at Prince George County. We are starting the process to fill this position. It will be staffed by a floater until the position is filled.

➤ Operations

- Finished water met all permit requirements for March and April.
- Drained and washed basins and flocculators.
- On site inspection by Randy Morrissette of VDH. Mr. Morrissette advised he is retiring this summer.
- The average daily finished water consumption for March was 29.61 mgd and the total delivered was 0.918 BG. The average daily finished water consumption for April was 29.50 mgd and the total delivered was 0.885 BG. The maximum VWP permit criteria is:
 - Daily maximum withdrawal is 86.24 mgd.

- Monthly maximum withdrawal is 2.289 billion gallons.
- Maximum annual withdrawal is 17.934 billion gallons (49.1 mgd average)
- The March 1st lake level was +13.08” and the April 30th lake level was +1.0”.
- Reviewing and suggesting edits to safety policies.
- DEQ inspection for VWP (Virginia Water Protection) permit for dam. The inspector’s main concern was how the fish ladder worked. The fish ladder was installed by Krueger as part of the FERC (Federal Energy Regulatory Commission) permit.

➤ Maintenance

- Purchase order issued to repair and update fire alarm systems in all buildings.
- Developing plan for repairing doors and adding cipher locks for improved plant security.
- Ammonia building roof repairs completed.
- Replaced shaft in flocculator #2. This is a temporary repair. Brought in a contractor to laser evaluate flocculator #2 and develop a scope and quote for realigning and repair.
- Working on repair for flocculator #4. Similar to flocculator #2 there is an alignment issue that caused the shaft to fail (shear).
- Vibration baseline testing for all raw water and finished water pumps.
- Thermal imaging completed on all major switch gear.
- Finished Water Pump Station #2, Pump #17, motor sent out for repair.
- While working at the Lakeview meter vault a person stole the red truck and drove to the City of Petersburg. The maintenance mechanic at the vault called the business manager when the person stole the truck. The maintenance manager was able to track the truck via GPS and have the City of Petersburg police intercept the truck. The truck was returned the same day without any damage.

➤ Instrumentation

- Working with SCADA vendor on pilot project for new SCADA host system.
- Improvements to gate controller for Chesdin Road gate to allow remote control by plant operators. Chesterfield County Parks and Recreation is still clearing the park below the dam on a daily basis.
- Tested plant notification system. Identified weaknesses and adding modules to phone system to include all phones on mass broadcasts. This system provides plant wide notifications for weather events and emergency notifications (fire, chemical spill, intruder, active shooter, etc.).
- Addressing VFD issues for finished water pumps in finished water pump station #1.
- Working with SCADA vendor to replace the outdated PLC controls for Rapid Mix.
- Completed camera and solar light installation on Dinwiddie side of dam.

➤ Laboratory

- Met all the VPDES requirements for March and April for the outfalls.
- Met monthly requirements for VDH report submittals.
- Continuing to work with Golder to address a WET (Whole Effluent Toxicity) issue for the

- lagoons.
 - Completed quarterly WET testing for the waste lagoons outfall.
 - Working through details with VDH to input additional sampling data into the VDH database. This is a new requirement for additional data input.
 - Ongoing groundwater monitoring for lagoons.
- Phase II In-plant Project
- No change from what was reported last month.
 - Proposals received and purchase orders issued for butterfly valves and surge valves. Surge valves have been delivered. The lead time on the actuated butterfly valves is eighteen to twenty weeks.
 - Installation contract awarded to MEB and is scheduled for this fall.
- 30” Transmission Fortification
- No change in status from the January meeting report.
 - Purchase order has been issued to contractor. Waiting for a dryer time to minimize the pumping around operation.
 - No issues with the crossing. It is checked on a set frequency.
- Prince George Meter Replacement
- Notice to proceed issued November 2, 2020.
 - The underground power lines have been relocated. There was a significant delay in this relocation as a result of the two February ice storms.
 - The contractor was back on site May 4th installing the helical anchors to support the meter pit.
 - The completion date has been moved to July.
- Liquid Lime Study
- The evaluation to consider switching from dry lime to liquid lime has been completed and submitted to VDH for review and approval.
 - The construction for this conversion is currently shown in FY23/24 in line 58090 – Construction in the operating budget.
- Hydrilla
- Our consultant, Golder, has completed the survey for the spring emergence of tubers and turions.
 - We are awaiting the guidelines of the Commonwealth and CDC to schedule public informational meetings. We only received three inquiries from the mass mailing.
 - We also need to create a section on the website to address hydrilla questions.

