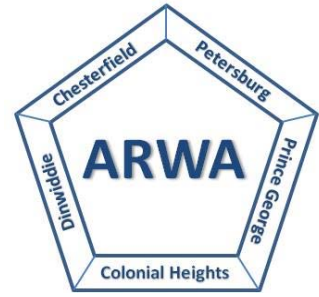


Appomattox
River
Water
Authority



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

Appomattox River Water Authority
Board of Directors Meeting

DATE: January 19, 2017

TIME: 2:00 PM

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

AGENDA

1. Call to Order/Roll Call
2. Approval of Minutes: Minutes of the Regular Board Meeting on November 17, 2016
3. Public Comment
4. Executive Director's Report:
 - Reservoir Status Update for December 2016
 - Review of Six Month Work Plan Summary
 - Annual Flushing Notice
 - Review of Brasfield Dam Raise Project
 - Discussion with VDOT Representative on Reservoir Bridges
 - Chesdin Reservoir Storage Management Plan
 - Update on the ARWA Water Service Agreement
 - Presentation of proposed FY 2017/18 Operating Budget
 - Implementation of Market Based Adjustment
 - Status Report: Ongoing Projects/Operational/Financial
5. Items from Counsel
 - Review and Approval of Authority Freedom of Information Policy
 - Financial Disclosure Statement
6. Closed Session
7. Other Items from Board Members/Staff Not on Agenda
8. Adjourn

Cc:W. Dupler/George Hayes, Chesterfield
D. Harrison, Petersburg Public Works
C. England, Prince George
W. Henley, Colonial Heights
R. Wilson, Dinwiddie Water Authority
A. Anderson, McGuire Woods

1. Call to Order/Roll Call

2. Approval of Minutes: Minutes of the Regular Board Meeting on November 17, 2016.

Following are the minutes of the Regular Meeting of the Appomattox River Water Authority Board of Directors on November 17, 2016.

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

BOARD OF DIRECTORS MEETING

**Appomattox River Water Authority
November 17, 2016 at 2:00 p.m.
Location: South Central Wastewater Authority
900 Magazine Road, Petersburg, Virginia**

PRESENT:

Kevin Massengill, Vice-Chairman (Dinwiddie)
Percy Ashcraft, Secretary/Treasurer (Prince George)
William Henley, (Colonial Heights)
Joseph Casey, (Chesterfield)
Tom Tyrrell, (Petersburg)
Charles England, (Alternate, Prince George)
Daniel Harrison (Alternate, Petersburg)
Robert B. Wilson (Alternate, Dinwiddie)
George Hayes, (Alternate, Chesterfield)

ABSENT:

William Dupler, (Alternate, Chesterfield)

STAFF:

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

OTHERS:

Steven Nebiker, (HydroLogics)
Matt McLearn, (Robinson, Farmer & Cox Associates)
Leslie Roberts, (Dixon Hughes Goodman)

Mr. Massengill, Vice-Chairman, called the meeting to order at 2:03 p.m.

1. Call to Order/Roll Call.

The roll was called.

2. Approval of Minutes: Minutes of the Regular Board Meeting on September 15, 2016 and Minutes of the Joint Special Meeting of the South Central Wastewater Authority and the Appomattox River Water Authority Boards on October 20, 2016:

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

RESOLVED, that the minutes of the Regular Meeting of the Board on September 15, 2016 and Minutes of the Joint Special Meeting of the South Central Wastewater Authority and the Appomattox River Water Authority Boards on October 20, 2016 are hereby approved:

For: 5 Against: 0 Abstain: 0

3. Public Comment

There were no public comments.

4. Executive Director Report

• Reservoir Status Update for September 2016

Dr. Wichser reported on the reservoir status update for September/October 2016. He stated at this time that the Chesdin Reservoir watershed appears normal based on inflow to the reservoir and raw water quality. The NOAA water resource modeling does not predict any drought impacts as far out as February 2017.

• Presentation by Steven Nebiker – HydroLogics: 2015/2016 reservoir modeling results compared to 2013 modeling results

Dr. Wichser stated in 2015 when the Authority made a presentation on raising the dam the Authority's recommendation was to not move forward with raising the dam at that time. Chesterfield County petitioned the Board for annual reservoir modeling updates and Dr. Wichser's recommendation was that we re-run the model every three years except under drought conditions. Chesterfield's request for annual model re-run was adopted by the Board. Dr. Wichser introduced Steven Nebiker of HydroLogics who reported on the 2015/16 model re-run findings. Mr. Nebiker went over the Oasis Model and how it's used for the ARWA water reservoir system. HydroLogics conclusions are that the Chesdin Reservoir is a very reliable water supply at current system demand levels due primary from the new permit's minimum release requirements, which added a significant amount of reliability over the old water release requirement. Mr. Nebiker noted that with population growth projections, the reservoir will still be able to maintain all performance objectives for at least the next 10 years or more. He further stated that after that time, the key metrics (number of times the public would be

placed into water conservation levels and also the acceptable level of impacts on boating) pertaining to water supply reliability will still be met. He stated, for a reservoir such as the Chesdin Reservoir, we need to remember that the reservoir is operated for water supply first, and that it is entirely reasonable to expect some degree of drawdown during dry periods. Mr. Nebiker reminded everyone that even if the dam were to be raised, the Chesdin Reservoir would still be frequently drawn down somewhat from the “new” normal pool elevation.

Mr. Henley asked Mr. Nebiker to elaborate on the dam raise. He stated if the concern is about drawing the reservoir down, you are still going to have that issue from time to time even if you raise the lake level. The question is how much draw down is acceptable. Mr. Henley said raising the dam wouldn't necessarily decrease the draw down. Mr. Nebiker replied that you would have the same drawdown as now however it would be from a different starting pool level. Dr. Wichser stated that one major concern is the reopening of the existing Virginia Water Protection Permit and the potential that permit changes towards the required environmental release would be required. Mr. Nebiker said if they reopen the release requirements that issue most likely would occur. Mr. Massengill asked Dr. Wichser if the dam were to be raised does that mean the permit will be reevaluated and Dr. Wichser replied yes, as it's stated in the existing permit that this would occur. Dr. Casey asked about the methodologies behind the million gallons per day predictions. Mr. Gordon stated that projection were developed during the draft ARWA Water Service Agreement where we created our own matrix and presented it to the member utility engineer directors to fill out estimates for the 2020, 2030 and 2040 demands that they would anticipate and we shared the totals for each jurisdiction with HydroLogics to plug in during the model re-run. Mr. Massengill asked about the current 34.5 mgd demand being a known number and the twenty-five and thirty-two were anticipated based on that data received and Mr. Gordon replied correct. Mr. Massengill said the increase of 14 mgd demand is entirely dependent upon growth. Dr. Casey spoke on the expiration period of the five million dollar state matching grant. He stated that we've asked the Commonwealth of Virginia to write in the Code of Virginia in essence the permissibility for this matching grant. He questioned what specifically helps us to secure this matching grant and what do we need to do access the grant? Dr. Wichser stated that the 2015/16 modeling results indicates that for the next ten years and somewhat beyond that the Chesdin Reservoir raw water supply is adequate. Dr. Wichser reminded everyone that we do need to realize that models aren't always correct; however, they are one of the best water resource tools we have to look forward. The best tool we have right now is the Oasis Model to provide predictions and utilizing that technology indicates that we are in pretty good shape for the next ten to twelve years. Mr. Massengill said when this was first brought up the Board's unanimous vote was not to raise the dam at that time but to reconsider whether or not the Authority as a body wishes to move forward with raising the dam on an annual basis after this type of work is done. Dr. Wichser said his recommendation to the Board would be to look at this every third year and allow the Executive Director to run the model as needed during potential drought conditions. If there is potential for a drought to occur, Dr. Wichser stated “I would recommend that we go back to HydroLogics to allow the model to provide needed predictions”.

Mr. Massengill stated that the matching state five million dollar grant sunsets at the end of this fiscal year. He asked, do we wish to move forward in some way to obtain that five million dollars matching grant? He reminded the Board that any one single jurisdiction could acquire the funds. Dr. Casey asked when was our next meeting and was told January 19, 2017. He stated that in fairness to Delegate Kirk Cox he just needs an educated answer. Dr. Casey stated that we (Chesterfield County) have told him twice that the five million dollar matching grant was something that was needed and he was kind enough to put it in the state's budget twice. Dr. Casey thinks by our next meeting we have to define what we are going to tell him. Dr. Wichser stated that the Board might consider at this time accepting and providing the needed matching funds for a part of the project, for example towards raising the two bridges located in Dinwiddie County. Dr. Casey stated the project is more than just raising the dam. The question is when we will do this project, not if. Mr. Massengill said this is about the time they start getting calls from State Senators and Delegates to ask questions. One question he gets asked is; has ARWA's position changed with this particular project? He stated, we the Board of Directors voted in 2015 not to raise the dam. Mr. Massengill stated that there are a couple avenues we could take on the project, for example the wetlands and bridges. Dr. Casey said we need to define the project time line under these studies. Mr. Massengill asked if staff could arrange a meeting with the bridge staff at VDOT and have some dialog there. Dr. Casey said he thought that at least two of the Board members should go to a meeting with Delegate Cox. Dr. Casey and Mr. Massengill both said they would go to the meeting and would get answers to the bridges prior to the meeting. There will be a meeting with VDOT first about the bridges and then make decisions on how to proceed with the Legislature.

Mr. Ashcraft stated that when the dam raise project was first submitted he didn't think it was just a Chesterfield County project and there was a reason Chesterfield County felt it was important at that time. He said he thought moving forward in January 2017 to potentially take some action. Prince George voted against it but he's not saying that the next vote they might not vote for it especially if you have five million dollars closer to the goal. He is asking where the intensity of the project is and what does it satisfy. Dr. Casey said one suggestion would be to provide a detailed projects schedule, what are all the elements of the project and he would like to know what the dam raise does, not from a capacity standpoint but from a safety standpoint of conserving the water. Dr. Casey and one other Board member will meet with Delegate Cox and then report back at the next meeting with ARWA. Dr. Wichser mentioned he provided a detailed project scope and potential schedule in 2015. The most important thing we need to know is if you are talking a 12", 18", 24" or 36" raise. Everyone said they had been saying eighteen inches. On another item, Dr. Wichser said staff met with Engineering Directors and gave them a glimpse of our proposed FY17-18 budget for both Authorities which also included the proposed capital improvement projects. The proposed budget will be presented to the Board on January 19, 2017. Dr. Wichser mentioned that at the Board of Director's January 2015 meeting his recommendation to the Board was if any one member

jurisdiction wanted to move forward with the dam raise project including funding the project, managing construction administration and inspection, the Authority would not stand in the way if board members concur. Mr. Ashcraft stated that he wants to wait until the Board decides where we are moving and then address that issue. Dr. Casey thinks the annual exercise of reviewing consumption trends of individual localities should be done. Mr. Henley said he is for the three year modeling. The Board Members requested that this topic be continued to be discussed at the next Board meeting.

- **Presentation of Annual Financial Report: Robinson, Farmer & Cox Associates**

Dr. Wichser introduced Matthew McLearn of Robinson, Farmer & Cox Associates who provided a presentation on ARWA's annual financial accounting audit.

Upon a motion made by Mr. Ashcraft and seconded by Mr. Henley the following resolution was adopted:

RESOLVED, that the financial statements are hereby approved as presented:

For: 5 Against: 0 Abstain: 0

- **Recommendation on Legal Services**

Dr. Wichser reported on the Legal Services Provider RFP for both ARWA & SCWWA. He stated that we received a total of three proposals. The submitted proposals were from Hunton & Williams, Troutman Sanders and McGuire Woods. The Legal Services Selection Committee consisted of attorneys from Prince George County, Chesterfield County and the City of Colonial Heights along with Mr. Wilson, Mr. Gordon and Dr. Wichser. Hunton & Williams only submitted to provide bond counsel services. Troutman Sanders showed very little utility Authority experience and their primary clients were private sector. They would also subcontract out any financially related legal services to Hawkins Delafield & Wood. The only proposal that the Legal Services Selection Committee agreed to move forward with was from McGuire Woods. McGuire Woods was interviewed on October 6, 2016 and the Legal Service Selection Committee recommended bringing a recommendation to the Board which was to enter into a three year contract with the potential of a two year extension towards McGuire Woods. Dr. Wichser stated, we are asking the Board for permission to move forward with this recommended request. Dr. Casey asked if it were a retainer basis or hourly basis type of contract or a hybrid. Mr. Anderson replied it was hybrid. They will attend all Board meetings gratis. Dr. Wichser said they are proposing that the general counsel will attend all regular Board meetings free for the initial three year term which generally cost the Authority \$25,000 per year. For the initial two year term, McGuire Woods would provide all their services at a ten percent reduction off of their standard municipal rates. Thereafter that, their rates would be at a reduction of ten percent off their 2018 regular rate for up to an additional three years. Mr. Anderson said the contract agreement will state that if you are not satisfied at any time, the Authority could make a change. Mr. Tyrrell asked if there was a conflict for the incumbent counsel and they stepped back and let someone else in, would it be the same kind of agreement or a different fee schedule. Dr. Wichser stated that we don't use McGuire Woods for all of the Authority's legal needs. He stated, for some environmental matters the Authority uses a different attorney and additionally for easement issues, the Authority also uses a different attorney. Mr. Tyrrell asked if the Board voted to take legal action against one of the members then how would this be resolved. Mr. Anderson stated, as with any conflicts that McGuire Woods are bound by legal standards. If they had a conflict that would prevent them from going forward, they would suggest that the Authority would have to hire separate counsel.

