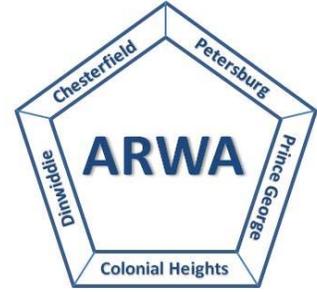


Appomattox River Water Authority



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

Appomattox River Water Authority

Board of Directors Meeting

DATE: November 15, 2018

TIME: 2:00 PM

LOCATION: Eastside Enhancement Center
7301 Boydton Plank Road
North Dinwiddie, VA, 23803

AGENDA

1. Call to Order/Roll Call
2. Approval of Minutes: Minutes of the Rescheduled September Board Meeting held on October 18, 2018
3. Public Comment
4. Continued Public Hearing on and Consideration of Proposed Amendments Related to the Direct Irrigation Withdrawal Policy
5. Executive Director's Report:
 - Reservoir Status Update for October/November 2018
 - Annual Financial Report Year Ended June 30, 2018: Robinson, Farmer, Cox Associates
 - Status Report: Ongoing Projects/Operations/Financials
 - Internal Audit Subcommittee Update
6. Election of Board Officers
7. Items from Counsel
8. Closed Session
9. Other Items from Board Members/Staff Not on Agenda:
10. Adjourn

Cc: W. Dupler/George Hayes, Chesterfield
L. Lyons, Petersburg
W. Henley, Colonial Heights
F. Haltom, Prince George
R. Wilson, Dinwiddie Water Authority
A. Anderson, McGuire Woods

1. Call to Order/Roll Call

2. Approval of Minutes: Minutes of the Rescheduled September Board Meeting held on October 18, 2018

Following are minutes of the Rescheduled September Board Meeting held on October 18, 2018

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

BOARD OF DIRECTORS MEETING

Appomattox River Water Authority

October 18, 2018 at 2:00 p.m.

**Location: South Central Wastewater Authority
900 Magazine Road, Petersburg, Virginia 23803**

PRESENT:

Percy Ashcraft, Chairman (Prince George)
Joseph Casey, Vice Chairman (Chesterfield)
Kevin Massengill, Secretary/Treasurer (Dinwiddie)
Douglas Smith, (Colonial Heights)
Aretha Ferrell-Benavides, (Petersburg)
George Hayes, (Alternate, Chesterfield)
Frank Haltom, (Alternate, Prince George)
Lionel Lyons, (Alternate, Petersburg)

ABSENT:

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

STAFF:

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

OTHERS:

Denny Morris, (Crater Region Planning Commission)
Ted Cole, (Davenport)
Jimmy Sanderson, (Davenport)
Roger Arnold, (Hazen and Sawyer)
Seth Garrison, (Raftelis)
John Mastracchio, (Raftelis)
Gary Sheehan, (Resident)
Doris Jaeger, (Resident)
Jamie Segner, (Resident)
David Segner, (Resident)
Walter Worontsoff, (Resident)
Kathleen Worontsoff, (Resident)
Wendy Austin, (FOLAR)

Mr. Ashcraft, Chairman, called the meeting to order at 2:00 p.m.

1. Call to Order/Roll Call.

The roll was called.

2. Approval of Minutes: Minutes of the Regular Meeting of the Board on August 16, 2018

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

RESOLVED, that the minutes of the Regular Meeting of the Board on August 16, 2018 are hereby approved:

For: 5 Against: 0 Abstain: 0

3. Public Comment

There were no Public Comments.

4. Public Hearing on and Consideration of Proposed Amendments Related to the Direct Irrigation Withdrawal Policy

Dr. Wichser reported that we had prepared a Resolution for the Board's review and approval. He stated the original Resolution was adopted for irrigation withdrawal from the Chesdin Reservoir on November 20, 2008, with the first amended and restated Resolution on June 23, 2011. He further stated the second amended and restated Resolution is before you and dated October 18, 2018. He stated with this particular Resolution, the ARWA Staff and Counsel does recommend allowing the licenses to be renewed for an additional five-year period, setting the license fee for the renewal term to the formula provided by the first amended policy, and that is the five-year cost of \$343.92. Dr. Wichser further stated that Staff is also recommending as does Counsel, that the existing moratorium on new direct irrigation withdrawals shall continue in full force and effect.

Mr. Ashcraft opened the Public Hearing at 2:05 p.m.

Mr. Gary Sheehan of 18758 Waterford Drive, Sutherland, VA 23885 on the lake, stated he would like to thank the Board and the job the Water Authority's been doing for the last five to six years since the water went back up. He thinks you've done a great job of managing that resource and everyone appreciates it. He further stated that he thanks you for the opportunity to extend the permits for those that are on the lake, which is a great thing they all appreciate. He stated on the notion of not allowing new permits, he would like for the Board to reconsider that. He further stated that it seems unfair in the neighborhood. He stated he lives on the lake and has a permit. His neighbor

built a house in the last five years about two houses down, and they can't get a permit. He stated he's not sure why it's beneficial and would like the Board to consider expanding that, so they could allow some of the people who did not get permits last time to do so this time. Mr. Walter Worontsoff of 18620 Waterford Drive, Sutherland, VA 23855 lives on the lake and has the privilege of using it to water his lawn and appreciates it. He stated he agrees with everything in the statements the previous gentleman made. He stated what he would like to do, if it's even possible, is to have the Board consider, as it did the first time, to have two five-year periods for a total of ten years, that could be renewed after five years under the same circumstances of a fee increase as appropriate with inflation, or how it's currently worded in the current contract. He stated he also does support other people being able to use water from the lake that have recently built houses as well.

Ms. Jamie Segner of 3029 Oxford Drive, Sutherland, VA 23885 stated she also asks that new owners, or people who don't already have irrigation systems in their yard, be allowed to buy in as well.

Mr. Ashcraft asked Mr. Mullen if the Board chooses to make any changes to the document or defer to a future meeting, it seems to him it would be proper to continue to keep the public hearing open, because those changes would be substantive of which there would be new material and Mr. Mullen answered that is correct. Mr. Ashcraft stated he is leaving the public hearing open at this time until we see how the Board dispenses with this matter.

Mr. Walter Worontsoff commented when he read the original letter that was sent out regarding this Board meeting, he thought he read that in the meeting you were going to be considering allowing other people, who currently weren't able to draw water, to go ahead and draw water. He asked if he misread that and are you indicating it's different than the original proposal. He stated his recollection was in part of that letter that went out indicated that you were considering that to extend it to other people. He asked how come all of a sudden that it's a complete change from that, which was in the original letter. Mr. Ashcraft stated that it is part of the process, the Board can certainly add that if they choose or not do that if they choose. He further stated the Executive Director has provided a Staff recommendation, which is to continue the moratorium on new, but renew the opportunity for those on it now for a period of five years. He stated the suggestions that are made by the public, and any other suggestions that the Board may have, is what we are going to take up right now.

Ms. Doris Jaeger of 19424 Oxford lane, Sutherland, VA 23885 stated she appreciates having a permit and this will be her third renewal. She stated she has several questions about it but she thinks people who now live on the lake should be allowed the opportunity to withdraw water. She further stated she didn't think the amount of water they use is that significant, and they are being penalized for building on the lake at a later date. She stated her concern would be that they are not here today and there is only a small number of them present today. She stated she believed it was in the mailing that was done as her letter came to "current occupant" and that should not have happened. She further stated that it came to her address, and the people who are building didn't receive anything. She stated this meeting was originally scheduled for a month ago so they think there is no meeting. She further stated she thinks the public deserves an opportunity to come in and ask the Board to consider that.

Mr. Ashcraft stated this is one reason why we are keeping the public hearing open for a future time, if the Board doesn't take it up today, and this way the public would still have a chance to comment. He further stated we may need to do additional mailing or contact with the public.

Mr. David Segner of 3029 Oxford Drive, Sutherland, VA 23885 stated he doesn't have a permit, as he just bought in a couple of years ago. He stated he didn't know if the previous owner had a permit at one time, but he obviously had something in the water. He further stated he agreed with most of what the other people were saying. He stated in his case and one or two other people he knows that bought in recently, they didn't know about the permit when they bought the house so there was no transfer and didn't know to ask for it. He stated he's not sure why the moratorium is still there without the water problem. He stated he understood there were water issues, but he didn't see in the notes why a moratorium is still in place. He further stated there are people who have houses and don't know about it so they don't have a chance to get a permit.