➤ Docks

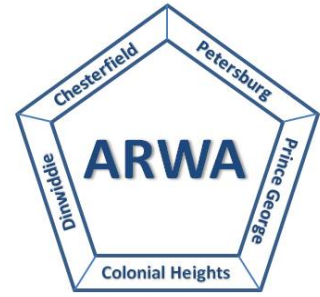
Date	Address	Locality	Construction
3/24/2021	15248 Isle Pines Drive	Chesterfield	New
3/25/2021	18200 Whipponock Way	Dinwiddie	New
3/25/2021	2516 Miry Run Road	Dinwiddie	New
4/23/2021	2907 Oxford Drive	Dinwiddie	New

- We received an inquiry from the property owner adjacent to the 18200 Whipponock Way. He indicated the new dock was not in the correct location and impeded access to his dock. We reviewed the installation (driven piles) from the water by boat and determined the new pier location was per the approved permit and maximized separation from his dock. Documentation, with pictures, was provided to Dinwiddie County. I contacted the property owner and advised him of our findings. The property owner advised he will be talking with his attorney.

➤ Miscellaneous

- On site tours were given to the fire department, Company 8, first due engine. We reviewed confined space areas, chemicals storage and volumes, location of SDS sheets, plant hazards and after hours access – Bosch Key in knock box.
- There is an issue between two property owners for a forebay being stalled on a small cove for Oxford Drive. The property owner doing the installation does have a permit from the Corp (we were included in the permit process). From my discussions with the other property owner being blocked by the forebay, it appears the forebay installation is not being installed per the permit. The plans call for a 12’ long by 2’ deep cut in the forebay dam to allow water to flow through the dam and passage of a boat. We reached out to the Corp, who in turn called the property owner that brought this to our attention, and the Corp will be performing a compliance inspection at the completion of the project. Dinwiddie County was notified of this situation in case they received any further calls. The Dinwiddie County sheriff’s department was on site.

Appomattox River Water Authority



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EXHIBIT F

TO: Appomattox River Authority Board of Directors

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

DATE: May 20, 2021

SUBJECT: Transformer Replacement

The Authority has three onsite authority owned pad mounted transformers (PMT):

- PMT -1 This transformer is located at the dam next to Raw Water Pump Station #2 (RWPS#2). This transformer powers the 480 pumps in RWPS#2.
- PMT – 2 This transformer is located next to Finished Water Pump Station #2 (FWPS#2). This transformer powers the 480 pumps in FWPS#2.
- PMT-3 This transformer is located next to the Ammonia Feed Building. This transformer power the 2003 expansion portion of the plant, 48 mgd and Rapid Mix.

Each raw water pump station and each finished water pump station has a backup. Rapid Mix does not have a secondary feed or backup. When Rapid Mix is down the whole treatment process is down and therefore, PMT – 3 is a critical link.

With the current state of the economy and availability of materials, switch gear of this nature is in high demand and limited availability. Therefore, we are recommending replacing PMT – 3 with a new transformer and breaker and then having PMT – 3 refurbished and placed in stock. The refurbished unit could be used to back up all three transformers in the event of a failure. Having a replacement transformer on site reduces our downtime and increases our resiliency. A transformer changeout under emergency conditions could still take twenty-four to forty-eight hours under optimum conditions. However, if we did not have a new or refurbished transformer on site and it had to be fabricated the replacement time could be greater than six months.

We have worked through the details and determined the changeout would require a short shutdown to connect a rented trailer mounted generator to power Rapid Mix and half the plant while the improvements are being made. This shutdown would be short enough that members would not have to do anything special. This would be scheduled for off peak times in the late fall or winter.