Upon a motion made by Mr. Ashcraft and seconded by Mr. Henley the following resolution was adopted:

RESOLVED, that the Executive Director of ARWA and SCWWA is authorized to enter into a Legal Services Contract with McGuire Woods for a three year period with the option for an annual extension up to two additional years at the determination of both ARWA and SCWWA:

For: 5 Against: 0 Abstain: 0

- **Proposed 2017 Board Meeting Dates**

Dr. Wichser presented the proposed schedule for the 2017 Board of Directors Meetings for SCWWA and ARWA. Dr. Casey asked about the physical address of ARWA and Mrs. Wilkins replied that she recently spoke to Dr. Wichser regarding the physical location of ARWA. We are in Chesterfield County and our address is South Chesterfield. We will be putting out correspondence to let everyone know where we are physically located. We have updated the Google search for SCWWA because unfortunately when you googled SCWWA it was taking you to ARWA.

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

RESOLVED, that the Board approves the proposed schedule of regular meeting dates for 2017 as presented starting at 2:00 p.m. to be posted on websites:

For: 5 Against: 0 Abstain: 0

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

Mr. Gordon went over the Ongoing Projects/Financials.

- **Election of Authority Officers**

Chairman: VACANT

Vice-Chairman: Kevin Massengill

Secretary/Treasurer: Percy Ashcraft

Officer terms expire at the end of year of even numbered years. Elections were held and the results are as below.

The following officers were elected for 2017 starting January 1, 2017 for a term of two years:

Percy Ashcraft was elected Chairman of ARWA's Board of Directors on a motion made by Dr. Casey:

For: 5 Against: 0 Abstain: 0

Joseph Casey was elected Vice-Chairman of ARWA's Board of Directors on a motion made by Mr. Ashcraft:

For: 5 Against: 0 Abstain: 0

Kevin Massengill was elected Secretary/Treasurer of ARWA's Board of Directors on a motion made by Mr. Ashcraft:

For: 5 Against: 0 Abstain: 0

5. Items from Counsel

There were no items from Counsel.

6. Closed Session

There was no Closed Session.

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

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

8. Adjourn

Upon a motion made by Dr. Casey and seconded by Mr. Henley the meeting was adjourned at 3:31 p.m.

The next Board meeting is scheduled for Thursday, January 19, 2017 at 2:00 p.m. at the Appomattox River Water Authority.

MINUTES APPROVED BY:

Kevin Massengill
Secretary/Treasurer

3. Public Comment

The Guidelines for Public Comment are:

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

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

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

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

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

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

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

4. Executive Director's Report:

- **Reservoir Status Update for December 2016**

- **Review of Six Month Work Plan Summary**

Following for your review is a six month work plan from staff.

Appomattox River Water Authority

Executive Level Strategic Work Plan Summary

January 1, 2017 to June 30, 2017

Purpose: Provide the Appomattox River Water Authority with a plan to ensure ongoing reliable service to Authority members.

This information is provided at the request of the Board and is intended to highlight critical activities that are planned and expected to be accomplished during the next six months. We realize that unplanned circumstances could occur that impact the Authority's financial capability to complete the tasks and projects, and are totally out of the control of Authority management. Projects are dependent on funding, engineering consultants and contractors.

Overarching Goal: The Authority will continue to expand as needed, operating and maintaining the water system in an efficient and economical manner consistent with good business and operating practices.

The Authority will provide safe, reliable drinking water meeting or exceeding the Safe Drinking Water Act regulation standards.

Capital Projects:

1. Complete the mediation services related to Branders Pump Station & Ground Tank
2. Off-site Alternative Raw Water Supply Source ON HOLD based on Board request

In-Plant Capital Projects:

3. February 2017: Issue RFP for Engineering Services towards four in-plant upgrade projects
4. February 2017: Issue IFB (by Davenport) for Bond funding towards the four in-plant upgrade projects
5. March 2017: Interviews for Engineering Services
6. April/May: Seek Member local approval towards bond funding
7. June 15 Board Meeting: Award Bond Financing and Engineering Services Contract
8. June-October: Preliminary to final design to bid stage
9. November/December: Hire Contractor
10. December/January 2018: Contractor mobilizes

Administration:

1. January-May 2017: Develop, present, defend and public notice proposed 2017/18 Operations & Maintenance Budget including Capital Projects proposed
2. Pursue resolution on Commonwealth of Virginia matching five (\$5M) million dollar grant
3. Continue to pursue adoption of Amended and Restated Unified Water Service Agreement
4. By June 2017 conduct a training level water related emergency event table-top exercise

Virginia Water Protection Permit:

January 2017-June 2017: Development of permit-required Chesdin Reservoir Storage Management Plan to be submitted to VA-DEQ for review and approval

Facility Instrumentation/SCADA Upgrades:

- January – June: Migration of old 25+ year old communication equipment at the operations blue panel (SCP-A) to a new upgrade PLC

Financial Auditing: March 2017- Issue RFP for annual financial auditing services for both ARWA & SCWWA and recommend three year contract by June 2017

Facility Process Chemicals: January 2017-Issue new purchasing contracts based on annual IFB on all process chemicals: Complete award of annual chemical supplier contracts by February 1, 2017.

Maintenance Warehouse/Computerized Purchasing: Complete start-up and transition over to normal daily efficient operation of the warehouse.

Department Goals

Administration/Warehouse:

- Develop digital archiving system for all documents that fall under record retention requirements
- Implement inventory control processes and procedures so that "Cycle Counts" of inventories can be performed throughout the year
- Develop and implement a compensation plan that will allow the Authority to pay employees "In Arrears" while providing minimal financial impact during such implementation.

Maintenance Department:

- Complete mechanical/electrical training for employees as needed
- Maintain schedule on preventive maintenance activities
- Effective and rapid response on corrective actions towards equipment failures
- Maintain parts and equipment inventory in a cost effective manner

Laboratory Department:

- Maintain Member's Safe Drinking Water Act/VDH analytical (THM/HAA) testing requirements
- Maintain Member's Safe Drinking Water Act/VDH bacterial testing requirements
- Maintain ARWA VDH process analytical testing requirements

Operations Department:

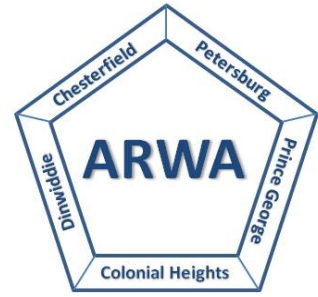
- Maintain water plant production at all times to meet member demands
- Maintain finished water quality to meet all Safe Drinking Water Act/VDH regulatory requirements
- Ensure all Operators maintain DPOR required annual training requirements
- Ensure all Operators continue to strive for Class 1 Waterworks Operator license
- Maintain Water Product Facility in a clean and orderly manner

IT/Instrumentation Office:

- Ensure all process instrumentation is functional and accurate
- Ensure the Supervisory Control and Data Acquisition System is functioning to enable Operations Department to operate the process control equipment

- **Annual Flushing Notice**

Following is a notice of the Appomattox River Water Authority's Annual Flushing Program.



FOR IMMEDIATE RELEASE
January 19, 2017

For more information contact:
Bob Wichser, Executive Director
(804) 590-1145

ARWA Announces 2017 Schedule for Annual Water Transmission System Flushing Program

The Appomattox River Water Authority (ARWA) announced its schedule today for its annual water main line flushing program during the last week of February through the first week in March.

For over the past twenty-two years, ARWA has annually flushed out its wholesale water transmission lines to remove any settled material (sediment, sand, etc.). Flushing of the system is a routine maintenance effort that helps assure appropriate water quality and availability to all ARWA customers. This process is completed by ARWA staff each year, generally in March.

The current schedule this year calls for the water main transmission line flushing to occur from February 27th to March 3rd. If inclement weather occurs, the flushing will be pushed back to the week of March 6th or at the latest the week of March 20th.

While it is possible for this maintenance process to create some discoloration of water in isolated situations, it will have no adverse effect on the quality or safety of drinking water.

ARWA customers with questions or concerns about the waterline flushing program are encouraged to call ARWA at 590-1145 or contact their local water service provider directly.

* * *

About ARWA

The Appomattox River Water Authority (ARWA) provides safe, reliable, clean water to customers in Chesterfield, Dinwiddie and Prince George Counties, and the Cities of Colonial Heights and Petersburg, Virginia, from facilities located next to Brasfield Dam, at the Chesdin Reservoir. For more information about ARWA, please visit <http://www.arwava.org/>

- **Review of Brasfield Dam Raise Project**

Following for review is a memorandum outlining a planning level timeline and cost for a potential dam raise project.

Review of January 15, 2015 Memorandum to the ARWA Board

FROM: ROBERT C. WICHSER, Ph.D., P.E., BCEE, EXECUTIVE DIRECTOR

SUBJECT: DAM RAISE PROJECT REVIEW

DATE: JANUARY 19, 2017

A review of the in-depth information to date that we have received from our consultants and discussed with additional outside experts has provided the justification for the Authority's recommendation to the Board. The technical and financial information that was furnished was key to making the planning level recommendation. The critical information that was ultimately used in our decision making included the following:

- The water release changes granted by the November 2013 Water Protection Permit
- The state-of-the-art water resource modeling that was completed, and the predicted results related to drought impacts and reservoir pool drawdown
- The development and approval of the first reservoir Drought Management Plan that now guides our management of the reservoir during drought periods using the best water resource modeling technology available
- The total opinion of probable project cost of \$25,486,560 or \$20,486,560 (with the \$5M Commonwealth matching grant)
- The environmental impacts on 144 acres of wetlands and 17,149 linear feet of streams with the potential for \$10.75M -\$14.33M in mitigation costs
- The cost of replacing two bridges in Dinwiddie County (\$6M)
- The modeling results that clearly show there is no need for additional raw water until 2035
- The ARWA CIP (2017-2030) with expected infrastructure upgrade and replacement needs estimated at \$40-50M
- The lack of purpose and need for this project in the 2015-2030 time period

November 2013 Virginia Water Protection Permit and Drought Management Plan

The 2013 Virginia Department of Environmental Quality (DEQ) Water Protection Permit (WPP), required environmental water releases, was based on a detailed IFIM (study of water flow releases and the impacts on aquatic species), newly installed USGS gauging station data and reservoir water balance modeling that DEQ fully concurred with and confirmed using their in-house modeling capability. **This recent permit currently, and through 2028, provides regulatory relief from the misinterpreted required water release before November 2013.** For example, in 2010 with the November 2013 WPP permit rules in effect, modeling showed the reservoir pool level would have decreased to three (3) feet down rather than the twelve (12) feet down experienced. **Additionally, the new Chesdin Reservoir Drought Management Plan was developed from advanced water balance modeling and will provide the Authority and its member's a technically sound framework to address pending droughts and their impacts on the regional communities.** The DEQ's WPP expires in 2028. The Drought Management Plan will be reviewed and updated as needed every five years.

Total Opinion of Probable Project Cost (August 2014)

Item

Construction Costs	\$ 4,169,600
Bridge (2 @ \$3.0M each) replacement	\$ 6,000,000
Legal & Permitting (JPA, FERC, NEPA)	\$ 500,000
Environmental Mitigation	\$10.7-14.4M (use \$12.5M)
Additional Perimeter Infrastructure Impacts	none expected
(Land Acquisition/Flood Easement: ARWA owns up to elevation 164 [18" raise 157.2 ft. to 158.7 ft. leaving 5.3 ft.]	
Subtotal	\$ 23,169,600
Contingency (10%)	\$ 2,316,960
Total Opinion of Probable Project Cost	\$ 25,486,560
Minus Commonwealth Grant (\$5M)	\$ 20,486,560

The Modeling Results Show There Is No Need for Additional Raw Water Until 2035

Advanced modeling was used to predict availability of raw water supply taking into full consideration the following:

1. Impacts from expected regional growth and water demands
2. Impacts of 85 years of meteorological and reservoir inflow data
3. Impacts from reservoir sedimentation
4. Impacts from permit required environmental water releases
5. Impacts from additional long-term storage alternative water storage facility
6. Impacts from droughts and placing the communities into water conservation
7. Impacts on Reliable Service Levels (Reliable Service Level is a planning figure and represents the annual average demand above which a water provider will need additional capacity to avoid violating the specified reserve (60 days) or the acceptable frequency of invoking its drought management plan.)
8. Impacts on reservoir pool levels versus public uses and fish migration
9. Project need for additional raw water

The below modeling results through year 2050 with the current DEQ permit was critical in the Authority's recommendation.