Dr. Casey stated it would help everyone here to have a brief history lesson of what gave rise to the moratorium and asked Dr. Wichser to help with this. Dr. Wichser stated he didn't have a lot of specific information on the moratorium. He stated what happened in 2010 based on the pending lack of water in the Chesdin Reservoir, calculation estimates were done on the amount of water withdrawn based on existing and potential future irrigation withdrawals. He further stated that at the time in 2010 when the reservoir was essentially drying up, the Authority became very concerned. He stated presently we had reviewed some quick calculations as the existing licensing agreement allows a 20 GPM pump to be installed and if it were run for a twenty-four-hour period that's close to 30,000 GPD. He further stated that a 20-gallon pump estimated running two hours per day is about 2,400 GPD, and if it were run three days per week a homeowner would use approximately 7,200 GPW. He stated we have estimated in our historical records of 125 irrigation systems withdrawing from the reservoir system times 7,200 GPW per house about 0.9 MGD or 900,000 gallon of water per week withdrawal from the reservoir. He further stated in 2010 those calculations were also done, and at that time the thought was that they were trying to preserve as much water as possible and that's why the moratorium was put into effect.

Mr. Massengill added that he and Mr. Gordon were the only two here at that time. He stated he spent time on the committee that evaluated this, so he went back and looked at his notes. He stated we were in the process of trying to get a very favorable permit in place that's now in place at the Authority. He further stated that the concern and the angst back then was whether the permit would pass, and we felt it was cautious to not allow new people to hook up. He stated that once we were aware that these hookups and systems were in place, that it was the thought of the Authority to try and make good of that and allow these people to be able to have these systems in place. He stated that today he has people on the Dinwiddie side of the lake that are putting in really nice homes along the water and do not have the opportunity to be able to hook up. He stated comments made today do illustrate the fact that the management of the lake and reservoir has been very good under the leadership of Staff, and they take a more common-sense approach to management of the lake at the same time that we are meeting

all the regulatory requirements. He stated we lose more from evaporation than irrigation. He stated he is not in favor of continuing the moratorium, and that due to the good stewardship of the Authority the moratorium could be lifted at this point in time. He further stated they aren't seeing any significant starts of new homes in Dinwiddie along the lake that would cause a specific issue with amount of water that is there. Mr. Massengill stated the other piece mentioned is the renewal period of five-year cycles, and he feels good with whatever the Board wants to do with that. He further stated he has had several calls to his office from Eagle Cove and residents of Dinwiddie about the pricing. He stated what he recalls about the pricing is that there needed to be a fee. He further stated there was a conversation about it being free or there being a monthly charge. He stated that Mr. Anzolut, who was City Manager of Colonial Heights at that time, felt strongly in the fact that citizens in his community questioned about why this was free, then he could go back and say that \$70 per year for five years is \$350.00 so it's not a freebie, and it gave him the authority to say those that don't touch the water can say they are paying for it like others. He stated they may not be paying for the metered amount that you would be on the system, but the raw water is not going through our system. Mr. Massengill stated he is fine with no longer having the moratorium. He is in favor of renewing permits and two five-year period.

Dr. Casey stated one point is the duration, whether its five years or two five year or some other metric. He stated he thought we had something we just created in the last few months in regard to recording out and the need in the future possibly for a dam raising reconsideration. He would suggest that part of that self-reporting exercise back to the Board may be where we have to look at whether there's a stoppage or a moratorium put in place, if we have to secure the water better. He further stated we don't need to legislate that today, but we had something that we defined as a Board as far as how to protect the asset, and if there is a warning sign that the asset is vulnerable, and whatever it is may link up to this particular topic, and he's all for if one neighbor has been granted certain rights the next door neighbor should have the same rights. He further stated he doesn't know enough about all the properties, and asked if it were 100% of just the lake front properties that have access to the irrigation, or are there easements through properties past the lake front and Dr. Wichser answered lake front. Dr. Casey stated he wanted to be clear on that so we're not sending water to North Carolina somehow through various easements. He further stated whatever we need to do legally to define lake frontage to do it. He also stated we don't know what the future may hold to density and development of new neighborhoods that may arise on either side, Chesterfield or Dinwiddie, and maybe what we do is defined by property or neighborhood, but it is those particular parcels that are eligible, but if there is another new neighborhood or new development, that is another new process they have to go through so we could evaluate them. Dr. Wichser stated to Dr. Casey that he was reading one section of the Resolution where it says "current owner of a parcel of land fronting Lake Chesdin" so it's clear on that.

Dr. Wichser stated in reference to Mr. Massengill's discussion on moratorium what is important under the irrigation withdrawal license, when the Authority issues water conservation requests to its Members, "each licensee must agree to abide by irrigation and other water use restrictions imposed by the participating Jurisdiction in which they live". He reported if we had to go under mandatory or emergency then irrigation stops.

Dr. Casey stated do we know how many properties are eligible before we say yes or no to anything. Mr. Massengill asked if Staff can give perspective on how many new applications that have been denied. Dr. Wichser stated in the past twenty-four months he has had less than four phone calls with inquiries only, no applications. Mr. Massengill asked Dr. Wichser if they were still limited to the twenty-gallon pump and he replied that was correct. Mr. Massengill stated he thought there were different requirements for Chesdin Landing and the Golf Course, and Dr. Wichser replied there is a different cost for the Chesdin Landing golf course. Mr. Massengill asked if they were limited to the same system limitations, and Dr. Wichser stated they are not limited, but their agreement with the Authority is set up that they pay \$25 per month as a service fee and \$10 for every million gallons withdrawn. He stated in 2017, the Chesdin Landing golf course paid the Authority \$600.

Mr. Smith stated he thought it would be good to know what the number is right now of additional current residences that are not under one of these agreements. Ms. Ferrell-Benavides stated as a new person coming in and hearing this, she's hearing they have a pump to irrigate their yards from the lake directly at no charge, and Mr. Massengill stated it's over \$300 fee for five years. She asked how big are the yards, and Dr. Wichser stated the pump limits the amount of water withdrawn. Mr. Ashcraft asked Dr. Wichser about his recommendation to continue the moratorium and what it was based on. Dr. Wichser replied it was based on conservation of the water resource and being conservative on long-term potential impacts. He stated back when the committee was formed in 2010 there were some estimates of what it could grow to from the 125 existing irrigation licenses and it was estimated then that it could grow up to 2800 existing lots. Ms. Ferrell-Benavides asked what was the estimate per lot, if you were doing just an irrigation zone, what would be the annual cost to them if they were doing water retail, and Dr. Wichser stated some of his neighbors using potable water pay \$200-\$300 per month during the summer irrigation period. Ms. Ferrell-Benavides stated that would be approximately \$150 per month and Dr. Wichser stated correct.

Dr. Casey stated the engineering question is whatever the population of potential properties at their maximum use, has there ever been a time period that the localities' ability to draw their rightful share would have been impaired because of withdrawal of irrigation. Dr. Wichser replied that over the last three years we have not been in any type of water conservation level requirement, so he would say there has been no impact on the five memberships.

Ms. Ferrell-Benavides stated her residents, who are concerned about their water bill, would say they have to pay to irrigate their lawn, and it's given to someone else for free just because they live on the lake. She further stated it's an asset we own, but there is a cost associated with it that we would be giving away free. She stated it's over \$1,000,000 per year that you are giving away as an organization.

Mr. Massengill stated back when this occurred the lake dropped, Staff saw the system's out of the water, and they started as a committee talking to the many residents all having a very similar story. He further stated what he believed happened was that the Director of the Authority, Mr. Hartman, had individual meetings with these landowners, and he truly believes he was giving them permission to put these in place, and very consistently the testimony of both Chesterfield and Dinwiddie independently of one another were very compelling that these

permissions were allowed. He stated he didn't know if we had a way of proving that, but he believed the lake was managed, water was freely going over the dam, and he was going out and looking at and inspecting the areas, and he genuinely felt it wasn't coming through the system, wasn't having to treat it, and wasn't having any transmission of it. Mr. Massengill stated he felt like the individuals attempted to do the right thing by going to the Authority and trying to get permissions in which he thinks they did. He further stated there is no way to prove it, but he believes they did it. He stated coming back later and jerking that off the table and saying we shouldn't have or we never did, he thought was disingenuous by this Board. Mr. Massengill stated he totally understood what Ms. Ferrell-Benavides was saying. He further stated Mr. Anzolut from Colonial Heights, who was Chairman of the Board at that time, and really got into the issue of how to tell his residents they have to pay for theirs, and it's free for the lake. He stated that's when we formed a committee with Dinwiddie and Chesterfield residents along with Mr. Anzolut, and talked through some of the issues and felt that the fee was the best route to go and have it renewed.

Mr. Ashcraft stated why don't we defer action on this Resolution until the next meeting on November 15, 2018. Ms. Ferrell-Benavides asked if members should send questions and/or comments to Staff so they can be addressed at that time. Mr. Ashcraft stated we would give public notice, so that anyone who wants to come to the meeting will be given the same opportunity to speak, along with copies of the Resolution for the public to read at that time or the public can call the office and get it. Dr. Casey stated that when Chesterfield sends out mailers, they send it to someone's name and link it to their Real Estate records. He further stated that whatever they can do to help they will. Mr. Massengill stated they would help too and provide all undeveloped lots that have been subdivided as well as any new homes that have been constructed. Mr. Smith stated he thought if we had the current numbers, which we talked about the additional current residents that are not withdrawing, and what some billed out estimate would be based on the current lots, but if we had an estimate of what they would use on an annual basis, then we would know what we are looking at. Dr. Casey stated the Appomattox River is longer than Lake Chesdin touching at least Dinwiddie and Chesterfield, so he doesn't know specifically where the western boundary starts. He further stated we need to know if people further upstream are allowed to pull water out without any approvals right now and what those amounts are. He further stated he thinks we need to be aware of those populations on both sides of the river that may affect what comes into the lake to begin with.