The cost to purchase the transformer by the Authority is \$114,297.00 and the cost of installation, including a trailer mounted generator during the installation is \$60,703.00 for a total of \$175,000. The

installation is estimated to take a week. As part of the installation, we are including having representatives from Square D, the transformer manufacturer, do a formal startup prior to releasing the generator off rent.

We are recommending that the installation be performed by A&R Electric. A&R Electric performed the last four projects at ARWA and SCWWA. Each time we have sought additional quotes for comparison the results have been as much as two times the quotes we received from A&R Electric. A&R Electric provided a price of \$23,703.00 for labor and \$37,000 to rent a trailer mounted generator to run the plant for a total of \$60,703.00.

We are recommending that this improvement be funded with remaining in plant funds.

Board Action Requested:

Staff requests that the Board authorize the executive director to purchase the transformer to replace PMT – 3 in the amount of \$114,297.00 and contract with A & R Electric, Inc. in the amount of \$60,703.00 to perform the transformer replacement.

EXHIBIT G

Appomattox River Water Authority-Balance Sheet
For Month Ending April 30, 2021

Assets		
Current Assets		
Petty Cash	\$	400
SunTrust Operating Fund	\$	3,400,800
SunTrust Replacement Fund	\$	-
<i>Total Unrestricted Cash</i>	<u>\$</u>	<u>3,401,200</u>
Water Revenue	\$	8,450,202
Reserve Account	\$	3,941,139
Replacement Account	\$	381,217
Debt Service Reserve	\$	2,141,276
Bond Principal/Interest	\$	765,301
Bond Construction	\$	886,560
<i>Total Restricted Cash</i>	<u>\$</u>	<u>16,565,695</u>
Total Checking/Savings	\$	19,966,894
Accounts Receivable	\$	14,583
Other Current Assets	\$	515
Inventory	\$	296,179
Total Current Assets	\$	20,278,171
Fixed Assets		
Land and Land Rights	\$	1,044,167
Water System	\$	85,599,031
Equipment	\$	1,708,459
Hydro	\$	34,873
Construction in Progress	\$	11,720,554
Accumulated Amortization	\$	(34,873)
Accumulated Depreciation	\$	(51,620,296)
Total Fixed Assets	\$	48,451,914
Other Assets		
Def Out Res-Post ER Pension Costs	\$	61,836
Deferred Outflow-OPEB GLI	\$	27,370
Def Out Res-Net Dif Pension Inv	\$	-
Total Other Assets	\$	89,206
Total Assets	\$	68,819,290
Liabilities & Equity		
Current Liabilities		
Accounts Payable	\$	86,394
Retainage Payable	\$	175,442
Accrued Interest Payable	\$	139,596
Total Current Liabilities	\$	401,432
Long Term Liabilities		
Def Inf Res-Net Dif Pension Inv	\$	289,931
Def Inf Res-Pen Chg Assumptions	\$	(69,688)
Def Inf Res-Pens Dif Proj/Act E	\$	55,697
Net Pension Liability	\$	(477,262)
Def Infl-OPEB Chg of Assumptions	\$	176
Deferred Inflow-OPEB GLI	\$	9,788
Deferred Inflow-Expect & Actual	\$	16,819
Bonds Payable-2010	\$	4,139
Bonds Payable-2012	\$	2,140,000
Bonds Payable-2017	\$	11,192,000
Bonds Payable-2019 Refunding Bond Payment	\$	6,730,000
Bonds Payable-2019 Def Amt on Refunding	\$	(99,946)
Accrued Leave Payable	\$	185,257
Post Employment Benefit	\$	79,079
OPEB Liability-GLI	\$	129,368
Total Long-Term Liabilities	\$	20,185,358
Total Liabilities	\$	20,586,791
Equity		
Retained Earnings	\$	(230,175)
Reserve for Operations	\$	3,675,319
Reserve for Water Revenue	\$	6,093,832
Reserve for Replacements	\$	500,000
Reserve for Bond Interest	\$	139,604
Reserve for Debt Service	\$	2,090,663
Reserve for Bond Principal	\$	1,558,000
Reserve for Reserve	\$	3,785,013
Fixed Assets, Net of Debt	\$	29,000,143
Net Income	\$	1,620,101
Total Equity	\$	48,232,500
Total Liabilities & Equity	\$	68,819,290