Drought Plan		2030 Conditions (48 MGD Demand)	2035 Conditions (51.3 MGD Demand)	2040 Conditions (54.7 MGD Demand)	2045 Conditions (58.0 MGD Demand)	2050 Conditions (61.4 MGD Demand)
Frequency	Stage 1 (Voluntary)	1 in 5 yrs	1 in 4.5 yrs	1 in 4 yrs	1 in 3.5 yrs	1 in 3 yrs
	Stage 2 (Mandatory)	1 in 21 yrs	1 in 12 yrs	1 in 8 yrs	1 in 6.5 yrs	1 in 6 yrs
	Stage 3 (Emergency)	1 in 84 yrs	1 in 42 yrs	1 in 42 yrs	1 in 28 yrs	1 in 17 yrs
Median Duration (min- max)	Stage 1 (Voluntary)	62 days (12- 186)	70 days (19- 193)	49 days (12- 192)	80 days (24-194)	78 days (24-195)
	Stage 2 (Mandatory)	118 days (67- 165)	68 days (21- 165)	61 days (10- 157)	63 days (29-173)	55 days (12-181)
	Stage 3 (Emergency)	102 days (102- 102)	120 days (110- 130)	99 days (76- 122)	131 days (67-144)	56 days (24-146)
Drawdown*		2030 Conditions (48 MGD)	2035 Conditions (51.3 MGD)	2040 Conditions (54.7 MGD)	2045 Conditions (58.0 MGD)	2050 Conditions (61.4 MGD)
Frequency	Rec > 2 ft	1 in 3.5 yrs	1 in 3 yrs	1 in 3 yrs	1 in 3 yrs	1 in 3 yrs
	Rec > 4 ft	1 in 9 yrs	1 in 6.5 yrs	1 in 6 yrs	1 in 5 yrs	1 in 5 yrs
	Mig > 3.5 ft, 45+ days	1 in 17 yrs	1 in 12 yrs	1 in 7 yrs	1 in 6 yrs	1 in 6 yrs
Median Duration (min-max)	Rec > 2 ft	2 days (2-98)	25 days (1-100)	26 days (5- 102)	32 days (3- 103)	31 days (1-104)
	Rec > 4 ft	26 days (5-80)	26 days (3-82)	28 days (1-85)	27 days (1- 87)	25 days (1-89)
	Mig > 3.5 ft	35 days (6-91)	36 days (4-147)	47 days (7- 154)	45 days (2- 162)	49 days (3-166)
Preserves 60-day supply?		No (55 days)	No (34 days)	No (23 days)	No (13 days)	No (4 days)

The above modeling results clearly show adequate raw water supply through 2030 (existing DEQ permit ends in 2028). **In 2035** the modeling results show that we could expect to be in **Voluntary Water Conservation 1 every 4.5 years** (The ARWA BOD has directed the Authority in 2013 to enter into Voluntary Water Conservation between Memorial Day and Labor Day every year). **We would expect to be in Mandatory Water Conservation 1 in every 12 years and entering Emergency Water Conservation 1 in every 42 years.**

The Authority felt that the above frequency and duration of placing the public into these stages of water conservation would not cause undue harm. Since it is the Authority's goal to maintain as close to possible a 60 day supply of water after a drought of record occurs, by the end of the existing permit in 2028, we recommend

planning for implementation of a project if needed such as raising the dam and completing the project in the 2030 to 2033 time period.

There is some question that if the dam was raised to a different level, what would the estimated volume of water in the reservoir increase to. The year 2011 volume of the reservoir is estimated at 9.3 BG. Based on straight line interpolation, the estimated volume increases are as follows:

6 inch raise	Increase of 598 MG of water
8 inch raise	Increase of 796 MG of water
9 inch raise	Increase of 897 MG of water
12 inch raise	Increase of 1226 MG of water (1.2 BG)
15 inch raise	Increase of 1563 MG of water (1.6 BG)
18 inch raise	Increase of 1900 MG of water (1.9BG)

We have no definitive information if the Virginia Department of Transportation would require the two Dinwiddie County bridges to be replaced if, for example, the dam was raised eight (8) inches rather than the eighteen (18) inches studied. What we do know is that any dam raise impact on the bridges would be evaluated related to passing the FEMA flood, impacts on the bridge concrete abutment weepholes and, since the reservoir is navigable water of the United States, impacts on boating access to the reservoir by the U.S. Coast Guard. Additionally, we might expect that less wetlands and stream impacts would be experienced and required to be mitigated if the dam was raised to a lower level than eighteen inches.

Regulatory Permitting

The existing Virginia DEQ Water Protection Permit states that **any raise of the Brasfield Dam will require a major permit modification** opening the permit to public comment, public meetings, and review by the Federal and State regulatory agencies and outside environmental groups. **The Federal agency in charge of coordinating the project purpose and need review and overall permit approval would be the Federal Energy Regulatory Commission (FERC) in Washington D.C. Since the Brasfield Dam contains a hydroelectric facility, it falls under the regulatory control of FERC.** The Authority expects that if the dam is raised, the regulatory agencies will also require as part of the permit approval process an additional water release requirement from the reservoir.

The U.S. Army Corps of Engineers and U.S. Environmental Protection Agency will consider if there is a practicable alternative to this potential project (Off-Site Storage project versus Dam Raise project) that would have less adverse impact on the reservoir aquatic ecosystem (Wetlands & Streams). ***An approved permit modification most likely would not be issued in circumstances where a less environmentally damaging practicable alternative exists. Clean Water Act Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative.*** The Authority expects that approval of the WPP permit modification on raising the dam eighteen inches based on estimated environmental impacts would be a difficult undertaking and not be successful in gaining regulatory agency permit approval without major concessions.

Appomattox River Water Authority's Obligation

Without a clear project purpose and need, the Authority is hard pressed to conform to legal narrative as stated in its existing Water Service Agreements with the membership. The Service Agreements require that ***“ARWA shall expand, operate and maintain the ARWA System in an efficient and economical manner, consistent with good business and operating practices....”*** Based on the existing information provided to ARWA by its

consultants, ARWA presently finds lack of purpose and need for raising the dam before year 2030. Related to the \$5M matching grant, the Authority understands that the \$5M matching grant offered by the Commonwealth may be used **towards any project** that *“increases the supply of drinking water for the counties of Dinwiddie, Prince George, and Chesterfield, the Cities of Colonial Heights and Petersburg, and the U.S. Army Garrison at Fort Lee.* ARWA recommends that it will continue to evaluate supply and demand every five years to maintain up-to-date projections related to the need for additional raw water supply. Additionally, ARWA makes our recommendation not to proceed with raising the dam at this time also predicated on the need to formalize a long term off-site storage facility within the upcoming five years.

We understand the difficult decision this Board has to make; however, we want you to understand that our recommendation was based solely on sound scientific and engineering analysis. **If this Board decides to permit one member to fund and move forward with this project, the Authority requests that this member undertakes the project fully.** The Authority does not maintain regulatory permitting staff, engineering staff, construction inspection staff or project financial staff. We ask that the member be fully responsible for permitting, design, bidding, construction administration and inspection, and project close out. The Authority will expect to receive a written monthly project update from the member’s project staff, and would provide limited project assistance as needed. Additionally, you will need to consider who receives the rights to any additional raw water gained from the project if you do permit a sole member to move forward. Is it the full membership or only the sole member who moves forward with the project banking the additional raw water provided from the project?

BRASFIELD DAM EIGHTEEN INCH RAISE PROJECT INFORMATION REVIEW

Presented to Appomattox River Water
Authority

Board of Directors
January 19, 2017

Raising Brasfield Dam

“Appomattox River Water Authority: From the appropriation and bond authorization provided in this item, up to \$5,000,000 shall be provided for the Department of Environmental Quality to provide a grant for the Appomattox River Water Authority, **to increase the supply of drinking water** for the counties of Dinwiddie, Prince George, and Chesterfield, the cities of Colonial Heights and Petersburg, and the U.S. Army Garrison at Fort Lee, **and to improve stream flow within the Appomattox River.** The amount provided shall be **matched by local contributions from any one or more of the affected local governments totaling \$5,000,000.”**

Raising Brasfield Dam

Reservoir Volume and Operational Annual Average Increases

Present Reservoir Volume: 9.3 BG (2011)

Present Reservoir Reliable Service Level: 71 MGD (2014)

Model estimated Reliable Service Level: 67 MGD (2030)

Raise Height : 18"

Reservoir Volume Increase: 1.9 BG

Reliable Service Level Increase 2030 Conditions: 15 MGD

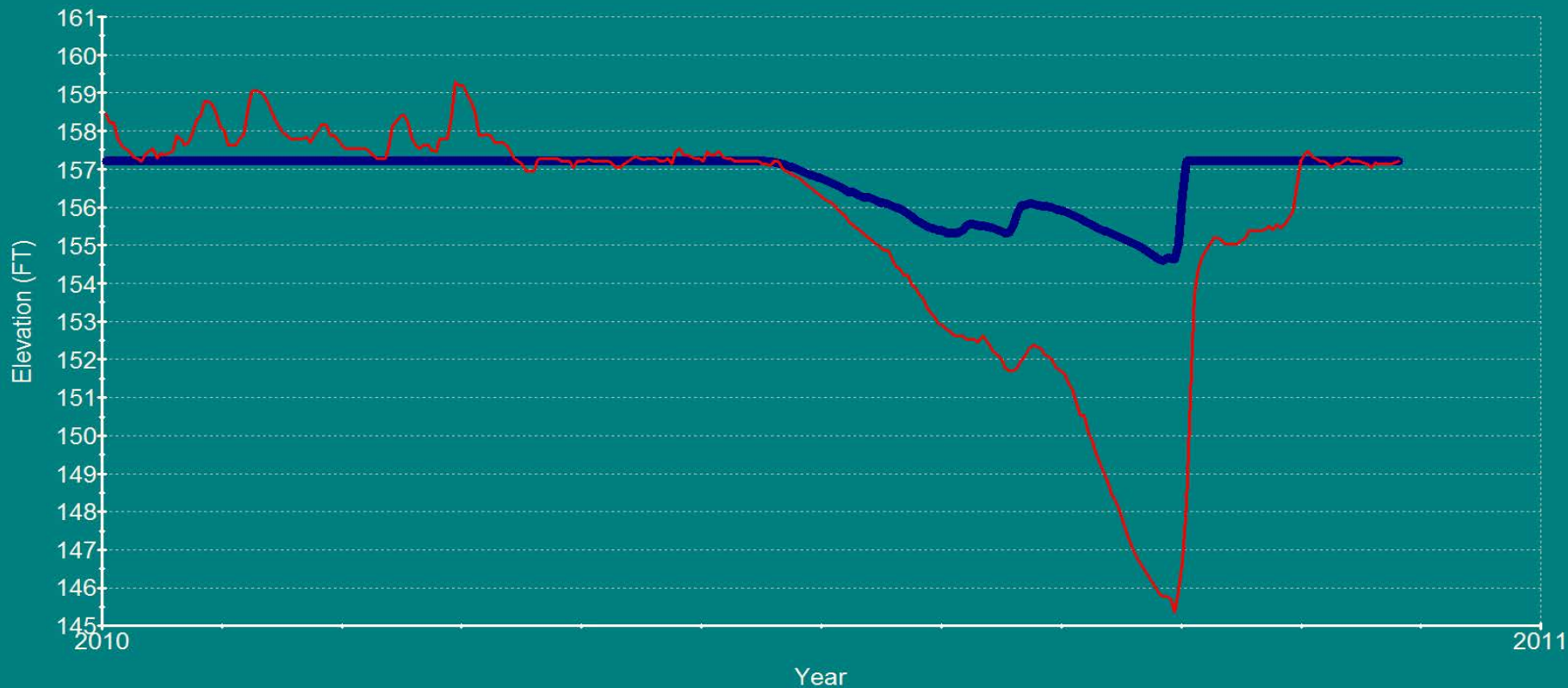
- **Reliable Service Level is a planning figure and represents the annual average demand above which a water provider will need additional capacity to avoid violating the specified reserve (60 days) or the acceptable frequency of invoking its drought management plan.**
- **Reliable Service Level has been impacted favorably by the 2013 DEQ Water Protection Permit and the 2014 ARWA Drought Management Plan**

Reservoir in 2010 with 2013 Permit: A difference of 9 feet

Plot Window - [C:\ARWA_OASIS\plots\Simulation\Res_Elev_Comp_Hist.mdb]