Ms. Ferrell-Benavides asked if we say no, what are the options for the residents who are buying houses, and making sure, as was mentioned, not knowing there was a moratorium added and how are we communicating with the developers so they are not saying to someone that they can do this without that being the case.

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

RESOLVED, that the Board approves this item be deferred until the next Board meeting of November 15, 2018 and Staff will research and confer the additional information to be presented after November 15, 2018 and the public hearing remains open:

For: 5 Against: 0 Abstain: 0

Due to the limited seating at South Central Wastewater Authority the meeting will be held at a different location.

5. Executive Director's Report:

- **Reservoir Status Update for August/September 2018**

Dr. Wichser reported on the reservoir status update for August/September 2018. He stated since August 15, 2018 the reservoir has been full. He further stated that on October 13, 2018 we had 42" going over the dam, which isn't the highest elevation of record. He stated back on October 7, 1972 there was 53" going over the dam.

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

Mr. Gordon reported on the Ongoing Projects/Operations/Financials.

- **Review of Raftelis Report: Preliminary Valuation of Water system Assets and Review of Governance & Ownership Alternatives**

Dr. Wichser introduced Ted Cole of Davenport. Mr. Cole stated this project started about 1 ½ years ago and started conversations in early 2017. He further stated they had discussed with the Board back in the March 2017 meeting about developing a Scope of Work and coming back to present it in May 2017. He stated they sent out an RFP, got responses back and presented it to Board members in July of 2017, with a recommendation to move forward with Raftelis.

Mr. Cole introduced John Mastracchio of Raftelis who reported on the Valuation Assessment. He explained the four approaches to value system assets, which were: 1) the cost approach; 2) the income approach; 3) the sales comparison; and 4) the rate base. He stated based on their preliminary valuation assessment, the value of the ARWA water system is estimated to be in the range of \$98.1 million and \$321.8 million. He feels the cost approach is the most relevant.

Mr. Seth Garrison of Raftelis reported on the Governance and Ownership. He stated they met with a number of stakeholders representing the various jurisdictions, and they received a number of issues to look at and one was the transfer capacity share among members. He further stated they looked and considered the different interests regarding system expansion, financing challenges that were pertinent at the time, as well as capacity limitations within the transmission system, and issues with regional cooperation control. He stated this focused them into

three groups of alternatives: 1) maintain Authority model and revise the Service Agreement or change voting; 2) convert to a municipal model, and, 3) convert to a hybrid model where perhaps a piece of the system as we had talked extensively about, for example, the transmission system being sold off to one of the jurisdictions or divided with the jurisdictions which might allow some additional flexibility and control.

Mr. Ashcraft stated he asked for this to be put on the Agenda as it's been in draft form since January, and he feels at some point the Board needs to accept the document.

Dr. Casey thanked Mr. Cole, Mr. Mastracchio and Mr. Garrison for leading it through our financial advisor arrangement. He stated the report in the Agenda is about five pages, which is just an executive summary. He further stated when we talk about the report, there is an extensive report which is a permanent report, not just the five pages that have been publicly illustrated. He stated he was repeating the one observation he made many months ago when it was first presented, and that you all did your job outside looking in using industry data and statistics and all of us gave our opinions as to the sources of those and we all had various opinions of it. He said you all made a statement back then that your evaluations of all this is outside looking in, just like you're looking at a house from the street, you didn't look at the inside of the house and how that affects the valuation. He stated two houses could look the same on the outside and you go in one house and tell Mr. and Mrs. Smith they've done a great job of keeping this house up, it's worth what it is plus and there are other houses you walk in and want to call the Health Department. Dr. Casey stated he wanted this in the minutes as he thinks it's proper. He stated to Raftelis that they confirmed that last time as being outside looking in, you didn't open up the door necessarily and look in every room and Raftelis answered that was correct.

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

RESOLVED, that the Board accepts the Raftelis report as presented:

For: 5 Against: 0 Abstain: 0

- **Review of 2012 & 2017 Bond Debt Service**

Dr. Wichser reported on the review of 2012 and 2017 Bond Debt Service. He stated there is a detailed memorandum in the Board package developed by the Authority and McGuireWoods. He further stated we feel very comfortable in making a recommendation to the Board that the 2012 Bond for Fiscal Years 2016, 2017 and 2018 be trued up by moving from allocation and plant expansion rate back to the base rate. He stated the 2017 Bond that was closed last December to-date has not been billed. He further stated we are making the first 2017 Bond payments with our first principal and interest payment this October. He stated we are also recommending that the 2017 "In-Plant" Bond adjustment be made from the expansion allocation rate back to the base rate. Dr. Wichser stated based on that recommendation and talking to McGuireWoods, if the Board approves it, we would have to re-advertise the existing budget. He stated the rate change would be re-advertised on Sunday, October 28, 2018 and Sunday November 4, 2018, and the Board could move forward on November 15, 2018 and approve that change.

Dr. Wichser stated that there has been some discussion with one of the members on additional items that could also be also switched from expansion allocation back to base. He further stated that one item was the "In-Plant project engineering cost that we assumed back in 2017. At that time the Board decided to cover that cost outside of the bond debt and they wanted to provide cash towards the "In-Plant project's design and construction inspection phase with the In-Plant project engineers which is approximately \$1.04 million. He stated our recommendation is not to make a change on that. Dr. Wichser stated there was also discussion if the Reserve Account should be switched from allocation/plant expansion rate back to the base rate. He further stated that McGuireWoods researched the existing Water Agreement, and we also looked at the financial policy that the Water Authority adopted based on Davenport's recommendations. He stated that both those documents do not address how to fund the Reserve Account. Dr. Wichser stated it's up to the Board to decide. He gave members a handout which showed what would occur financially if the Reserve Account switched back from the allocation/expansion rate to the base rate.

Dr. Casey stated this gets very complicated very fast and, in some ways, it goes back six years to the 2012 issuance and its bits and pieces. He further stated it is State Law that empowers us to have a Service Agreement. He stated we have bond issuances that has various covenants that speak to how the bonds will be paid for. He stated that we have flows that we use, we have capacities we use and bifurcate how the rates may be based on circumstances, but both have to be compliant with what we have written in the past. He further stated they have layers of financial policies applied as well that we follow, and there's Board actions that occur annually whether it's rates or some other directive that is given.

Dr. Casey stated that for the sake of clarity and the sake of closure he has utilized their internal audit function just to simply go in do a professional internal audit, saying here's what all the rules are, here's what the minutes had, here's what the documents had. He further stated this is just following what Staff may have already prepared just to validate if we do have the rate structures in place today that's compliant, and if a mistake is made, we remedy to the point of the time the mistake was made, good, bad or indifferent. He stated the independent entity gives him, as a Board member, assurances that we've dotted all the "i's" and crossed all the "t's". He further stated he's not disputing anything that is here other than knowing that it's complicated. He noticed some of his public utility staff has gone through and calculated slightly different numbers, and he doesn't know if they are right or wrong either. He stated an offer as an ARWA Authority member for Chesterfield to provide this service, but if you'd rather use somebody even more independent if you think independence isn't there. He further stated Chesterfield's Internal Audit Department would be glad to go through exactly what you have compiled here and

make sure the complete accuracy is there. Dr. Casey stated there are other firms out there who will charge you money but he will do it for free.

Mr. Ashcraft asked how this was discovered and Dr. Wichser replied we were notified by Chesterfield County that one of their accountants, in review of work they were doing, noticed that the numbers didn't really follow through. He stated we did come together with Chesterfield's estimates. Mr. Smith stated we are talking about what's in here right now, and Dr. Wichser answered correct. Dr. Casey stated the internal audit would only reflect the past to the present. Dr. Wichser stated in the recommended motion the November 22, 2018 date the public hearing should be held on the next Board meeting date, which is November 15, 2018.

Mr. Massengill stated if they had an Internal Audit Department, he would offer their help but being as Chesterfield has offered, we should allow that to take place. Mr. Ashcraft asked what was the scope of the review. Dr. Wichser stated Chesterfield did quite an in-depth review, and he thought the audit was done. Dr. Casey stated the request he has is let the Internal Auditor help define the scope for you. He stated if he had to make a motion at some point, it would be for him to get the internal auditor to prepare a scope. He further stated he imagines the scope to be to review the Service Agreement, 2012 issuance, 2017 prepayment of debt, reserve policy requirements and the Capital Plan. Dr. Casey stated these are all actions of picked and chosen ways in which ways have been bifurcated, and determining if we picked the right rate structure for each of those paths and, if so, if what's being presented is the affirmation of that, great. He further stated if there is something that they identify as being different, it's not the internal auditor telling you what to do, it's the internal auditor to make a recommendation to staff. Mr. Ashcraft asked if that auditor interfaced at all with the general auditor, which is Robinson, Farmer & Cox. Dr. Casey answered it's independent. He further stated as far as an entity they have a partnership and a roll with, this is from Chesterfield's perspective, one of the largest entities for which there is no internal audit engagement at all outside of the external. He stated they do internal audit for other regional entities, organizations they contribute monies to. He stated this may be an Agenda item in the future for South Central Wastewater Authority and this Authority where you might want to determine if you want the fiduciary role of an internal auditor that is reportable to you and not to Chesterfield County.