\$ -

Appomattox River Water Authority
YTD Income Statement for the period ending April 30, 2021

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 20/21</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	\$ 10,794,656	\$ 8,095,992	\$ 9,359,902	\$ 1,263,910	15.61%
Rent/Misc. Income	\$ 30,000	\$ 22,500	\$ 26,255	\$ 3,755	16.69%
Total Operating Revenues	\$ 10,824,656	\$ 8,118,492	\$ 9,386,157	\$ 1,267,665	15.61%

Expenses

Personnel Cost	\$ 2,460,200	\$ 2,050,167	\$ 1,870,084	\$ (180,083)	-8.78%
Contractual/Professional Services	\$ 1,188,000	\$ 990,000	\$ 742,326	\$ (247,674)	-25.02%
Utilities	\$ 845,500	\$ 704,583	\$ 714,124	\$ 9,540	1.35%
Communication/Postal/Freight	\$ 51,200	\$ 42,667	\$ 36,312	\$ (6,354)	-14.89%
Office/Lab/Janitorial Supplies	\$ 112,000	\$ 93,333	\$ 60,694	\$ (32,640)	-34.97%
Insurance	\$ 96,000	\$ 96,000	\$ 95,969	\$ (31)	-0.03%
Lease/Rental Equipment	\$ 20,000	\$ 16,667	\$ 10,940	\$ (5,727)	-34.36%
Travel/Training/Dues	\$ 50,000	\$ 41,667	\$ 21,160	\$ (20,507)	-49.22%
Safety/Uniforms	\$ 28,000	\$ 23,333	\$ 31,375	\$ 8,042	34.46%
Chemicals	\$ 2,300,000	\$ 1,916,667	\$ 1,795,969	\$ (120,698)	-6.30%
Repair/Maintenance Parts & Supplies	\$ 355,000	\$ 295,833	\$ 248,288	\$ (47,545)	-16.07%
Total Operating Expenses	\$ 7,505,900	\$ 6,270,917	\$ 5,627,241	\$ (643,676)	-10.26%
Operating Results Suplus/(Deficit)	\$ 3,318,756	\$ 1,847,575	\$ 3,758,916	\$ 1,911,341	103.45%

Replacement Outlay Budget vs. Actual

Machinery & Motors	\$ 520,000	\$ 433,333	\$ 211,706	\$ (221,627)	-51.14%
Instrumentation	\$ 40,000	\$ 33,333	\$ 38,782	\$ 5,448	16.35%
SCADA	\$ 250,000	\$ 208,333	\$ -	\$ (208,333)	-100.00%
Computer Equipment	\$ 12,500	\$ 10,417	\$ 12,321	\$ 1,905	18.28%
Motor Vehicles	\$ 40,000	\$ 33,333	\$ -	\$ (33,333)	-100.00%
Valve Replacement	\$ 100,000	\$ 83,333	\$ 75,107	\$ (8,226)	-9.87%
Security Infrastructure Upgrade	\$ 250,000	\$ 208,333	\$ 33,721	\$ (174,612)	-83.81%
PG Meter Vault	\$ -	\$ -	\$ 194,250	\$ 194,250	#DIV/0!
Total Capital Outlay	\$ 1,212,500	\$ 1,010,417	\$ 565,888	\$ (444,529)	-43.99%

Construction Outlay Budget vs. Actual

In-Plant Capital Upgrade	\$ -	\$ -	\$ 856,318	\$ 856,318	#DIV/0!
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Debt Service Budget vs. Actual