File Edit Window Info

Elevation at node 100 -- Lake Chesdin



Computed

Historic

Brasfield Dam

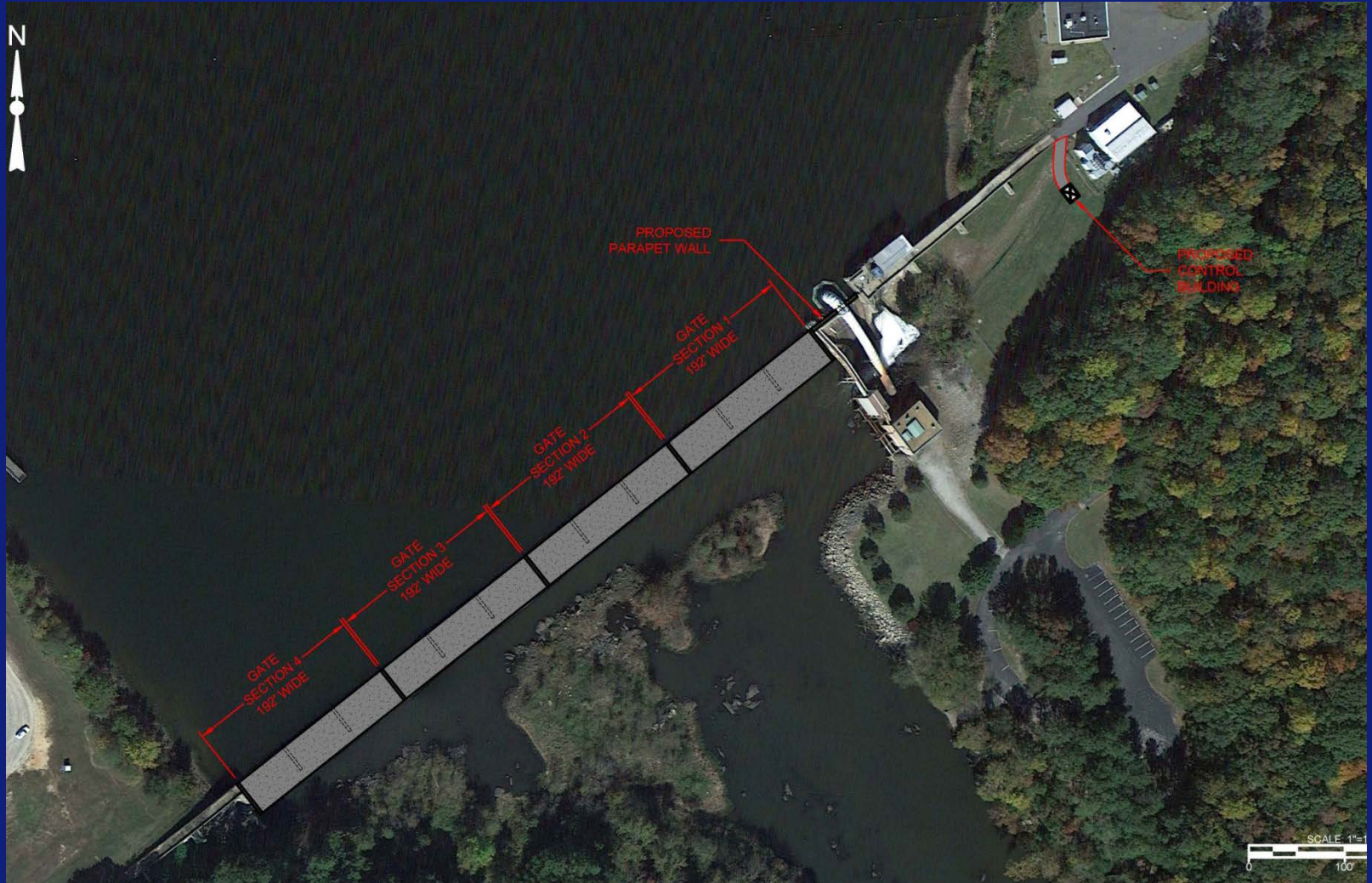
- ✓ Type: Concrete Gravity
- ✓ Length in feet: 1455
- ✓ Height in feet: 54
- ✓ Spillway Crest Elevation in feet: 157.2
- ✓ Top of Dam Elevation in feet: 166.7
- ✓ Top of Parapet Elevation in feet: 169.2

Brasfield Dam





Proposed Plan



AUGUST 13, 2013 Estimates			DOLLARS
Construction Subtotal			2,855,800
Bonds and Insurances	4%		114,200
Construction Contingency	25%		714,000
Engineer's Opinion of Estimated Probable Construction Cost			3,684,000
Design Services and Bid Phase Services			200,000
Construction Phase Engineering Services	10%		285,600
Engineer's Opinion of Estimated Probable Project Cost			4,169,600



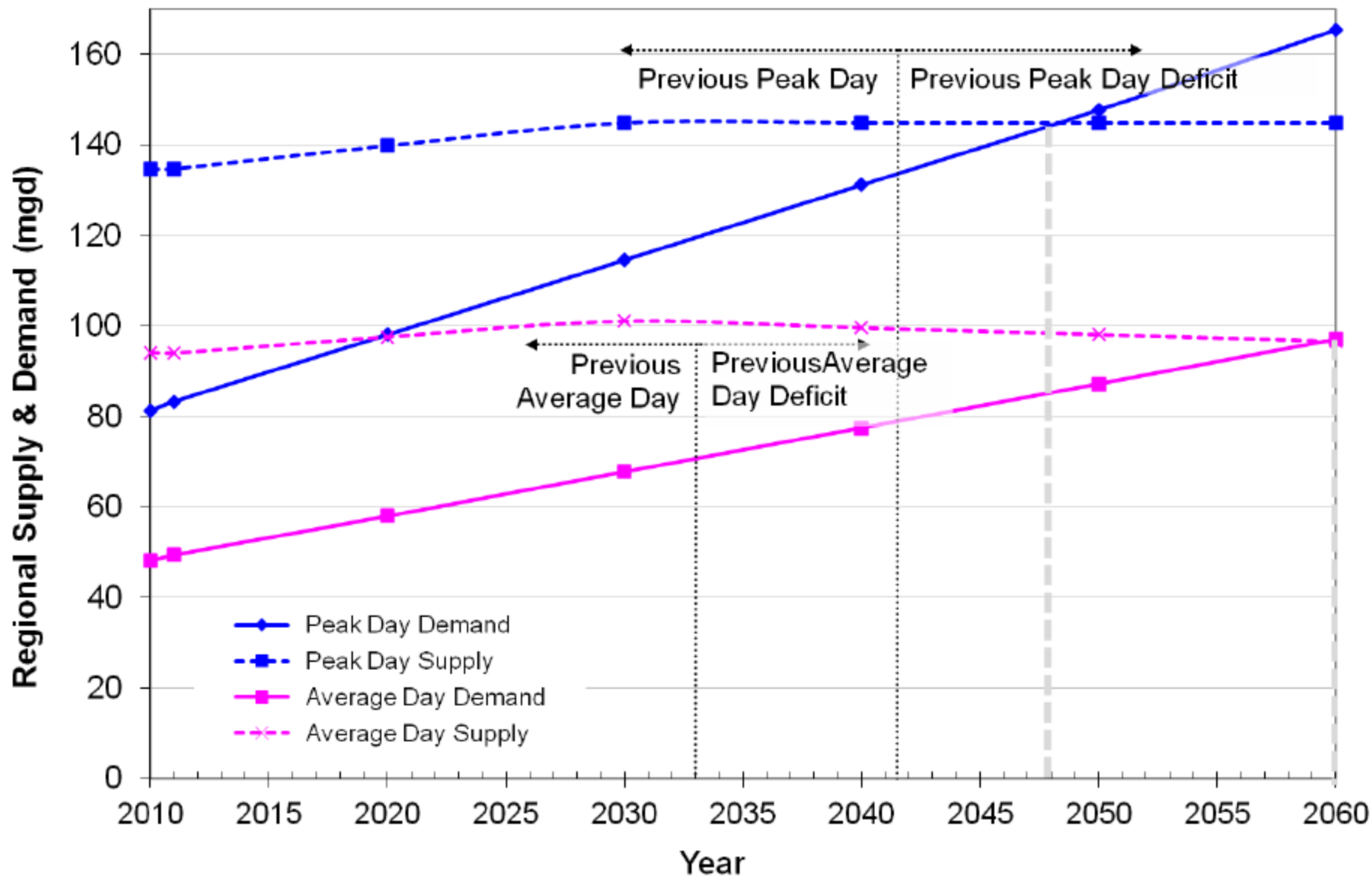












		Current Conditions (34.5 MGD)	2030 Conditions (48 MGD)	
Drought Plan	Trigger	Under Existing DEQ VWP Permit	Under Existing DEQ VWP Permit	Dam Raised 5/1 – 8/31 (Corps & DEQ concerns)
Frequency	Stage 1 (Voluntary)	1 in 21 yrs	1 in 5 yrs	1 in 14 yrs
	Stage 2 (Mandatory)	1 in 84 yrs	1 in 21 yrs	1 in 84 yrs
	Stage 3 (Emergency)	< 1 in 84 yrs	1 in 84 yrs	< 1 in 84 yrs
Median Duration (min-max)	Stage 1 (Voluntary)	85 days (31-115)	62 days (12-186)	57 days (40-144)
	Stage 2 (Mandatory)	68 days (68-68)	118 days (67-165)	102 days (102-102)
	Stage 3 (Emergency)	n/a	n/a	n/a
Drawdown		DEQ Enhanced	DEQ Enhanced	Dam Raised 5/1 – 8/31
Frequency	Rec > 2 ft	1 in 6 yrs	1 in 3.5 yrs	1 in 10.5 yrs
	Rec > 4 ft	1 in 21 yrs	1 in 9 yrs	1 in 84 yrs
	Mig > 3.5 ft, 45+ days	1 in 42 yrs	1 in 17 yrs	1 in 42 yrs
Median Duration (min-max)	Rec > 2 ft	17 days (1-89)	27 days (2-98)	11 days (2-69)
	Rec > 4 ft	16 days (1-63)	26 days (5-80)	49 days (49-49)
	Mig > 3.5 ft	42 days (3-86)	35 days (6-91)	24 days (3-65)
Preserves 60-day supply?		Yes	No (55 days)	Yes
Reliable Service Level		71 MGD	67 MGD	82 MGD

Drought Plan	Trigger	Current Permit 2030 Conditions 48 MGD	2030 Conditions Current Permit w/ Chesdin Raised 18"	2030 Conditions (48 MGD) With Offline Storage			
				5 BG Storage Base Scenario	7 BG Storage Base Scenario	5 BG Storage w/ Chesdin Raised	7 BG Storage w/ Chesdin Raised
Frequency	Stage 1 (Voluntary)	1 in 5 yrs	1 in 7 yrs	1 in 5 yrs	1 in 5 yrs	1 in 8 yrs	1 in 8 yrs
	Stage 2 (Mandatory)	1 in 21 yrs	1 in 42 yrs	< 1 in 84 yrs	< 1 in 84 yrs	< 1 in 84 yrs	< 1 in 84 yrs
	Stage 3 (Emergency)	1 in 84 yrs	< 1 in 84 yrs	< 1 in 84 yrs	< 1 in 84 yrs	< 1 in 84 yrs	< 1 in 84 yrs
Median Duration (min-max)	Stage 1 (Voluntary)	62 days (12-186)	68 days (11-186)	61 days (12-145)	61 days (12-145)	63 days (18-140)	63 days (18-140)
	Stage 2 (Mandatory)	118 days (67-165)	127 days (110-144)	n/a	n/a	n/a	n/a
	Stage 3 (Emergency)	102 days (102-102)	n/a	n/a	n/a	n/a	n/a
Drawdown		Current Permit	Current Permit w/ Chesdin Raised 18"	5 BG Storage Base Scenario	7 BG Storage Base Scenario	5 BG Storage w/ Chesdin Raised	7 BG Storage w/ Chesdin Raised
Frequency	Rec > 2 ft	1 in 3.5 yrs	1 in 6 yrs	1 in 3.5 yrs	1 in 3.5 yrs	1 in 6 yrs	1 in 6 yrs
	Rec > 4 ft	1 in 9 yrs	1 in 17 yrs	1 in 9 yrs	1 in 9 yrs	1 in 42 yrs	1 in 42 yrs
	Mig > 3.5 ft, 45+ days	1 in 17 yrs	1 in 28 yrs	1 in 21 yrs	1 in 21 yrs	1 in 42 yrs	1 in 42 yrs
Median Duration (min-max)	Rec > 2 ft	27 days (2-98)	29 days (5-87)	27 days (2-98)	27 days (2-98)	28 days (5-86)	28 days (5-86)
	Rec > 4 ft	26 days (5-80)	15 days (1-63)	17 days (4-62)	17 days (4-62)	6 days (2-10)	6 days (2-10)
	Mig > 3.5 ft	35 days (6-91)	29 days (4-84)	35 days (5-91)	35 days (5-91)	19 days (1-73)	19 days (1-73)
Preserves 60-day supply?		No (55 days)	Yes (89 days)	Yes (98 days)	Yes (98 days)	Yes (125 days)	Yes (125 days)
Pumping frequency from offline storage to WTP		n/a	n/a	1 in 5 yrs	1 in 5 yrs	1 in 7 yrs	1 in 7 yrs
Avg. # days pumping Chesdin to offline		n/a	n/a	20 (max = 74)	20 (max = 74)	22 (max = 61)	22 (max = 61)
Avg. # days pumping at full capacity Chesdin to offline		n/a	n/a	5 (max = 24)	5 (max = 24)	5 (max = 21)	5 (max = 21)
Reliable Service Level		67	82	80	87	90	96

Planning Level Schedule for Project to Raise the Brasfield Dam

Phase 1

- October –November 2013: Developed and received approved on study plan from Corps & DEQ: **COMPLETE**
- March 2014: Completed Lidar aerial work on reservoir related to streams and wetlands determination of mitigation costs; **COMPLETE**
- April 2014: Completed field work related to streams and wetlands for determination of mitigation costs; **COMPLETE**
- Late April –Early June 2014: Received digital Lidar files to initiate modeling; **COMPLETE**
- June-July 2014: Conducted modeling to determine inundation and net wetland and stream impacts; **COMPLETE**
- August 26, 2014: Both Corps and DEQ for day on reservoir to discuss streams and wetlands study findings and receive their approval; **COMPLETE**
- Late July to early August HydroLogics conducted model runs to determine impact on water supply from off-site storage and raising the dam with off-site storage facility: **COMPLETE**
- September 25, 2014: Presentation to the ARWA Board of Directors on the wetlands and streams findings, and expected stream and wetlands mitigation costs on raising the dam eighteen inches; **COMPLETE**

Total estimated time for Phase 1 completion: 9 months

➤ If project is approved to move forward by ARWA Board of Directors, then proceed to