Mr. Ashcraft stated we had two things, the audit and the rates. Dr. Wichser stated on this particular subject he thought the audit had been done, and Dr. Casey stated an audit had not been done as we haven't had an audit on it. Dr. Wichser stated on the 2012 and 2017, counsel had looked at it closely, we looked at it and Chesterfield Utility accountants looked at it. Dr. Casey stated he is seeing different numbers than Chesterfield in the last week or two. Mr. Massengill stated he picked up on Dr. Casey's opening comment. Dr. Wichser stated we are not aware of any differences in the numbers between the Authority and Chesterfield. Mr. Gordon stated we agreed with the last numbers Chesterfield sent us. Mr. Smith stated one comment he had was based on the scope of what we were talking about and we have this issue before us but that broader range was he hearing correctly that those were items that the Board had the opportunity to decide on which was to do them and we weren't tied to a specific method on that, correct. He asked if that was what the attorneys advised and Dr. Wichser answered that was correct. Mr. Smith stated he could support doing this part but would have to have additional discussion if it's going to be a wider scope than that.

Mr. Ashcraft asked if there was a motion to use an Internal Auditor on loan to us from Chesterfield County and develop a scope of work from that.

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

RESOLVED, that the Board approves the use of an Internal Auditor on loan to us from Chesterfield County and develop a scope of work from that:

For: 5 Against: 0 Abstain: 0

Ms. Ferrell-Benavides asked Dr. Wichser if this is something we can use, and he replied our books are totally open, and we have no issue with it whatsoever. Mr. Massengill asked the timeline and Dr. Casey stated out of respect to the Authority, he would request the auditor do a cursory review meeting with ARWA and write up that this is the scope of what their audit is to be presented at the next meeting. Dr. Wichser stated he would be traveling for the next few weeks and, as this was important, he would like to be here, so instead of November 15 possibly between now and December 15 the auditor could meet with us.

Mr. Ashcraft stated let's dispense with the motion before us to retain use of the services of the Chesterfield internal auditor and develop a scope of work from that. He further stated he would like to ask Mr. Smith and Mr. Massengill to serve as the sub-committee to meet with the staff and the audit representative to get the preliminary, and then someone write up a broad summary for the rest of us as to where you think you want to go in preparation for the January 2019 meeting, to see if there is a report that needs to be brought back to us in January as an Agenda item. Mr. Smith stated he wanted to clarify that the scope is going to be brought back and Mr. Ashcraft answered yes.

- **Proposed 2019 Board Meeting Dates**

Dr. Wichser reported on the proposed 2019 Board meeting dates. He stated as we really don't need to meet every month during the summer, he proposed we meet May, July and September and drop June and August.

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

RESOLVED, that the Board approved the proposed schedule of regular meetings date for 2019 as amended:

For: 5 Against: 0 Abstain: 0

6. Items from Counsel

There were no Items from Counsel.

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

There were no Other Items from Board Members/Staff Not on Agenda.

8. Closed Session

There was no Closed Session.

9. Adjourn

Upon a motion made by Mr. Massengill and seconded by Ms. Ferrell-Benavides the meeting was adjourned at 3:32 p.m.

The next Regular Meeting is scheduled for Thursday, November 15, 2018 at 2:00 p.m. and will be held in the "Sutherland Ballroom" at the **Eastside Enhancement Center**, located at **7301 Boydton Plank Road, North Dinwiddie, VA, 23803**.

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.

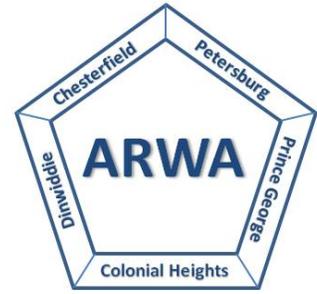
During the Public Comment Period, the Board will attempt to hear all members of the public who wish to speak on a subject, but it must be recognized that on rare occasion presentations may have to be limited because of time constraints. If a previous speaker has articulated your position, it is recommended 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. Continued Public Hearing on and Consideration of Proposed Amendments Related to the Direct Irrigation Withdrawal Policy

- Following is the Amended and Restated Policy pertaining to Direct Irrigation Withdrawals from Lake Chesdin



APPOMATTOX RIVER WATER AUTHORITY

- RESOLUTION -

AMENDED AND RESTATED POLICY PERTAINING TO DIRECT IRRIGATION WITHDRAWALS FROM LAKE CHESDIN

Originally Adopted: November 20, 2008
First Amended and Restated: June 23, 2011
Second Amended and Restated: November 15, 2018

WHEREAS, the Appomattox River Water Authority ("ARWA") is the owner and manager of Lake Chesdin, a 3,100-acre reservoir located on the Appomattox River on the Chesterfield County and Dinwiddie County line that provides a drinking water supply to the Cities of Colonial Heights and Petersburg and the Counties of Chesterfield, Dinwiddie, and Prince George (the "Participating Jurisdictions");

WHEREAS, ARWA faces significant increases in demand for drinking water for all purposes throughout ARWA's service area;

WHEREAS, the Lake Chesdin area experienced extended droughts between 2001 and 2002 and in 2007 and 2010, which resulted in low lake levels and the imposition of mandatory water use restrictions for the first times in ARWA's history;

WHEREAS, lawn and garden irrigation may use thousands of gallons of water each day on just one landowner's property;

WHEREAS, in 2007 ARWA noted that a number of persons residing near Lake Chesdin had installed pumps, intake devices, and other equipment and taken other measures for the purpose of withdrawing water directly from Lake Chesdin for the purpose of lawn and garden irrigation ("Direct Irrigation Withdrawals"), and the potential existed for others to do the same as growth occurs around Lake Chesdin;

WHEREAS, none of the Direct Irrigation Withdrawals or pumps, intake devices, or other equipment for making Direct Irrigation Withdrawals ("Systems") had been approved previously by ARWA's Board of Directors (the "Board"), and, on November 2, 2007, the Board appointed a committee to review the issue of Direct Irrigation Withdrawals and to make recommendations pertaining to such activity (the "Committee");

WHEREAS, the Committee met and reported its recommendations to the Board at the Board's regular meeting on December 20, 2007, which the Board adopted by resolution on December 20, 2007;

WHEREAS, the Board authorized and directed the Committee to (1) draft an appropriate permit or license document in furtherance of its recommendations; and (2) develop policies and procedures for application for, and issuance of, such documents and for the collection and administration of the recommended fees;

WHEREAS, ARWA held a public hearing on the adoption of a proposed policy pertaining to Direct Irrigation Withdrawals on August 11, 2008, after notice of the public hearing was published once in a newspaper of general circulation in ARWA's service area;

WHEREAS, as agreed during the public hearing, the Committee met with a self-selected group of interested citizens on September 15, 2008 (the "Committee-Citizen Meeting");

WHEREAS, during the Board's September 18, 2008 regular meeting, the Board discussed the public hearing and the Committee-Citizen Meeting;

WHEREAS, the Board determined to schedule a second public hearing on a proposed policy pertaining to Direct Irrigation Withdrawals and held such public hearing on November 20, 2008, after notice of the public hearing was published twice in several newspapers of general circulation in ARWA's service area, and following the public hearing adopted a policy and guidance (the "Original Policy") for the approval of Direct Irrigation Withdrawal licenses ("Licenses");

WHEREAS, on June 23, 2011, ARWA's Executive Director recommended making certain minor changes to the Original Policy and the Board adopted the first amendment and restatement of the Original Policy (the "First Amended Policy");

WHEREAS, the term of the current Licenses for Direct Irrigation Withdrawals expires on December 31, 2018, and ARWA staff and counsel have recommended allowing the Licenses to be renewed for an additional five years, setting the license fee for the renewal term pursuant to the formula provided in the First Amended Policy (which was not changed from the Original Policy) and making certain conforming changes to the First Amended Policy; and

WHEREAS, the Board held public hearings regarding the above-described recommendations on October 18, 2018, and November 15, 2018, for each of which notice was published twice in several newspapers of general circulation in ARWA's service area;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF THE APPOMATTOX RIVER WATER AUTHORITY THAT:

Protection of Lake Chesdin for Public Drinking Water Supply. The Board hereby finds and determines that this second amended and restated policy (the "Second Amended Policy") will further the public purposes for which ARWA was created, including without limitation the purposes of conserving, protecting and beneficially utilizing the surface water in Lake Chesdin to ensure the public welfare, safety, and health of the inhabitants of the Participating Jurisdictions who rely upon Lake Chesdin as a source of drinking water and enabling ARWA to obtain permits for additional water sources reasonably required to serve such inhabitants.