Interest Income	\$ -	\$ -	\$ 5,130	\$ 5,130	#DIV/0!
Other (Income)	\$ -	\$ -	\$ 17	\$ 17	#DIV/0!
Sell of Asset	\$ -	\$ -	\$ 49,898	\$ -	#DIV/0!
Interest Expense	\$ 532,655	\$ 532,655	\$ 532,655	\$ -	0.00%
Bond Issuance Cost	\$ -	\$ -	\$ -	\$ -	#DIV/0!
Principal Payments	\$ 1,558,000	\$ 1,558,000	\$ 239,000	\$ (1,319,000)	-84.66%

Other Income/Other Expense

Alum Litigation Proceeds-Received YTD	\$ -	\$ -	\$ 438,692	\$ 438,692	#DIV/0!
Alum Litigation Proceeds-Credited to Members YTD	\$ -	\$ -	\$ 438,692	\$ 438,692	#DIV/0!

**Appomattox River Water Authority
Executive Review
Cash And Debt Highlights
As of April 30, 2021**

Highlights: ARWA Cash Positions	30-Jun-20	30-Apr-21	Change	Explanation
Unrestricted Cash & Investments:				
Petty Cash	\$ 400.00	\$ 400.00	\$ -	see explanation (a) below
SunTrust Operating Account	\$ 2,812,184.00	\$ 3,400,799.74	\$ 588,615.74	see explanation (b) below
SunTrust Replacement Fund	\$ 2.70	\$ -	\$ (2.70)	see explanation (c) below
Restricted Cash and Investments:				
Water Revenue	\$ 4,919,509.91	\$ 8,450,201.79	\$ 3,530,691.88	see explanation (d) below
Reserve Account	\$ 3,784,839.46	\$ 3,941,138.92	\$ 156,299.46	see explanation (e) below
Replacement Account	\$ 434,099.50	\$ 381,216.67	\$ (52,882.83)	see explanation (f) below
Debt Service Reserve	\$ 2,141,333.97	\$ 2,141,276.27	\$ (57.70)	see explanation (g) below
2010 Bond Principal/Interest	\$ 390,235.20	\$ 12.97	\$ (390,222.23)	
2012 Bond Principal/Interest	\$ 215,765.23	\$ 144,029.24	\$ (71,735.99)	
2017 Bond Principal/Interest	\$ 747,404.34	\$ 485,001.38	\$ (262,402.96)	
2019 Bond Principal/Interest	\$ -	\$ 136,257.24	\$ 136,257.24	
2017 Construction	\$ 1,956,769.11	\$ 886,560.21	\$ (1,070,208.90)	
Total Cash and Investments	\$ 17,402,543.42	\$ 19,966,894.43	\$ 2,564,351.01	

Highlights: ARWA Outstanding Bonds	30-Jun-20	30-Apr-21	Change
2010 Bond	\$ 440,000.00	\$ -	\$ (440,000.00)
2010 Bond-Def Amt on Refund	\$ (33,556.22)	\$ (33,556.22)	\$ -
2010 Bond-Premium	\$ 37,695.22	\$ 37,695.22	\$ -
2012 Bond	\$ 2,140,000.00	\$ 2,140,000.00	\$ -
2017 Bond	\$ 11,981,000.00	\$ 11,192,000.00	\$ (789,000.00)
2019 Bond	\$ 6,820,000.00	\$ 6,730,000.00	\$ (90,000.00)
2019 Bond-Def Amt on Refund	\$ (99,945.89)	\$ (99,945.89)	\$ -
Total Bonds Outstanding	\$ 21,285,193.11	\$ 19,966,193.11	\$ (1,319,000.00)

Explanation of Unrestricted and Restricted Cash positions:

- a. On-Hand Petty Cash for incidental expenses
- b. Financial Policy: Based on next four months of O&M expense
- c. Pass-through account: From US Bank to SunTrust Bank for Replacement Fund Requisitions
- d. Financial Policy: Held by Trustee for all operating water revenues
- e. Financial Policy: 50% of current FY O&M Budget
- f. Financial Policy: Must maintain a minimum of \$500K
- g. Financial Policy: Held by Trustee, funded at such amount as may be necessary.