Phase 2

- **Project funding source determination (funded by cash, bond, rate adjustment);**
- **Development by DEQ and ARWA of written Grant Agreement . This can be concurrent with other on-going project items;**
- **Develop RFP, advertise and hire engineering firm for project.**
Allow three to four months. This can be concurrent with other on-going project items;
- **Submit ARWA Virginia Water Protection Permit modification to DEQ/Corps: This will require ARWA's design engineering firm to be on-board (part of the application will determine and present impacts, if any, on VDOT bridges, reservoir landowners, and recreational boating/marinas). Allow under best of circumstances twelve months. If negative comments are received during public comment period and public meetings are held by DEQ, this process could last two years. If a lawsuit is filed in objection to the project, this process stops until the suit is satisfied.**

Total estimated time for Phase 2 completion: 12 months to 2.5 years

Phase 3

Once ARWA VWP permit is approved/issued, then allow for the following time:

- **4-5 months for design**
- **4-6 months for Federal Energy Regulatory Commission review and approval**
- **one month for bid preparation documents**
- **2-3 months for bidding, contractor selection and contract documents**
- **10-12 months for formal construction and phase out of construction**

Total estimated times for Phase 3: 22-28 months

Total estimated project time: 43-67 months (3.6 - 5.6 years)

Brasfield Dam

Dam Raise Summary of Probable Costs 18" Raise

Estimated Costs August 2014

Item

Construction Costs	\$ 4,169,600
Bridge (2 @ \$3.0M each) replacement	\$ 6,000,000
Legal & Permitting (JPA, FERC, NEPA)	\$ 500,000
Environmental Mitigation	\$10.7-14.4M (use \$12.5M)
Additional Perimeter Infrastructure Impacts	none expected
(Land Acquisition/Flood Easement: ARWA owns up to elevation 164 [18" raise 157.2 ft. to 158.7 ft. leaving 5.3 ft. buffer])	

Subtotal	\$ 23,169,600
Contingency (10%)	\$ 2,316,960
Total Opinion of Probable Project Cost	\$ 25,486,560
Minus Commonwealth Grant (\$5M)	\$ 20,486,560

Compliance with Clean Water Act

Section 404

- ✓ The Army Corps of Engineers and U.S. Environmental Protection Agency will consider if there is an practicable alternative to a proposed project (Off-Site Storage versus Dam Raise) that would have less adverse impact on the aquatic ecosystem (Wetlands & Streams)
- ✓ An approved permit modification most likely would not be issued in circumstances where a less environmentally damaging practicable alternative exists
- ✓ “CWA Section 230.10(a) allows permit issuance for only the **least environmentally damaging practicable alternative**” Taken from: Memorandum of Agreement Between Department of the Army and U.S.E.P.A.

Multi-objective Decisions

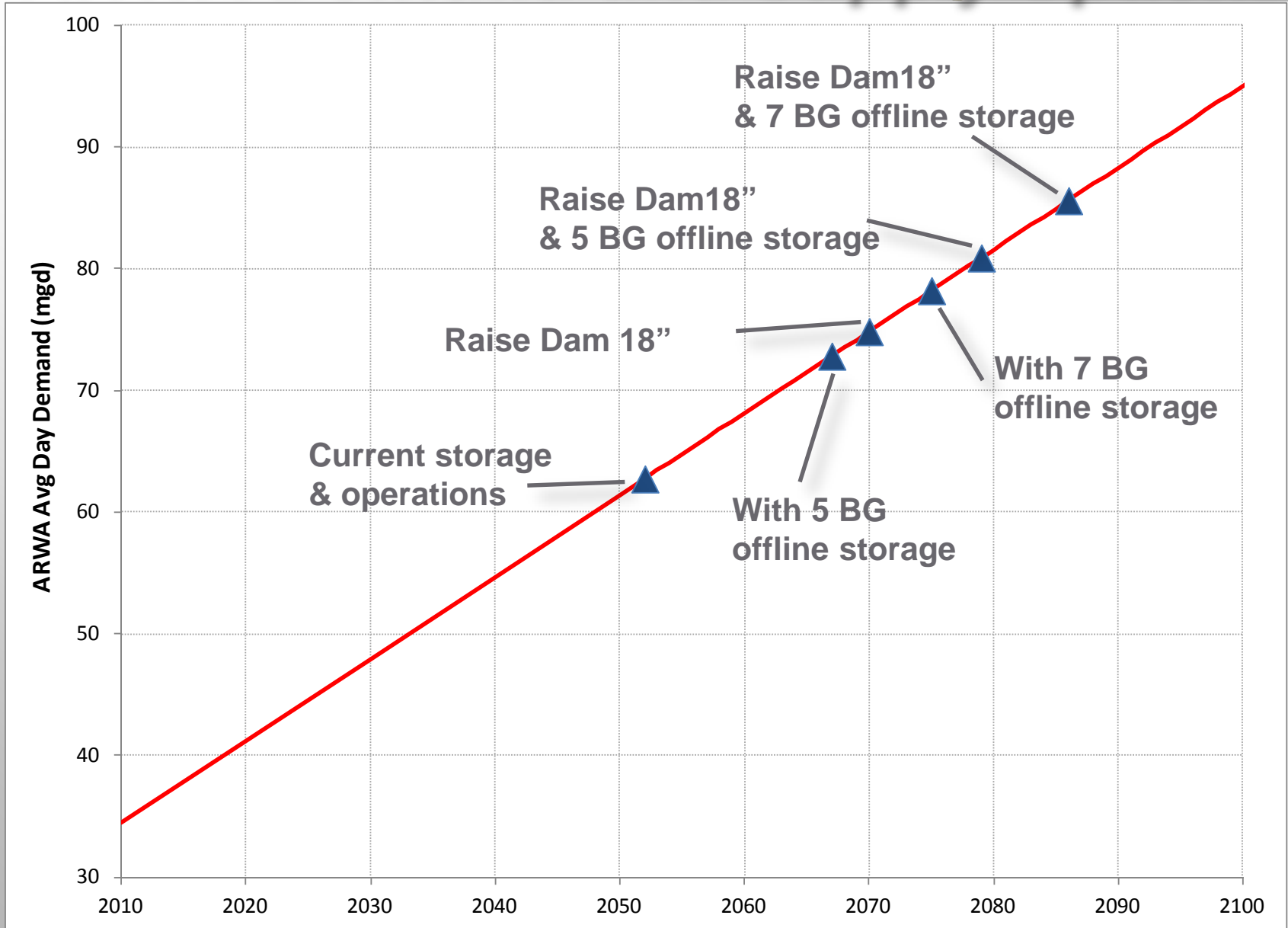
- ▣ Technical Feasibility: Can the water project be implemented?
- ▣ Policy Issues: Are specific constraints imposed on the project as the result of policy determinations?
- ▣ Political Issues: Must specific political influences, issues, special interests, play deciding roles?
- ▣ Economic Factors: Is the project an efficient, effective use of the scarce available resources?

ARWA Obligation

Taken from narrative in the Service Agreements:

ARWA shall expand, operate and maintain the ARWA System in an efficient and economical manner, consistent with good business and operating practices.....

ARWA Demand and Supply Options



- **Discussion with VDOT Representative on Reservoir Bridges**

- **Chesdin Reservoir Storage Management Plan**

Following is a memorandum concerning the award of the VWP Permit required Chesdin Reservoir Storage Management Plan

MEMORANDUM

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

**FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR
JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR**

SUBJECT: AWARD OF PERMIT REQUIRED STORAGE MANAGEMENT PLAN

DATE: JANUARY 19, 2017

On October 23, 2016 ARWA advertised for proposals related to the Virginia Water Protection Permit required Storage Management Plan for the Chesdin Reservoir. Advertisement for proposals was in the Sunday October 23rd Richmond Times Dispatch and maintained on the Authority's website until November 30th. Proposals were due on November 30, 2016 at 2:00 PM. The Storage Management Plan is required to be submitted for review and approval by the Virginia Department of Environmental Quality (VA-DEQ). ARWA stated in the Request for Proposal that the firm selected to complete this Plan shall have experience with not only the technical needs of this Plan, but also with community meetings and public interaction.

ARWA's advertisement also stated that the firm conducting this work would develop a Solids Storage Management Plan for the Chesdin Reservoir that will maintain the water storage volume to October 31, 2028 (end of existing WPP Term). The Storage Management Plan would be submitted to the Virginia Department of Environmental Quality for review and approval no later than October 6, 2017. Development of the Plan will be coordinated with VA-DEQ and the Plan's final Scope of Work would be approved by VA-DEQ.

As stated in the permit, the Storage Management Plan would include at a minimum the following:

1. Stakeholder participation in the development of the Plan and documentation of stakeholder involvement;
2. A description and analysis of the storage management alternatives considered in developing the Plan, including at a minimum, raising the height of the Brasfield Dam, dredging, and off-stream storage;
3. An analysis of the main sources of sedimentation to the reservoir from sources in Chesterfield and Dinwiddie Counties. This analysis should include sedimentation from instream as well as off-stream sources and those actions proposed to manage these sources of sediment;
4. Schedule for conducting a bathymetric survey of the reservoir to provide an updated analysis of sediment in the reservoir, including identification of areas of accumulated sediment and areas having a high potential for accumulation during the permit term;
5. Documentation of progress towards procurement of a preferred alternative for a future alternative source of raw water supply.

➤ *No proposals were received by November 30, 2016 at 2 PM.*

Based on the fact that the existing Water Protection Permit requires this work to be completed by November 1, 2017, the Authority immediately moved forward and approached Hazen & Sawyer consulting engineers (one of the Authority contracted Trust Engineers) to determine if they would be interested in assisting the Authority with development and implementation of this work.

Hazen & Sawyer submitted a proposed Scope of Work on Friday January 6, 2017 to meet the permit required specifics. The Authority responded after our review of the submitted Scope of Work with minor comments back to Hazen & Sawyer on Sunday January 8th.

The Authority's 2016/17 budget presently contains Board approved funding of \$200,000 towards this specific permit required work.

BOARD ACTION REQUESTED:

Staff requests that the Board approval award of the Water Protection Permit required Sediment Management Plan project for a lump sum not to exceed amount of \$91,141 to Hazen & Sawyer consulting engineers. Additional funds (costs for stakeholder meeting facilities and public notifications associated with the meetings) might be needed towards this required work, however since \$200,000 has already been approved for this project, any additional funds expended will be at the discretion of the Executive Director.

- **Update on the ARWA Water Service Agreement**

- **Presentation of proposed FY 2017/18 Operating Budget**

Following is a memorandum concerning the proposed ARWA FY2017/18 budget. Also included for your review is the proposed budget.

MEMORANDUM

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

**FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR
JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR**

SUBJECT: FISCAL YEAR 2017-2018 PROPOSED BUDGET

DATE: JANUARY 19, 2017

We are pleased to present to you the Appomattox River Water Authority fiscal year 2017-2018 proposed budget for your review and consideration. The Board is not requested to approve at today's meeting the proposed budget; however, we request that you review and advise staff to ready the proposed budget to advertise for a public hearing at the March 16th Board Meeting by the required 14-day period in advance of the scheduled public hearing. Any requested changes to the proposed budget by the Board can be made on or before the May 19th Board Meeting where you will vote to approve the budget.

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

OPERATIONS & MAINTENANCE

Salaries & Wages

It is important to understand that the maintenance and operation of our water infrastructure that provides for the quality expected of drinking water is not only supported by implementing the latest technologies, but also by investing in a skilled workforce. Thus we are requesting a performance based salary increase for our employees effective July 2017. As stated in last year's budget memorandum, a significant portion of the Authority's workforce will exit the field in the next three to five years (Hazen and Sawyer Merger Analysis, April 2014), depleting the pool of experienced certified and licensed operational professionals. The job sector in the water field now requires a more skilled workforce. The upcoming retirement of experienced mentors who can train new personnel further exacerbates the problem. The anxiety will grow higher as retiring employees, aging infrastructure, and competition for certified and licensed employees between other local utilities and the private sector continues to make it difficult for the Authority to attract and maintain new employees. We must continue to invest in our skilled employees and maintain market competitive salaries. We have placed a three percent pay for performance increase into the proposed budget. *Even with this proposed increase, the employee salary line item remains the same as FY 2016/17 with no cost increase due to higher earning employees retiring and replacements being hired in at lower salaries.*

Each employee will be rated in May 2017 on the following:

- Knowledge & Ability
- Productivity
- Initiative
- Interpersonal Relationships
- Time Management
- Communication
- Attendance
- Judgment
- Adaptability
- Meeting defined goals

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

Replacement Fund

The Replacement Fund is being decreased from \$1,220,000 to \$851,000 (decrease of \$369,000) based on the following:

- Addition of \$25,000 to cover replacement of thirty year old exterior actuators
- Addition of \$86,000 for instrumentation upgrade or replacements
- Reduction of \$185,000 towards Emergency/miscellaneous repairs due to moving most of these costs into the O&M budget section based on accounting classification
- Reduction of \$50,000 for Off-Site Reservoir Legal/Engineering due to Board placing this project on hold at this time.

Construction Fund

The Construction Fund (Capital Projects) contains four May 2016 Board approved in-plant projects (Finished Water Pump Station No. 1, Raw Water Pump Station No. 1, Raw Water Pump Station electrical upgrades, and a new Emergency Generator) with a total planning level cost estimate for all four projects at \$11.8M. This cost does not include Bond closing costs. These projects were placed on hold in July until the City of Petersburg situation was cleared. Additionally, Chesterfield County has evaluated other alternatives for additional capacity in the Happy Hill/Enon Service Area that could provide the mechanism to drop out the need for the Branders Bridge Pump Station & Ground Tank if this project cannot find financial backing based on mediation between three ARWA members. One potential option that the Board might consider is using the FY 2016/17 debt service funds (\$504,575) already collected towards the four in-plant capital projects to fund a major part of remaining funding needed towards the Branders Bridge Pump Station and Ground Tank that are not covered by contributions from the three ARWA members in mediation. Again, if this project (Branders Pump Station & Ground Tank) is built, the massive costs of the new transmission main could be pushed out

until an estimated date of 2030, and the control valve could be inactivated except during emergency times. The four in-plant projects bond would be then expected to fund the entire costs of the four projects without the FY2016/17 collected debt service funds.