License Required for Continued Direct Irrigation Withdrawals. No Direct Irrigation Withdrawal shall occur except as authorized by the terms of a License Agreement, recommended by ARWA's Executive Director, approved by the Board, and executed by the Licensee (the "License Agreement"). The License Agreement shall be substantially in the form presented at this meeting, with such insertions, deletions, or other changes not inconsistent with this Second Amended Policy as may be approved by the Executive Director in his discretion.

Applications for Licenses for Renewal Term. Each Licensee existing as of November 15, 2018, who desires to renew his or her License shall submit an application to the Executive Director (the "Application"). The Application shall be substantially in the form presented at this meeting, with such insertions, deletions, or other changes as may be approved by the Executive Director in his discretion and not inconsistent with this Second Amended Policy. Applications must be received by the Executive Director by June 30, 2019.

Renewal Term. Regardless of when an application for a renewed License is received, the License, if granted, shall be for a term of five (5) years, commencing on January 1, 2019 and ending on December 31, 2024 (the "Renewal Term"), unless sooner terminated in accordance with the License Agreement.

License Fee. The fee for a License for the Renewal Term shall be three hundred forty-three dollars and ninety-two cents (\$343.92), which was determined by adjusting the initial license fee of \$300 set by the Original Policy for inflation based on the All Items Consumer Price Index for All Urban Consumers for the U.S. City Average (Current Series) for the period ended on September 1, 2018. The License Fee is payable immediately upon the issuance of a License for the Renewal Term.

Conservation. Each Licensee must agree to abide by irrigation and other water use restrictions imposed by the Participating Jurisdiction in which they live.

Health, Environmental, or Other Restrictions Required by Law or Governmental Entity. Each Licensee must agree to abide by all local, state, and federal laws and regulations now or hereafter in effect and applicable to his Direct Irrigation Withdrawal or System and that ARWA may, as Licensor, impose upon him or her, as Licensee, any health, environmental, or other restrictions required under local, state, or federal law or as may be required by any local, state, or federal governmental entities that regulate or provide assistance to ARWA, including restrictions imposed as a requirement to obtaining permits to construct improvements or enlargements of ARWA's water treatment and/or storage capacity. Each Licensee shall agree to not cause or permit the use, generation, storage, release, or disposal in, on, or about Lake Chesdin of any substances, materials, or wastes in violation of local, state, or federal law.

Current Parcel Ownership Required; Limitation on Number and Transferability of Licenses. A License for the Renewal Term may be granted only to a current Licensee as of November 15, 2018, who is also a current owner of a parcel of land fronting Lake Chesdin shown on the map attached as Exhibit A hereto and made a part hereof (each a "Parcel"). Licenses shall be limited to one per Parcel, regardless of whether a Parcel owner subdivides or intends to subdivide his Parcel. Each Licensee may, with the prior written consent of ARWA, transfer his License to a single successor owner of his or her Parcel, but may not transfer, assign, divide, allocate, or distribute duplicates of his or her License among

the successor owners of any subdivided portions of his or her Parcel, and any attempt on the part of a Licensee to do so may result in the immediate termination of the License by the Board, acting in its sole discretion.

System Limitations. Each Licensee's System shall originate from a single withdrawal point from Lake Chesdin, which has been identified by Licensee as part of his or her Application, and use a single pump or other intake device. Systems shall not: (i) have a pump capacity greater than 20 gallons per minute, (ii) have pumps or other intake devices located beyond the end of the Licensee's dock, pier, or bulkhead, or, in the absence of a dock, pier, or bulkhead, thirty (30) feet from the normal pool limit, and (iii) be used to pump or intake water for storage (i.e., all water removed from Lake Chesdin by Systems must be immediately applied to irrigation). Each Licensee may replace failing equipment that is part of his or her System with functioning equipment that is the same or, if the same equipment is not available, the functional equivalent of the failing equipment, but may not extend, expand, or otherwise improve his or her System or increase its ability to make Direct Irrigation Withdrawals.

Right to Enter, Inspect, and Remediate. Each Licensee shall grant ARWA and any of its duly authorized agents or representatives the rights (i) to enter, at reasonable times and under reasonable circumstances, his or her Parcel for the purposes of obtaining information about or conducting a survey or inspection of his or her System and its operation to ensure compliance with any laws, regulations, rules, permits, standards, or policies of ARWA and any applicable local, state, or federal government or governmental entity and (ii) to the extent permitted by law, to remove, dismantle, or otherwise remediate a noncompliant System or portion thereof after written notice of noncompliance has been given by ARWA to the Licensee, unless the Licensee has caused the System to become compliant, as determined by ARWA, within thirty (30) days after the notice was given.

Indemnity. Each Licensee shall defend, indemnify, and save harmless ARWA and its agents, employees, contractors, representatives, affiliates, and other related entities (the "Indemnitees" or an "Indemnatee") from and against any loss, claims, expenses (including reasonable attorney's fees), or damage incurred or suffered by an Indemnatee, by reasons directly or indirectly arising out of, caused (in whole or in part) by, or in any way connected with the Licensee's Direct Irrigation Withdrawal. ARWA shall have no responsibility, liability, or obligation with respect to any property of the Licensee at, in, or on Lake Chesdin, it being acknowledged and understood by the Licensee that the safety, security, and effects of any such property are the sole responsibility and risk of the Licensee.

Licensee Shall Have No Other Privileges or Any Right or Interest in ARWA Property. Each Licensee must agree that (i) the License shall be only a license to make Direct Irrigation Withdrawals in accordance with this Second Amended Policy and the terms of the License Agreement, and shall not be construed as granting any other privileges or any right or interest in Lake Chesdin or other ARWA property, (ii) he or she does not have and shall not claim at any time any right or interest of any kind or nature whatsoever in Lake Chesdin or other ARWA property by virtue of the License Agreement or the License, and (iii) the License is personal to the Licensee, and except as may be provided pursuant to paragraph 8 of this Second Amended Policy, the privileges appurtenant thereto shall not inure to the successors and/or assigns of the Licensee.

Amendment of Second Amended Policy and Termination of License. (a) Each Licensee shall agree that the Board may, in its sole discretion, at any time or from time to time, unilaterally amend this Second Amended Policy and, as a result, the License, to the extent it is inconsistent with the

amendments. Before the adoption of any amendment to this Second Amended Policy, the Board shall hold a public hearing regarding the proposed amendment, of which notice shall be published twice in one or more newspapers of general circulation in ARWA's service area. In addition, ARWA shall provide written notice of any amendment to this Second Amended Policy and the License to each Licensee within thirty (30) days of its adoption by the Board. Any notice to a Licensee pursuant to this Second Amended Policy shall be sent by first class U.S. mail to the address provided in the Application or such other address designated in writing to ARWA at the address provided in paragraph 20 of this Second Amended Policy.

(b) Any License, License Agreement, and the privileges created and conferred thereby on a Licensee are terminable at will by either the Board or the Licensee. Termination of the License, License Agreement, and the privileges shall occur immediately upon providing written notice to the other party. Upon termination, the Licensee shall proceed with diligence to remove his or her System at his or her sole expense.

(c) Notwithstanding the foregoing, before the Board amends this Second Amended Policy or terminates any License, the Board shall make a finding that such amendment or termination furthers the public purposes for which ARWA was created, including without limitation the conservation, protection, and beneficial utilization of the surface water in Lake Chesdin to ensure the public welfare, safety, and health of the inhabitants of the Participating Jurisdictions who rely upon Lake Chesdin as a source of drinking water and enabling ARWA to obtain permits for additional water sources reasonably required to serve such inhabitants.

(d) If an amendment of the Second Amended Policy results in the termination of a License and the privileges granted thereby, or if a License is directly terminated by the Board, the Board shall cause a pro rata portion of the License fee based on the months remaining in the Renewal Term to be returned to the affected Licensee.

Future Direct Irrigation Withdrawals. The moratorium on new Direct Irrigation Withdrawals, which has been effective since September 21, 2011, shall continue in full force and effect.

Unlicensed Direct Irrigation Withdrawals. All Direct Irrigation Withdrawals for which a License has not been granted, or for which a License has been terminated, shall cease, and all such Systems utilized for unlicensed Direct Irrigation Withdrawals shall be removed from Lake Chesdin at the sole expense of the owner.

Other Water Withdrawals Prohibited. Except as otherwise provided by this Policy, unless expressly approved by the Board, all other withdrawals from Lake Chesdin are prohibited.

Enforcement. The Executive Director is hereby authorized to engage counsel to undertake appropriate legal action on ARWA's behalf to enforce this Second Amended Policy or the terms of any License approved by the Board.