Rate Consideration:

As you reflect on the below proposed rate changes for 2017/18, consider the following proposed ARWA wholesale rate table below showing the proposed changes:

ARWA Member	FY2016/17	FY2017/18	Difference %	Est Annual Difference \$
Chesterfield	0.9595	0.9049	-5.69	-\$488,488
Colonial Heights	0.8992	0.9004	0.13	-\$1,844
Dinwiddie	1.4953	1.4143	-5.42	-\$57,934
Petersburg	0.9017	0.9021	0.04	\$14,573
Prince George	1.357	1.3539	-0.23	\$4,673

As shown in the above table, the rates are decreasing for three ARWA members and show a very insignificant increase for two of the Authority's members.

BOARD ACTION REQUESTED: No budget approval action is required by the Board at this time. Board approval to advertise the 2017-2018 proposed budget is requested. The public hearing on the proposed budget will be at the March 16, 2017 Board of Directors meeting (to be held at SCWWA). Final Board action on budget approval is scheduled to be taken at the May 18, 2017 ARWA Board of Directors meeting (to be held at ARWA). Any budget changes or edits required or requested by the Board can be taken before or during the May Board of Directors meeting.

APPOMATTOX RIVER WATER AUTHORITY

January 19, 2017

PROPOSED OPERATION & MAINTENANCE BUDGET 2017/2018

			Change	
			Increase/ (Decrease) FY16/17 to FY17/18	Reason for Changes
	<u>2016/2017</u> Budget	<u>2017/2018</u> Budget		
O&M EXPENSES				
41000 · Personal Services	\$1,610,000	\$1,610,000	\$0	Budget includes up to a 3.0% pay for performance increase.
42000 · Employee Benefits	\$623,400	\$630,100	\$6,700	Budget includes two previously unbudgeted line items. One being an Employee Assistance Program (EAP), started last year, and another being the OPEB Health Insurance Adjustment.
42100 · Employer FICA	\$123,000	\$123,000		
42200 · Virginia Retirement System	\$96,000	\$96,000		
42210 · Deferred Comp 457	\$5,000	\$6,300		
42300 · Hospitalization Insurance	\$370,000	\$370,000		
42400 · VRS Group Life Insurance	\$21,300	\$21,300		
42500 · Group Term Life	\$1,500	\$2,000		
42600 · Unemployment Insurance	\$1,500	\$1,500		
42800 · Employee Promotions	\$5,100	\$3,500		
42900 · Other Fringe Benefits - EAP		\$2,000		
42950 · OPEB Health Insurance Adj		\$4,500		
43000 · Contractual Services	\$806,000	\$809,200	\$3,200	Budget includes four previously unbudgeted line items; Medical - Testing, Admin and Maintenance Services, VPDES Permit Fee, and Repair Services.
43121 · Auditing Services	\$10,000	\$10,000		
43122 · Accounting Services	\$12,000	\$7,500		
43140 · Consulting Engineers	\$75,000	\$75,000		
43150 · Legal Services	\$75,000	\$75,000		
43152 · Medical - Testing		\$2,000		
43155 · Other Consulting Services		\$0		
43156 · Admin and Maintenance Svc-SCWWA		\$1,700		
43160 · Trustee Services	\$10,000	\$10,000		
43162 · Bank Service Charges	\$1,500	\$1,500		
43170 · Research	\$15,000	\$15,000		
43180 · Potable Water Contract	\$500,000	\$500,000		
43190 · Samples and Tests	\$25,000	\$25,000		
43200 · Lake Patrol	\$4,000	\$4,000		
43210 · Software Support	\$20,000	\$15,000		
43220 · VPDES Permit Fee		\$500		
43310 · Repair Services		\$6,000		
43320 · Service Contracts	\$25,000	\$25,000		
43500 · Printing and Binding	\$1,500	\$1,000		
43600 · Grounds Maintenance	\$32,000	\$35,000		

APPOMATTOX RIVER WATER AUTHORITY

January 19, 2017

PROPOSED OPERATION & MAINTENANCE BUDGET 2017/2018

	<u>2016/2017</u> Budget	<u>2017/2018</u> Budget	Increase/ (Decrease) FY16/17 to FY17/18	Change
				Reason for Changes
45000 · Other Charges	\$967,400	\$977,600	\$10,200	Increase due to a new line item for freight and increased expenses for the leasing and renting of equipment.
45110 · Electricity - Pumping	\$450,000	\$450,000		
45111 · Electricity - Purification	\$270,000	\$270,000		
45120 · Heating Fuel	\$75,000	\$75,000		
45130 · Trash Pickup	\$8,000	\$3,000		
45210 · Postal Services	\$2,000	\$2,200		
45220 · Freight		\$5,000		
45230 · Telecommunications	\$27,500	\$25,000		
45308 · General Liability Insurance	\$90,000	\$90,000		
45410 · Lease/Rent of Equipment	\$7,500	\$20,000		
45530 · Meals and Lodging	\$5,000	\$5,000		
45540 · Education and Training	\$16,400	\$16,400		
45550 · Safety Supplies	\$16,000	\$16,000		
45810 · Miscellaneous				
46000 · Materials and Supplies	\$2,555,500	\$2,752,500	\$197,000	The major increase is the Repair & Maint Supplies-Shop and Repair & Maint Supplies-IT line item. During the Audit, much of the work paid for out of the Emergency/Miscellaneous Repairs in the Replacement Budget is moved to Repair & Maint Supplies-Shop since most of the work is O&M related. With the development of the new IT department last FY a new line account for Repair and Maint Supplies-IT was created for budgeting. For this reason, the amount budget in the O&M account and Replacement account were switched. The O&M account was proportioned out for the shop and IT. There is no net change to the overall budget.
46001 · Office Supplies	\$12,000	\$12,000		
46004 · Laboratory Supplies	\$72,000	\$74,000		
46005 · Purification Chemicals	\$2,200,000	\$2,200,000		
46006 · Purification Process and Janitorial Supplies	\$10,500	\$10,500		
46007 · Repair & Maint Supplies-Shop	\$100,000	\$220,000		
46008 · Vehicle and Equipment Fuels	\$35,000	\$35,000		
46009 · Vehicle and Equipment Supplies		\$10,000		
46010 · Purification Equipment Parts	\$75,000	\$75,000		
46011 · Uniforms	\$6,000	\$6,000		
46012 · Dues and Subscriptions	\$25,000	\$25,000		
46014 · Repair & Maint Supplies-IT		\$65,000		
46015 · Small Equipment Purchases	\$10,000	\$10,000		
46016 · Purification Building Maint	\$10,000	\$10,000		
46000 · Materials and Supplies - Other				
Total Operating Expenses	\$6,562,300	\$6,779,400	\$217,100	
58000 · Equipment Replacement	\$1,220,000	\$851,000	(\$369,000)	
Debt - 2007 Issue (retired in FY17)	\$474,071	\$0		2007 Issue retired in FY2017
Debt - 2010 Issue	\$757,058	\$764,540		

APPOMATTOX RIVER WATER AUTHORITY

January 19, 2017

PROPOSED OPERATION & MAINTENANCE BUDGET 2017/2018

	<u>2016/2017</u> Budget	<u>2017/2018</u> Budget	Change	
			Increase/ (Decrease) FY16/17 to FY17/18	Reason for Changes
Debt - 2012 Issue	\$301,536	\$301,886		
Debt - 2017 Issue	\$504,575	\$510,000		In-Fence Upgrades only
Total Debt	\$2,037,240	\$1,576,426	(\$460,814)	
Reserve Fund	\$439,214	\$475,397	\$36,183	Adjusted to factor increased O&M
Total Expenses	\$10,258,754	\$9,682,223	(\$576,531)	

APPOMATTOX RIVER WATER AUTHORITY
Replacement Fund Budget - 58000

		FY17/18						
Acct#	Proposed FY ITEM	Budget 16/17	Proposed Budget 17/18	INFORMATIONAL & PLANNING				Totals
				18/19	19/20	20/21	21/22	
58010 - Machinery and Motors	Emergency/ Miscellaneous Repairs	\$ 285,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 785,000
	Exterior Actuators		\$ 25,000	\$ 8,000				\$ 33,000
58020 - Instrumentation	Conversion of ModBus+ to TCP (ethernet) - 4 segments		\$ 36,000					\$ 36,000
	Laboratory AA		\$ 25,000					\$ 25,000
	Benchtop TOC Analyzer		\$ 25,000					\$ 25,000
58030 - SCADA	Replacement of '83 vintage SCADA equipment	\$ 100,000						\$ 100,000
58060 - Motor Vehicles	Reservoir Sampling work boat	\$ 25,000						\$ 25,000
	Laboratory Truck			\$ 30,000				\$ 30,000
	Operations Truck				\$ 30,000			\$ 30,000
58070 - Special Studies								\$ -
58090 - Construction	Valve Replacement	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 600,000
	Warehouse Racks and Shelving	\$ 50,000						\$ 50,000
	General Concrete Repairs	\$ 50,000	\$ 50,000	\$ 50,000				\$ 150,000
	Pre-Chem Boiler Replacement	\$ 40,000						\$ 40,000
	Safety Update to Flocculation Basins	\$ 50,000						\$ 50,000
	Off-Site Reservoir Legal &/or Engineering	\$ 300,000	\$ 250,000					\$ 550,000
	Permit Req. Development of Reservoir Storage Management Plan	\$ 200,000						\$ 200,000
TOTALS:		\$ 1,220,000	\$ 851,000	\$ 498,000	\$ 240,000	\$ 210,000	\$ 210,000	\$ 3,229,000

NOTE: FY 17/18 TO BE APPROVED WITH BUDGET

Construction Fund (Capital Projects)

FY17/18

ITEM	Budget 16/17	Proposed Budget 17/18	INFORMATIONAL & PLANNING							Totals	<10 years
			18/19	19/20	20/21	21/22	22/23	23/24	24/25		
Finished Water Pump Stations No. 1 Upgrade - see note 2		\$ 150,000	\$ 1,785,000	\$ 1,785,000						\$ 3,720,000	
Electrical Improvements - see note 2		\$ 150,000	\$ 1,175,000	\$ 1,175,000						\$ 2,500,000	
Emergency Generator Replacement - see note 2		\$ 150,000	\$ 925,000	\$ 925,000						\$ 2,000,000	
Raw Water Pump Station No. 1 Upgrade - see note 2		\$ 150,000	\$ 1,850,000	\$ 1,850,000						\$ 3,850,000	
Clearwell #4										\$ -	\$ 8,750,000
PAC Feed System							\$ 2,500,000			\$ 2,500,000	
Transmission Main - Chesdin Rd. to Pickett Rd					\$ 400,000	\$ 9,969,000				\$ 10,369,000	
Transmission Main - Pickett Ave. to Matoaca Tank					\$ 400,000	\$ 9,969,000				\$ 10,369,000	
Transmission Main - Matoaca Tank to Branders Bridge					\$ 500,000	\$ 11,446,000				\$ 11,946,000	
Transmission Main - Branders Bridge to Lakeview					\$ 200,000	\$ 3,326,000				\$ 3,526,000	
Transmission Main - Wye Connection w/ 24" & 36" to Swift Creek Meter Vault (with Swift Creek Meter Cault										\$ -	
Totals	\$ -	\$ 600,000	\$ 5,735,000	\$ 5,735,000	\$ 1,500,000	\$ 34,710,000	\$ 2,500,000	\$ -	\$ -	\$ 50,780,000	

NOTE:

1) The above items for information only. Approval required from BOD at time of project award.

2) Bond Funding will be required for these Proposed Capital Project.