Golf Course Irrigation. ARWA has previously approved Direct Irrigation Withdrawals from Lake Chesdin for golf course irrigation at Lake Chesdin Golf Club. The Executive Director shall periodically review the agreement with Lake Chesdin Golfers' Club LLC and make recommendations to the Board for amending the conditions upon which that entity may continue to withdraw water from Lake Chesdin consistent with this Policy.

Conflict with Other Policies. This Second Amended Policy supersedes all prior policies pertaining to Direct Irrigation Withdrawals, if any.

Reports of Unauthorized Withdrawals. Anyone observing unauthorized withdrawals from Lake Chesdin can report it to ARWA's Executive Director at:

Appomattox River Water Authority
Executive Director
21300 Chesdin Road
Petersburg, Virginia 23803
Phone: (804) 590-1145

Effective Date. This Second Amended Policy shall take effect immediately.

5. Executive Director's Report:

- Reservoir Status Update for October/November 2018

- Annual Financial Report Year Ended June 30, 2018: Robinson, Farmer, Cox Associates

Following is the Annual Comprehensive Financial Report prepared and presented by Robinson, Farmer, Cox Associates.

ROBINSON, FARMER, COX ASSOCIATES

A PROFESSIONAL LIMITED LIABILITY COMPANY

CERTIFIED PUBLIC ACCOUNTANTS

Communication with Those Charged with Governance

To the Board of Directors Appomattox River Water Authority

We have audited the financial statements of the business-type activities of Appomattox River Water Authority for the year ended June 30, 2018. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards and *Government Auditing Standards*, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated July 10, 2018. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Matters

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the Authority are described in Note 1 to the financial statements. As described in Note 13 to the financial statements, Appomattox River Water Authority changed accounting policies related to other postemployment benefits by adopting Statement of Governmental Accounting Standards (GASB Statement) No. 75 *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* and No. 85 *Omnibus 2017*. Accordingly, the cumulative effect of the accounting change as of the beginning of the year is reported in the Statement of Net Position. We noted no transactions entered into by the entity during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the Authority's financial statements were:

Management's estimate of the useful lives of depreciable assets is based on industry standards. Pension and OPEB estimates were determined by valuations performed by actuaries. We evaluated the key factors and assumptions used to develop the estimates in determining that they are reasonable in relation to the financial statements taken as a whole.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. Management has corrected all such misstatements. In addition, none of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to each opinion unit's financial statements taken as a whole.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditors' report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated September 20, 2018.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the entity's financial statements or a determination of the type of auditors' opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the entity's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

We applied certain limited procedures to management's discussion and analysis and the schedules related to pension and OPEB funding, which are required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

Restriction on Use

This information is intended solely for the use of the Board of Directors and management of the Appomattox River Water Authority and is not intended to be, and should not be, used by anyone other than these specified parties.

Robinson, Farmer, Cox Associates
Charlottesville, Virginia
September 20, 2018

Appomattox
River
Water
Authority



Financial Report
Year Ended June 30, 2018

APPOMATTOX RIVER WATER AUTHORITY

S. Chesterfield, Virginia

(A Public Body chartered November 21, 1960
Under the Water and Waste Authorities Act of 1950 of the Commonwealth of Virginia)

- Board of Directors -

Percy C. Ashcraft, Chairman
Prince George County

Dr. Joseph P. Casey, Vice Chairman
Chesterfield County

W. Kevin Massengill, Secretary-Treasurer
Dinwiddie County

Doug E. Smith, Member
City of Colonial Heights

Aretha Ferrell-Benavides, Member
City of Petersburg

- Officials -

Dr. Robert C. Wichser, P.E., BCEE, Executive Director

James C. Gordon, Assistant Executive Director

USBank, Trustee

McGuire Woods, Counsel

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Independent Auditors' Report

**To the Honorable Members of
Appomattox River Water Authority
S. Chesterfield, Virginia**

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities of Appomattox River Water Authority, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Appomattox River Water Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the *Specifications for Audits of Authorities, Boards, and Commissions*, issued by the Auditor of Public Accounts of the Commonwealth of Virginia. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the business-type activities of Appomattox River Water Authority, as of June 30, 2018, and the changes in financial position, and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As described in Note 8 to the financial statements, in 2018, the Authority adopted new accounting guidance, GASB Statement Nos. 75 *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* and 85 *Omnibus 2017*. Our opinion is not modified with respect to this matter.

Restatement of Beginning Balances

As described in Note 13 to the financial statements, in 2018, the Authority restated beginning balances to reflect the requirements of GASB Statement No. 75. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and schedules related to pension and OPEB funding on pages 4-8 and 60-68 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Report on Summarized Comparative Information

We have previously audited Appomattox River Water Authority's 2017 financial statements, and expressed an unmodified opinion on those audited financial statements in our report dated September 25, 2017. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2017, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated September 20, 2018, on our consideration of Appomattox River Water Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Appomattox River Water Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Appomattox River Water Authority's internal control over financial reporting and compliance.

Robinson, Farmer, Cox Associates
Charlottesville, Virginia
September 20, 2018

**To the Honorable Board of Directors
Appomattox River Water Authority
S. Chesterfield, Virginia**

As management of Appomattox River Water Authority (the Authority), we offer readers of our financial statements this narrative overview and analysis of the financial activities of the Authority for the fiscal year ending June 30, 2018.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the Authority's basic financial statements. Since the Authority is engaged only in business-type activities, its basic financial statements are comprised of only two components: 1) enterprise fund financial statements and 2) notes to the financial statements. This report also contains required supplementary information in addition to the basic financial statements themselves.

Enterprise fund financial statements. The enterprise fund financial statements are designed to provide readers with a broad overview of the Authority's finances, in a manner similar to a private-sector business.

The statement of net position presents information on the Authority's assets, deferred outflows, deferred inflows and liabilities. Equity of the Authority is reported as net position. Net position is the difference between assets and deferred outflows of resources and liabilities and deferred inflows of resources. Net investment in capital assets represents capital assets, reduced by accumulated depreciation and by any outstanding debt, deferred outflows of resources and deferred inflows of resources related to the acquisition, construction or improvement of those assets. Restricted net position represents restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Authority is improving or deteriorating.

The statement of revenues, expenses and changes in net position presents information showing how the Authority's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of the cash flows. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flows in future fiscal periods, (e.g. earned but unused vacation leave).

Refer to the table of contents for the basic enterprise fund financial statements.

Notes to financial statements. The notes provide additional information that is essential to a full understanding of the data provided in the financial statements. Refer to the table of contents for the notes to the financial statements. Required supplementary information presents the Authority's progress in funding its obligation to provide pension benefits to its employees.

Financial Highlights

- The assets and deferred outflows of resources of the Authority exceeded its liabilities and deferred inflows of resources at the close of the most recent fiscal year by \$43,561,353 (net position). Of this amount \$5,142,335 is reported as unrestricted net position.
- The Authority's total net position increased by \$408,094.
- The Authority's total long-term debt (including premium amortization, compensated absences, OPEB liability and net pension liability) increased by \$12,707,829 during the current fiscal year. Details of the change in long-term debt can be found under the heading "*Capital Asset and Debt Administration.*"

Financial Analysis

As noted earlier, net position may serve over time as a useful indicator of an Authority's financial position. In the case of the Authority, assets and deferred outflows of resources exceeded liabilities and deferred inflows of resources by \$43,561,353 at the close of the most recent fiscal year.

By far the largest portion of the Authority's net position (71 percent) reflects its net investment in capital assets. The Authority uses these capital assets to provide services to its customers; consequently, these assets are not available for future spending. Although the Authority's net investment in capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, since the capital assets themselves cannot be used to liquidate these liabilities.

The following table provides a summary of the statement of net position.

	Net Position	
	2018	2017
Current and other assets	\$ 26,814,240	\$ 11,734,559
Capital assets	<u>41,637,425</u>	<u>43,025,324</u>
Total assets	<u>\$ 68,451,665</u>	<u>\$ 54,759,883</u>
Deferred charge on refunding	\$ 615,706	\$ 659,877
OPEB related items	7,729	-
Pension related items	<u>129,913</u>	<u>343,793</u>
Total deferred outflows	<u>\$ 753,348</u>	<u>\$ 1,003,670</u>
Long-term liabilities	\$ 24,942,662	\$ 12,234,833
Other liabilities	<u>448,456</u>	<u>170,267</u>
Total liabilities	<u>\$ 25,391,118</u>	<u>\$ 12,405,100</u>
OPEB related items	\$ 19,106	-
Pension related items	<u>233,436</u>	<u>20,822</u>
Total deferred inflows	<u>\$ 252,542</u>	<u>\$ 20,822</u>
Net investment in capital assets	\$ 30,867,099	\$ 32,010,323
Restricted	7,551,919	5,353,742
Unrestricted	<u>5,142,335</u>	<u>5,973,566</u>
Total net position	<u>\$ 43,561,353</u>	<u>\$ 43,337,631</u>

Financial Analysis (continued)

At the end of the current fiscal year, the Authority is able to report positive balances in all categories of net position.

	Change in Net Position	
	2018	2017
Revenues:		
Operating revenues	\$ 10,026,237	\$ 10,109,705
Investment income	187,046	60,957
Total revenues	<u>\$ 10,213,283</u>	<u>\$ 10,170,662</u>
Expenses:		
Operating expenses (excluding depreciation)	\$ 6,582,446	\$ 6,708,801
Depreciation expense	2,591,571	2,563,910
Interest expense	631,172	481,445
Total expenses	<u>\$ 9,805,189</u>	<u>\$ 9,754,156</u>
Increase (decrease) in net position	\$ 408,094	\$ 416,506
Net position-July 1, as restated	<u>43,153,259</u>	<u>42,921,125</u>
Net position-June 30	<u><u>\$ 43,561,353</u></u>	<u><u>\$ 43,337,631</u></u>

The Authority's net position increased by \$408,094 during the current year. Operating revenues decreased by \$83,468, reflecting a decrease in consumption and increase in the base rate, while operating expenses (excluding depreciation) decreased by \$126,355 over fiscal year 2017 totals. Key elements of these changes are explained in greater detail under the Review of Operations section.

Capital Asset and Debt Administration

Capital Assets - The Authority's investment in capital assets as of June 30, 2018 amounts to \$41,637,425 (net of accumulated depreciation). Investment in capital assets decreased by approximately 3.23% during the year. Below is a comparison of the items that make up capital assets as of June 30, 2018 with that of June 30, 2017.

	2018	2017
Land and land rights	\$ 1,090,685	\$ 1,090,685
Water systems	85,625,821	85,248,334
Equipment	1,176,668	1,094,840
Hydro costs incurred	34,873	34,873
Accumulated depreciation	(47,093,704)	(44,502,133)
Construction in progress	<u>803,082</u>	<u>58,725</u>
Total capital assets	<u><u>\$ 41,637,425</u></u>	<u><u>\$ 43,025,324</u></u>

More detailed information on the Authority's capital assets is presented in Note 3 of the notes to the financial statements.

Capital Asset and Debt Administration (continued)

Long-Term Debt - At the end of the current fiscal year, the Authority had \$23,822,000 in bonds outstanding versus \$10,920,000 in the prior year. The increase is attributable to the issuance of the Series 2017 bonds in the amount of \$13,500,000.

Other long-term obligations of the Authority include accrued vacation pay. More detailed information on the Authority's long-term obligations is presented in the notes to the financial statements.

Review of Operations

Operating Revenues. Operating Revenues decreased by (\$83,468) from 2017 or less than 1%, generally can be attributed to a change in budgeted base rates.

Operating Expenses. Operating Expenses (excluding depreciation) decreased by (\$126,355) from 2017 by 1.8% mainly due to cost savings in chemicals which was a direct result of the 2018 Chemical bids along with changes in the OPEB Health Insurance estimates and Pension Liabilities.

Long-Term Issues. The Federal Safe Drinking Water Act and regulations that derive from this Act mandate the water quality that the Authority must meet for its customers. The regulations require the Authority to constantly improve operations and treatment techniques. The Authority has met the federal and state requirements for drinking water quality in the past and will continue to do so in the future.

Authority Highlights

Water Quality

- The Authority complied with all Virginia Department of Health and U.S. EPA requirements under the Safe Drinking Water Act. The Authority is fully compliant with the EPA's Safe Drinking Water Act, providing for the high quality water supplied to the five Authority members.
- The Authority continued to meet the criteria for the AWWA Director's Award from the Partnership for Safe Water and is one of only two water purveyors to meet this strict criterion for 15+ years in Virginia. The Authority has received an award from the Virginia Department of Health for excellence in Operations. The Authority received a "50" Years of American Water Work Association Member and Service to the Water Industry Award.

Water Supply Plan

- The Authority's Virginia Department of Environmental Quality and the U.S. Army Corps of Engineers Virginia Water Protection Permit has an expiration date of October 31, 2028 and has provided for the sound scientific basis towards effective water resource management of the Chesdin Reservoir.

Water Supply Alternatives

- The Authority is cognizant of the need for development of a new raw water supply alternative and has held preliminary discussions towards options which could allow the Authority and its policy makers to eventually consider moving forward to address future raw water supply needs.

Authority Highlights (continued)

A flow summary for the last two years is shown below:

	<u>2017/2018</u>	<u>2016/2017</u>
Total annual flow (billion gallons)	10.724	10.250
Average daily flow (mgd)	29.38	28.08

Consumption by the localities continues to change over time with annual variation generally based on the weather, with dry years being higher than wet years. The 2017/2018 June, July and August summer high demand period was below normal due to wet weather occurrences with these months being wetter than normal. During the 2017/2018 fiscal year, the Authority did not issue any formal permit related water conservation restrictions.

Projects/Studies Completed in 2017/2018

The Authority has provided for the forecasting and managing intermediate and long-range capital projects with a five-year Capital Program Plan updated annually. Additionally, an in-depth annual maintenance audit is conducted by the Authority’s Trust Engineer. The following projects or studies have been completed in 2017/2018:

1. Completion of the Annually Required Facility Maintenance Inspection by our Trust Engineer;
2. On-going upgrade replacement project related to the facility’s vintage SCADA equipment;
3. On-going safety related upgrades to pipe gallery;
4. Completed numerous pump repairs, electrical repairs/inspections and electrical control unit replacements;
5. Completed construction and installation of new Alum feed room;
6. Completed with VA-DEQ the facility's re-issued 5-year VPDES discharge permit;
7. Completed design phase on the major "In-Plant" upgrade project, secured bond funding and began construction.
8. Completed installation of new Emergency Alert System.

Economic Conditions

The Authority continues to operate under sound effective management with total net position increasing during fiscal year 2018. Overall, finances for the Authority for fiscal year 2017-2018 as viewed by management, including the Board of Directors, are considered sound.

Contacting the Authority

Questions concerning this financial report or requests for additional information should be directed to the Executive Director, Appomattox River Water Authority, 21300 Chesdin Road, S. Chesterfield, Virginia 23803, telephone (804) 590-1145.

- Financial Statements -

APPOMATTOX RIVER WATER AUTHORITY

Statement of Net Position

June 30, 2018

(With Comparative Totals for the Prior Year)

	<u>2018</u>	<u>2017</u>
Assets		
Current Assets		
Cash and cash equivalents	\$ 2,828,300	\$ 3,196,070
Accrued interest receivable	12,599	4,409
Accounts receivable - water service	2,705,648	2,831,832
Inventory	160,010	131,470
Other receivables	13,527	11,901
Prepaid expenses	<u>88,466</u>	<u>84,761</u>
Total Current Assets	\$ <u>5,808,550</u>	\$ <u>6,260,443</u>
Noncurrent Assets		
Restricted Assets:		
Cash and cash equivalents	\$ <u>20,887,364</u>	\$ <u>5,474,116</u>
Total Restricted Assets	\$ <u>20,887,364</u>	\$ <u>5,474,116</u>
Capital Assets:		
Land and land rights	\$ 1,090,685	\$ 1,090,685
Water system	85,625,821	85,248,334
Equipment	1,176,668	1,094,840
Hydro costs incurred	34,873	34,873
Accumulated depreciation	<u>(47,093,704)</u>	<u>(44,502,133)</u>
Sub-total net capital assets	\$ 40,834,343	\$ 42,966,599
Construction in progress	<u>803,082</u>	<u>58,725</u>
Total net capital assets	\$ <u>41,637,425</u>	\$ <u>43,025,324</u>
Net pension asset	\$ <u>118,326</u>	\$ <u>-</u>
Total Noncurrent Assets	\$ <u>62,643,115</u>	\$ <u>48,499,440</u>
Total Assets	\$ <u>68,451,665</u>	\$ <u>54,759,883</u>
Deferred Outflows of Resources		
Deferred charge on refunding	\$ 615,706	\$ 659,877
OPEB related items	7,729	-
Pension related items	<u>129,913</u>	<u>343,793</u>
Total Deferred Outflows of Resources	\$ <u>753,348</u>	\$ <u>1,003,670</u>

APPOMATTOX RIVER WATER AUTHORITY

Statement of Net Position
 June 30, 2018 (continued)
 (With Comparative Totals for the Prior Year)

	<u>2018</u>	<u>2017</u>
Liabilities		
Current Liabilities Payable from Current Assets:		
Accounts payable	\$ 242,502	\$ 49,893
Total Current Liabilities Payable from Current Assets	<u>\$ 242,502</u>	<u>\$ 49,893</u>
Current Liabilities Payable from Restricted Assets:		
Accounts payable	\$ 7,200	\$ -
Accrued interest payable	198,754	120,374
Bonds payable - current portion	<u>1,370,000</u>	<u>598,000</u>
Total Current Liabilities Payable from Restricted Assets	<u>\$ 1,575,954</u>	<u>\$ 718,374</u>
Total Current Liabilities	<u>\$ 1,818,456</u>	<u>\$ 768,267</u>
Noncurrent Liabilities		
Bonds payable - net of current portion	\$ 23,152,723	\$ 11,076,878
Net OPEB liabilities	226,038	63,300
Net pension liability	-	326,043
Compensated absences	<u>193,901</u>	<u>170,612</u>
Total Noncurrent Liabilities	<u>\$ 23,572,662</u>	<u>\$ 11,636,833</u>
Total Liabilities	<u>\$ 25,391,118</u>	<u>\$ 12,405,100</u>
Deferred Inflow of Resources		
OPEB related items	\$ 19,106	\$ -
Pension related items	<u>233,436</u>	<u>20,822</u>
Total Deferred Inflows of Resources	<u>\$ 252,542</u>	<u>\$ 20,822</u>
Net Position		
Net investment in capital assets	\$ 30,867,099	\$ 32,010,323
Restricted for debt service and bond covenants	7,551,919	5,353,742
Unrestricted	<u>5,142,335</u>	<u>5,973,566</u>
Total Net Position	<u>\$ 43,561,353</u>	<u>\$ 43,337,631</u>

The accompanying notes to financial statements are an integral part of this statement.