Revenues

Appomattox River Water Authority

FY Budget Year **2017/2018** Proposed Jan. 19, 2017 Adopted Revised

		Chesterfield	Colonial Heights	Dinwiddie	Petersburg	Prince George	Total
1) Operations and Maintenance Base Rate							
O&M Rate							
	\$/1000 gallons	\$ 0.7781	\$ 0.7781	\$ 0.7781	\$ 0.7781	\$ 0.7781	\$ 0.7781
Estimated (\$/quarter)		\$ 1,410,275	\$ 121,839	\$ 87,964	\$ 336,983	\$ 46,356	\$ 2,003,416.71
Total annual allocation		\$ 5,641,098	\$ 487,356	\$ 351,856	\$ 1,347,934	\$ 185,423	\$ 8,013,667
% of flows		70.39%	6.08%	4.39%	16.82%	2.31%	100.00%
Estimated (mgd)		19.86	1.72	1.24	4.75	0.65	28.218
Calc. annual usage (bg)		7.250	0.626	0.452	1.732	0.238	10.299
O&M =	\$ 6,779,400	Replacement =	\$ 851,000	54.38% 2010 Debt (maintenance) =		\$ 415,757	
Int./Misc. Income	\$ 32,490						
Reserve Policy Rate							
Allocation	%	69.31%	4.39%	6.75%	16.69%	2.86%	100%
Annual Charge	\$/year	\$ 329,498	\$ 20,870	\$ 32,089	\$ 79,344	\$ 13,596	\$ 475,397
Quarter Charge	\$/Quarter	\$ 82,374	\$ 5,217	\$ 8,022	\$ 19,836	\$ 3,399	\$ 118,849
Reserve Policy Rate	\$/1000gals	\$ 0.0454	\$ 0.0333	\$ 0.0710	\$ 0.0458	\$ 0.0571	
FY 16/17 Reserve Policy Charge	\$475,397						
BASE RATE	\$/1000gals	\$ 0.8235	\$ 0.8114	\$ 0.8490	\$ 0.8239	\$ 0.8351	
3) Debt Service							
Bonds	% Financed						
Rate (cents/1000 gals)		\$ -	\$ -	\$ -	\$ -	\$ -	
2007 expansion (\$/year)	100.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
% allocation		89.36%		10.64%			100.00%
Rate (cents/1000 gals)		\$ 0.0038	\$ 0.0321	\$ 0.4441	\$ -	\$ 0.4214	
2010 expansion (\$/year)	45.62%	\$ 27,449	\$ 20,090	\$ 200,829	\$ -	\$ 100,415	\$ 348,783
% allocation		7.87%	5.76%	57.58%	0.00%	28.79%	100.00%
Rate (cents/1000 gals)		\$ 0.0289	\$ 0.0212	\$ 0.0451	\$ 0.0291	\$ 0.0362	
2012 Maintenance (\$/year)	100.00%	\$ 209,237	\$ 13,253	\$ 20,377	\$ 50,385	\$ 8,634	\$ 301,886
% allocation		69.31%	4.39%	6.75%	16.69%	2.86%	100.00%
Rate (cents/1000 gals)		\$ 0.0488	\$ 0.0357	\$ 0.0761	\$ 0.0491	\$ 0.0612	
(1) 2017 In-Fence Upgrades (\$/year)	100.00%	\$ 353,481	\$ 22,389	\$ 34,425	\$ 85,119	\$ 14,586	\$ 510,000
% allocation		69.31%	4.39%	6.75%	16.69%	2.86%	100.00%
FY16/17 Bond Payments	2007 = 2017 =	\$ - \$ 510,000	2010 =	\$ 764,540	2012 =	\$ 301,886	
EXPANSION RATE	\$/1000 gals	\$ 0.0814	\$ 0.0890	\$ 0.5653	\$ 0.0782	\$ 0.5188	
	\$/year	\$ 590,167	\$ 55,732	\$ 255,632	\$ 135,504	\$ 123,635	\$ 1,160,669
3) Total Rate							
TOTAL RATE (BASE + EXPANSION)	\$/1000gals	\$ 0.9049	0.9004	1.4143	0.9021	1.3539	\$ 1.0951
Estimated annual charges	\$/year	\$ 6,560,763	\$ 563,958	\$ 639,577	\$ 1,562,781	\$ 322,654	\$ 9,649,733
4) Budget Comparison							
Proposed FY17/18 Total Rate	\$/1000 gals	\$ 0.9049	\$ 0.9004	\$ 1.4143	\$ 0.9021	\$ 1.3539	\$ 1.0951
Approved FY 16/17 Total Rate	\$/1000 gals	\$ 0.9595	\$ 0.8992	\$ 1.4953	\$ 0.9017	\$ 1.3570	\$ 1.1225
Total Rate Difference	\$/1000 gals	(0.0546)	0.0012	(0.0810)	0.0004	(0.0031)	(0.0274)
Total Rate Difference	%	-5.69%	0.13%	-5.42%	0.04%	-0.23%	-2.44%
Proposed FY17/18 Revenues	\$/year	\$ 6,560,763	\$ 563,958	\$ 639,577	\$ 1,562,781	\$ 322,654	\$ 9,649,733
Total FY16/17 Approved Budget	\$/year	\$ 7,049,251	\$ 565,802	\$ 697,511	\$ 1,548,208	\$ 317,981	\$ 10,178,754
Annual Cash Difference	\$/year	\$ (488,488)	\$ (1,844)	\$ (57,934)	\$ 14,573	\$ 4,673	\$ (529,021)
Annual Revenue Difference	%	-6.93%	-0.33%	-8.31%	0.94%	1.47%	-5.20%

FY 17/18 Expenses \$ 9,682,223

FY 17/18 Income Revenue \$ 9,682,223

NOTES:

1) These are estimated debt service payments.

Reserve Policy: *Appomattox River Water Authority FY17/18*

Reserve Fund Calculation (year 3 of 5)

ARWA O&M Budget	Reserves as of 6/30/2016	Revenue for FY2016/2017	Total expected reserves on 6/30/2017	Recommended 50% O&M Reserves	Charges required to achieve 50% reserves	Annual Charge spread over 3 years (adjusted annually)
\$6,779,400	\$1,524,296	\$439,214	\$1,963,509	\$3,389,700	\$1,426,191	\$475,396.87

- **Implementation of Market Based Adjustment**

Following is a memorandum concerning the implementation of the budgeted market based salary adjustment

MEMORANDUM

**TO: APPOMATTOX RIVER WATER AUTHORITY
SOUTH CENTRAL WASTEWATER AUTHORITY
BOARD OF DIRECTORS**

**FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR
JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR**

SUBJECT: FY2016-2017 - IMPLEMENTATION OF MARKET BASED ADJUSTMENT

DATE: JANUARY 19, 2017

In November 2015, the Boards for the Appomattox River Water Authority and the South Central Wastewater Authority were presented with the results of the combined Compensation Study performed by Springsted Incorporated. The purpose of the study was to:

- Update the current salary schedule and respond to changing market conditions
- Ensure equity and consistency among similar positions
- Ensure that salaries are competitive with comparable employers in the labor market
- Identify relevant compensation factors that accurately reflect the value of different kinds of work
- Ensure the proper internal relationship among all job classes

Based on the Springsted Compensation Study, the FY2016/2017 Approved Budgets included a revised salary schedule and a two percent market based salary adjustment for all employees. Springsted's November 2015 compensation study showed:

- The Authorities' salary levels are slightly below the Central Virginia Utilities market;
- To develop consistency for the Authorities and to maintain competitiveness within the regional labor market, a new salary schedule needed to be adopted;
- Presently ten percent of Authority employees are paid below the minimum of the proposed new salary schedule.

The need for the salary adjustment has been documented by the Springsted Study to address job equity in comparison to market or "labor market." Labor market is defined as the area within which local Central Virginia utilities compete for labor. The market was composed of those utilities from which the Authorities recruit or would logically recruit. Justification for an increase due to labor market/external equity has been substantiated by the Springsted Compensation Study findings.

The market-based adjustment included in the Approved FY 2016/17 Budget entailed the following:

- *Move employees to the Minimum Salary Rate or 2% Salary Increase, whichever is greater.*
 - Employee salaries are brought to the minimum of the proposed pay grade or provided a 2% increase, whichever is greater.
 - The estimated annual cost of this option is \$30,631 for the SCWWA and \$27,329 for the ARWA. This is equal to less than two percent of the Authority's approximate \$1.8 million annual payroll for employees.

On July 1, 2016 the Authorities proceeded to implement the Board approved new salary schedule and made minimal adjustments to those select employees that were below the new starting salaries for their positions. When approving the budget, the Board voiced concerns with uniformly issuing a two percent salary increase to all employees. *It was requested at that time that staff return mid-year with an alternate proposal for the implementation of the market based salary adjustment that will more effectively address salary compression.* With that in mind, staff is proposing the following;

- Beginning January 23, 2017, department heads will compare the salaries, experience, and performance of their staff and provide the Executive Director with written justifications for whom within their department should receive a market based salary adjustment;
- By March 1, 2017, the Executive Director, Assistant Executive Director, and Accounting/Office Manager will evaluate the justifications and make the final decision as to who will receive any adjustment and the salary increase amount;
- The total amount of increase for each department will not exceed two percent of the current salary total for that department.

By using this method, not everyone will receive an increase. However, the Authorities will be able to begin addressing compression issues based on the experience and performance of our current employees. This action would also enable the Authorities to maintain regionally competitive salaries so qualified staffing can be retained at each Authority.

BOARD ACTION REQUESTED:

Staff recommends the Board of Directors grant approval for the Authorities to proceed with this alternative proposal for the implementation of the market based salary adjustment with total adjustments not to exceed the budgeted annual costs allotted in the Approved FY 2016/17 Budgets.

- **Status Report: Ongoing Projects/Operational/Financial**

Following are memoranda concerning the status of Ongoing Projects and Financials

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

**FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR
JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR**

SUBJECT: STATUS REPORT – ON-GOING PROJECTS

DATE: JANUARY 19, 2017

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

Lime Silo Improvements

- This project is nearing substantial completion.
- The lime system has been engaged since November, 2016.
- There are some issues with level controls that are being worked on by the manufacturer.

Sedimentation basin work and the clearwell valve work are complete

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR
JAMES C. GORDON, ASST. EXECUTIVE DIRECTOR

SUBJECT: OPERATING AND FINANCIAL STATUS REPORT

DATE: January 19, 2017

Operating Status Report

General:

- The next Board of Directors Meeting (if approved) is scheduled for 2:00 PM on **Thursday March 16, 2017** at the South Central Wastewater Authority.
- Developed a scope of work for the Storage Management Plan to meet the requirements of the ARWA's Virginia Water Protection Permit.
- Received and opened chemical bids on 1/5/2017. Low bids are being issue P.O.s and SDS and certifications are being collected.

Operations:

- Finished water met all permit requirements for the month of November and December. Copies of the VDH monitoring reports are available if anyone would like to see them.
- Staff continues to work with the contractor to resolve issues with the new lime transfer system.
- Contacting bulk chemical companies awarded the
- Preparing for GAC Carbon Cap change out and regeneration. Contractor will be onsite on 1/16/2017. Filters 17-20 and 1-8 will be changed out over the next several weeks. The ARWA is transitioning to a three year carbon change out schedule instead of 4 years following the odor study performed in 2016.

Maintenance:

- Running a new finished water sample line to provide the same sample to both labs.
- The traveling screen has been rebuilt, installed, and is in operation.
- D16 was installed on 1/10/2016 after repairs and P21 will be evaluated.
- Staff continues to clean out the shop bays and move items to the warehouse.

Instrumentation/IT:

- Staff installed new security cameras at the warehouse and gate.
- Staff continues to evaluate additional options for the gate controls.
- Staff continues to trouble shoot and install new actuators. These are reaching the end of their useful life

Laboratory:

- Staff will be receiving and analyzing THM and HAA samples from Jurisdiction members.
- Working on VPDES permit application

Financial Status Report:

Following is the Executive Summary of the Monthly Financial Statement that includes the YTD Budget Performance and the Financial Statement for December 2016.

Appomattox River Water Authority
Monthly Financial Statements-December 2016

Water Rate Center

Revenues and Expenses Summary

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>Budget</i>	<i>Variance</i>
<i>FY 16/17</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	\$ 10,178,754	\$ 5,089,377	\$ 5,273,757	\$ 184,380	3.62%
Rent Income	\$ 80,000	\$ 40,000	\$ 37,741	\$ (2,259)	-5.65%
Misc. Revenue	\$ -	\$ -	\$ 104,464	\$ 104,464	#DIV/0!
Total Operating Revenues	\$ 10,258,754	\$ 5,129,377	\$ 5,415,962	\$ 286,585	5.59%

Expenses

Personnel Cost	\$ 2,233,400	\$ 1,116,700	\$ 1,098,892	\$ (17,807)	-1.59%
Contractual/Professional Services	\$ 806,000	\$ 403,000	\$ 468,441	\$ 65,441	16.24%
Utilities	\$ 803,000	\$ 401,500	\$ 392,655	\$ (8,845)	-2.20%
Communication	\$ 29,500	\$ 14,750	\$ 18,912	\$ 4,162	28.22%
Office/Lab/Purification Supplies	\$ 94,500	\$ 47,250	\$ 55,811	\$ 8,561	18.12%
Insurance	\$ 90,000	\$ 45,000	\$ 91,150	\$ 46,150	102.56%
Lease/Rental Equipment	\$ 7,500	\$ 3,750	\$ 22,755	\$ 19,005	506.81%
Travel/Training/Dues	\$ 46,400	\$ 23,200	\$ 12,397	\$ (10,803)	-46.57%
Safety/Uniforms	\$ 22,000	\$ 11,000	\$ 13,065	\$ 2,065	18.78%
Chemicals	\$ 2,200,000	\$ 1,100,000	\$ 1,104,582	\$ 4,582	0.42%
Repair/Maintenance Parts & Supplies	\$ 230,000	\$ 115,000	\$ 103,261	\$ (11,740)	-10.21%
Total Operating Expenses	\$ 6,562,300	\$ 3,281,150	\$ 3,381,921	\$ 100,771	3.07%
Operating Suplus/(Deficit)	\$ 3,696,454	\$ 1,848,227	\$ 2,034,041	\$ 185,814	10.05%

Replacement Outlay Budget vs. Actual

Machinery & Motors	\$ 285,000	\$ 142,500	\$ 131,519	\$ (10,981)	-7.71%
Instrumentation	\$ -	\$ -	\$ 9,312	\$ 9,312	#DIV/0!
SCADA	\$ 175,000	\$ 87,502	\$ 81,150	\$ (6,352)	-7.26%
Computer Equipment	\$ 20,000	\$ 9,998	\$ 2,493	\$ (7,505)	-75.07%
Motor Vehicles	\$ 25,000	\$ 12,498	\$ 5,957	\$ (6,541)	-52.34%
Flocculation Basins	\$ 50,000	\$ 24,998	\$ 24,475	\$ (523)	-2.09%
Valve Replacement	\$ 100,000	\$ 50,000	\$ 69,363	\$ 19,363	38.73%
Warehouse Racks & Shelving	\$ 50,000	\$ 25,000	\$ 25,263	\$ 263	1.05%
Concrete	\$ 50,000	\$ 25,000	\$ -	\$ (25,000)	-100.00%
Pre-Chem Boiler	\$ 40,000	\$ 20,000	\$ 27,500	\$ 7,500	37.50%
Off-Site Reservoir	\$ 300,000	\$ 150,000	\$ 21,812	\$ (128,188)	-85.46%
Reservoir Storage	\$ 200,000	\$ 100,000	\$ -	\$ (100,000)	-100.00%
Lime Feed Improvements	\$ 457,415	\$ 228,707	\$ 414,630	\$ 185,923	81.29%
Total Capital Outlay	\$ 1,752,415	\$ 876,203	\$ 813,474	\$ (62,729)	-7.16%

Debt Service Budget vs. Actual

Interest Income	\$ -	\$ -	\$ 40,944	\$ 40,944	#DIV/0!
Interest Jurisdictions (Income)	\$ -	\$ -	\$ 2,320	\$ 2,320	#DIV/0!
Interest Expense	\$ -	\$ -	\$ 260,616	\$ 260,616	#DIV/0!
Principal Payments	\$ 2,037,240	\$ 2,037,240	\$ 1,031,300	\$ (1,005,940)	-49.38%

Appomattox River Water Authority-Balance Sheet
For Month Ending December 31, 2016

Assets

Current Assets

Petty Cash	\$	400
SunTrust Operating Fund	\$	1,270,824
SunTrust Replacement Fund	\$	-
Total Unrestricted Cash	\$	1,271,224

Water Revenue	\$	2,952,919
Reserve Account	\$	1,737,649
Replacement Account	\$	358,634
Debt Service Reserve	\$	1,547,135
Bond Principal/Interest	\$	275,827
Total Restricted Cash	\$	6,872,165

Total Checking/Savings	\$	8,143,388
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Accounts Receivable	\$	2,347,056
Other Current Assets	\$	856
Inventory	\$	358,541

Total Current Assets	\$	10,849,840
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Fixed Assets

Land and Land Rights	\$	1,044,167
Water System	\$	84,179,582
Equipment	\$	1,055,242
Hydro	\$	34,873
Construction in Progress	\$	64,940
Accumulated Amortization	\$	(31,386)
Accumulated Depreciation	\$	(41,906,838)

Total Fixed Assets	\$	44,440,579
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Other Assets

Pension	\$	295,870
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Total Assets	\$	55,586,290
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Liabilities & Equity

Current Liabilities

Accounts Payable	\$	92,021
Retainage Payable	\$	1,721
Accrued Interest Payable	\$	130,308

Total Current Liabilities	\$	224,050
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Long Term Liabilities

Pension	\$	238,787
Bonds Payable-2010	\$	8,209,985
Bonds Payable-2012	\$	2,815,000
Accrued Leave Payable	\$	156,919
Post Employment Benefit	\$	65,000

Total Long-Term Liabilities	\$	11,485,690
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Total Liabilities	\$	11,709,740
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Equity

Retained Earnings	\$	(3,968,954)
Reserve for Operations	\$	3,273,180
Reserve for Water Revenue	\$	6,780,931
Reserve for Replacements	\$	500,000
Reserve for Bond Interest	\$	130,308
Reserve for Debt Service	\$	1,532,664
Reserve for Bond Principal	\$	1,031,300
Reserve for Reserve	\$	1,209,895
Fixed Assets, Net of Debt	\$	32,384,295

Net Income	\$	1,002,931
	\$	43,876,550

Total Equity	\$	43,876,550
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Total Liabilities & Equity	\$	55,586,290
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5. Items from Counsel

- **Review and Approval of Authority Freedom of Information Policy**

Following is a memorandum and policy regarding a Freedom of Information Act (FOIA) Policy for the ARWA

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

FROM: ROBERT WICHSER, EXECUTIVE DIRECTOR

SUBJECT: FOIA RULES AND POLICY

DATE: JANUARY 19, 2017

Background:

July 1st, 2016 the Virginia General Assembly approved legislation requiring new Freedom of Information Act (FOIA) responsibilities for local governments and government agencies similar to Appomattox River Water Authority & South Central Wastewater Authority. The state law requires that a FOIA officer be designated, trained, and that a FOIA policy be put in place. This policy provides guidelines on access to the Authorities records, as defined under state law. ARWA and SCWWA FOIA officer will be Melissa Wilkins our ARWA/SCWWA Office/Accounting Manager under the oversight of the ARWA/SCWWA Executive Director. The ARWA/SCWWA Authorities' FOIA policy is attached to this memo. Our policy is modeled after the recommended policy of the State of Virginia Freedom of Information Advisory Council.

Board Action Requested:

Staff respectfully recommends the ARWA/SCWWA Board of Directors approve the policy and the designation of the ARWA/SCWWA Office/Accounting Manager as the FOIA Officer.

Virginia Freedom of Information Act Compliance

The Rights of Requesters and the Responsibilities of the Appomattox River Water Authority & South Central Wastewater Authority

The Virginia Freedom of Information Act (FOIA), located in § 2.2-3700 et seq. of the Code of Virginia, guarantees citizens of the Commonwealth and representatives of the media access to public records held by public bodies, public officials, and public employees.

A public record is any writing or recording -- regardless of whether it is a paper record, an electronic file, an audio or video recording, or any other format -- that is prepared or owned by, or in the possession of a public body or its officers, employees or agents in the transaction of public business. All public records are presumed to be open, and may only be withheld if a specific, statutory exemption applies.

The policy of FOIA states that the purpose of FOIA is to promote an increased awareness by all persons of governmental activities. In furthering this policy, FOIA requires that the law be interpreted liberally, in favor of access, and that any exemption allowing public records to be withheld must be interpreted narrowly.

Your FOIA Rights

- You have the right to request to inspect or receive copies of public records, or both.
- You have the right to request that any charges for the requested records be estimated in advance.
- If you believe that your FOIA rights have been violated, you may file a petition in district or circuit court to compel compliance with FOIA. Alternatively, you may contact the FOIA Council for a nonbinding advisory opinion.

Making a Request for Records

- You may request records by U.S. Mail, fax, e-mail, in person, or over the phone. FOIA does not require that your request be in writing, nor do you need to specifically state that you are requesting records under FOIA.
 - From a practical perspective, it may be helpful to both you and the person receiving your request to put your request in writing. This allows you to create a record of your request. It also gives us a clear statement of what records you are requesting, so that there is no misunderstanding over a verbal request. However, we cannot refuse to respond to your FOIA request if you elect to not put it in writing.
- Your request must identify the records you are seeking with "reasonable specificity." This is a common-sense standard. It does not refer to or limit the volume or number of records that you may request; instead, it requires that you be specific enough so that we can identify and locate the records that you are seeking.
- Your request must ask for existing records or documents. FOIA gives you a right to inspect or copy records; it does not apply to a situation where you are asking general questions about the work of the Appomattox River Water Authority (ARWA) or the South Central Wastewater (SCWWA), nor does it require ARWA or SCWWA to create a record that does not exist.
- You may choose to receive electronic records in any format used by ARWA/SCWWA in the regular course of business.
 - For example, if you are requesting records maintained in an Excel database, you may elect to receive those records electronically, via e-mail or on a computer disk, or to

receive a printed copy of those records.

- If we have questions about your request, please cooperate with the ARWA/SCWWA staff's efforts to clarify the type of records that you are seeking, or to attempt to reach a reasonable agreement about a response to a large request. Making a FOIA request is not an adversarial process, but we may need to discuss your request with you to ensure that we understand what records you are seeking.

To request records from ARWA or SCWWA, you may direct your request to the Office/Accounting Manager. She can be reached at: Melissa Wilkins, Office/Accounting Manager, 21300 Chesdin Road, South Chesterfield, Virginia 23803; 804-590-1145 ext. 102 (phone); 804-590-9285 (fax); email: mwilkins@arwava.org. You may also contact her with questions you have concerning requesting records from ARWA or SCWWA. In addition, the Freedom of Information Advisory Council is available to answer any questions you may have about FOIA. The Council may be contacted by e-mail at foiacouncil@dls.virginia.gov or by phone at (804) 225-3056 or [toll free] 1- 866-448-4100.

ARWA/SCWWA's Responsibilities in Responding to Your Request

- ARWA/SCWWA must respond to your request within five working days of receiving it. "Day One" is considered the day after your request is received. The five-day period does not include weekends or holidays.
- The reason behind your request for public records from ARWA/SCWWA is irrelevant, and you do not have to state why you want the records before we respond to your request. FOIA does, however, allow ARWA/SCWWA to require you to provide your name and legal address.
- FOIA requires that ARWA/SCWWA make one of the following responses to your request within the five-day time period:
 1. We provide you with the records that you have requested in their entirety.
 2. We withhold all of the records that you have requested, because all of the records are subject to a specific statutory exemption. If all of the records are being withheld, we must send you a response in writing. That writing must identify the volume and subject matter of the records being withheld, and state the specific section of the Code of Virginia that allows us to withhold the records.
 3. We provide some of the records that you have requested, but withhold other records. We cannot withhold an entire record if only a portion of it is subject to an exemption. In that instance, we may redact the portion of the record that may be withheld, and must provide you with the remainder of the record. We must provide you with a written response stating the specific section of the Code of Virginia that allows portions of the requested records to be withheld.
 4. We inform you in writing that the requested records cannot be found or do not exist (we do not have the records you want). However, if we know that another public body has the requested records, we must include contact information for the other public body in our response to you.
 5. If it is practically impossible for ARWA/SCWWA to respond to your request within the five-day period, we must state this in writing, explaining the conditions that make the response impossible. This will allow us seven additional working days to respond to your request, giving us a total of 12 working days to respond to your request.
- If you make a request for a very large number of records, and we feel that we cannot provide the records to you within 12 working days without disrupting our other organizational responsibilities, we may petition the court for additional time to respond to your request. However, FOIA requires that we make a reasonable effort to reach an agreement with you concerning the production of the records before we go to court to ask for more time.

Costs

- A public body may make reasonable charges not to exceed its actual cost incurred in

accessing, duplicating, supplying, or searching for the requested records. No public body shall impose any extraneous, intermediary, or surplus fees or expenses to recoup the general costs associated with creating or maintaining records or transacting the general business of the public body. Any duplicating fee charged by a public body shall not exceed the actual cost of duplication. ARWA/SCWWA uses an estimate of \$.15 per page where applicable, all charges for the supplying of requested records shall be estimated in advance at the request of the citizen as set forth in subsection F of § 2.2-3704 of the Code of Virginia. As a matter of policy, ARWA/SCWWA will seek to provide a low cost or no cost alternative, such as making the documents available for viewing at no cost, before copies are made.

- You may have to pay for the records that you request from ARWA/SCWWA. FOIA allows us to charge for the actual costs of responding to FOIA requests. This would include items like staff time spent searching for the requested records, copying costs, or any other costs directly related to supplying the requested records. It cannot include general overhead costs.
- If we estimate that it will cost more than \$200 to respond to your request, we may require you to pay a deposit, not to exceed the amount of the estimate, before proceeding with your request. The five days that we have to respond to your request does not include the time between when we ask for a deposit and when you respond.
- You may request that we estimate in advance the charges for supplying the records that you have requested. This will allow you to know about any costs upfront, or give you the opportunity to modify your request in an attempt to lower the estimated costs.
- If you owe us money from a previous FOIA request that has remained unpaid for more than 30 days, ARWA/SCWWA may require payment of the past-due bill before it will respond to your new FOIA request.

Types of records

The following is a general description of the types of records held by ARWA/SCWWA:

- Personnel records concerning employees and officials of ARWA or SCWWA.
- Records of contracts which ARWA or SCWWA has entered into.
- Water and wastewater utility data, financial, and system information.
- Records of meeting of the ARWA/SCWWA Boards.

If you are unsure whether ARWA/SCWWA has the record(s) you seek, please contact our Office/Accounting Manager, Melissa Wilkins, at 21300 Chesdin Road, South Chesterfield, Virginia 23803; 803-590-1145 ext. 102 (phone); 804-590-9285 (fax); email: mwilkins@arwava.org.

Commonly used exemptions

The Code of Virginia allows any public body to withhold certain records from public disclosure. ARWA/SCWWA commonly withholds records subject to the following exemptions:

- Personnel records (§ 2.2-3705.1(1) of the Code of Virginia).
- Records subject to attorney-client privilege (§ 2.2-3705.1(2)) or attorney work product (§ 2.2-3705.1(3)).
- Vendor proprietary information (§ 2.2-3705.1(6)).
- Records relating to the negotiation and award of a contract, prior to a contract being awarded (§ 2.2-3705.1 (12)).

Policy regarding the use of exemptions

- The general policy of ARWA/SCWWA is to invoke the personnel records exemption in those instances where it applies in order to protect the privacy of employees and officials of ARWA/SCWWA.
- The general policy of ARWA/SCWWA is to invoke the contract negotiations exemption whenever it applies in order to protect ARWA/SCWWA bargaining position and negotiating strategy.

- **Financial Disclosure Statement**

6. Closed Session

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

8. Adjourn