APPOMATTOX RIVER WATER AUTHORITY

Statement of Revenues, Expenses and Changes in Net Position Year Ended June 30, 2018 (With Comparative Totals for the Prior Year)

	2018	2017
Operating Revenues		
Water service	\$ 9,999,042	\$ 10,060,388
Other	27,195	49,317
Total Operating Revenues	\$ 10,026,237	\$ 10,109,705
Operating Expenses		
Operating and maintenance		
Salaries	\$ 1,601,561	\$ 1,427,214
Employee benefits	581,701	619,589
Contractual services	1,079,610	1,043,633
Materials, supplies and other costs	2,379,191	2,620,851
Other charges	940,383	997,514
Depreciation	2,591,571	2,563,910
Total Operating Expenses	\$ 9,174,017	\$ 9,272,711
Net Operating Income (Loss)	\$ 852,220	\$ 836,994
Nonoperating Revenues (Expenses)		
Income from investments	\$ 187,046	\$ 60,957
Interest on bonds	(631,172)	(481,445)
Total Nonoperating Revenues (Expenses)	\$ (444,126)	\$ (420,488)
Change in net position	\$ 408,094	\$ 416,506
Net position, beginning of year, restated	43,153,259	42,921,125
Net position, end of year	\$ 43,561,353	\$ 43,337,631

The accompanying notes to financial statements are an integral part of this statement.

APPOMATTOX RIVER WATER AUTHORITY

Statement of Cash Flows
Year Ended June 30, 2018
(With Comparative Totals for the Prior Year)

	<u>2018</u>	<u>2017</u>
Cash flows from operating activities:		
Receipts from customers and users	\$ 10,150,795	\$ 10,015,762
Payments to suppliers and vendors	(4,238,820)	(4,496,675)
Payments to and on behalf of employees	(2,188,105)	(1,974,655)
Net cash provided by (used for) operating activities	<u>\$ 3,723,870</u>	<u>\$ 3,544,432</u>
Cash flows from capital and related financing activities:		
Acquisition of utility plant in service	\$ (1,196,472)	\$ (1,183,067)
Principal paid on bonds	(598,000)	(1,031,300)
Interest paid on bonds	(562,776)	(501,364)
Proceeds from indebtedness	<u>13,500,000</u>	<u>-</u>
Net cash provided by (used for) capital and related financing activities	<u>\$ 11,142,752</u>	<u>\$ (2,715,731)</u>
Cash flows from investing activities:		
Interest received	\$ 178,856	\$ 57,404
Net cash provided by (used for) investing activities	<u>\$ 178,856</u>	<u>\$ 57,404</u>
Net increase (decrease) in cash and cash equivalents	<u>\$ 15,045,478</u>	<u>\$ 886,105</u>
Cash and cash equivalents at beginning of year (including \$5,474,116 and \$6,597,760 in restricted accounts)	<u>\$ 8,670,186</u>	<u>\$ 7,784,081</u>
Cash and cash equivalents at end of year (including \$20,887,364 and \$5,474,116 in restricted accounts)	<u><u>\$ 23,715,664</u></u>	<u><u>\$ 8,670,186</u></u>
Reconciliation of operating income (loss) to net cash provided by (used for) operating activities:		
Operating income (loss)	\$ 852,220	\$ 836,994
Adjustments to reconcile operating income (loss) to net cash provided by (used for) operating activities:		
Depreciation	2,591,571	2,563,910
Changes in operating assets and liabilities:		
(Increase) decrease in receivables	124,558	(93,943)
(Increase) decrease in inventories	(28,540)	227,071
(Increase) decrease in prepaid expenses	(3,705)	960
Increase (decrease) in operating accounts payable	192,609	(62,708)
Increase (decrease) in compensated absences	23,289	13,693
(Increase) decrease in pension deferred outflow of resources	213,880	(47,923)
(Increase) decrease in OPEB deferred outflow of resources	271	-
Increase (decrease) in pension deferred inflow of resources	212,614	(110,242)
Increase (decrease) in OPEB deferred inflow of resources	19,106	-
(Increase) decrease in net pension asset	(118,326)	-
Increase (decrease) in net pension liability	(326,043)	218,320
Increase (decrease) in net OPEB liabilities	<u>(29,634)</u>	<u>(1,700)</u>
Net cash provided by (used for) operating activities	<u><u>\$ 3,723,870</u></u>	<u><u>\$ 3,544,432</u></u>

The accompanying notes to financial statements are an integral part of this statement.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018

NOTE 1 - NATURE OF ENTITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Nature of Entity:

Appomattox River Water Authority is a public body organized under the provisions of the Virginia Water and Waste Authorities Act, by the governing bodies of the City of Petersburg, Virginia, the City of Colonial Heights, Virginia, and the Counties of Chesterfield, Dinwiddie, and Prince George, Virginia. The Authority was incorporated on November 21, 1960.

The purpose of the Authority is to provide a supply of filtered water for the members of the Authority. The Authority is authorized to issue bonds payable solely from revenues to construct a water system, including an impounding reservoir, dam, filter plant, pumping station, transmission mains and connections, and access roads and parking areas, and to acquire sufficient land to provide a cleared area for the reservoir.

The Authority's governing body is comprised of one member appointed by each of the five participating jurisdictions. These governmental entities have an ongoing financial responsibility to the Authority because its continued existence depends on continued funding by the participants. The Authority is perpetual and no participating government has access to its resources or surpluses, nor is any participant liable for the Authority's debts or deficits. The Authority also has the ability to finance its capital projects through user charges or the sale of revenue bonds.

Based on the above representations, Appomattox River Water Authority has been determined to be a joint venture of the five participating jurisdictions. The Authority is not a component unit of any of the participating governments. There are no component units to be included in the Authority's financial statements.

Summary of Significant Accounting Policies:

A. Basis of Accounting:

Appomattox River Water Authority operates as an enterprise fund, uses the flow of economic resources measurement focus and its accounts are maintained on the accrual basis of accounting. Under this method, revenues are recognized when earned, and expenses are recorded as liabilities when incurred, without regard to receipt or payment of cash. The Authority accrues revenue for services rendered but not yet billed at the end of the fiscal year. The Authority follows Governmental Accounting Standards Board (GASB) pronouncements.

The Authority distinguishes *operating* revenues and expenses from *nonoperating* items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the Authority's principal ongoing operations. The principal operating revenues of the Authority are charges to customers for sales and services. Operating expenses include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

B. Basic Financial Statements:

Governmental Accounting Standards Board (GASB) Statement No. 34, *Basic Financial Statements and Management's Discussion and Analysis for State and Local Governments* requires the financial statements to include a Management's Discussion and Analysis (MD&A) section providing an analysis of the Authority's overall financial position and results of operations.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 1 - NATURE OF ENTITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (continued)

B. Basic Financial Statements: (continued)

Since the Authority is only engaged in business-type activities, it is required to present only the financial statements required for enterprise funds. For the Authority, the basic financial statements and required supplementary information consist of:

- Management’s Discussion and Analysis
- Enterprise Fund Financial Statements
 - Statement of Net Position
 - Statement of Revenues, Expenses and Changes in Net Position
 - Statement of Cash Flows
 - Notes to Financial Statements
- Schedule of Changes in Net Pension (Asset) Liability and Related Ratios
- Schedule of Employer Contributions–Pension
- Notes to Required Supplementary Information–Pension
- Schedule of Changes in Total OPEB Liability (Asset) and Related Ratios - Health Insurance
- Notes to Required Supplementary Information - OPEB - Health Insurance
- Schedule of Authority's Share of Net OPEB Liability Group Life Insurance Program
- Schedule of Employer Contributions Group Life Insurance Program
- Notes to Required Supplementary Information Group Life Insurance Program

C. Cash and Cash Equivalents:

For purposes of the statement of cash flows, the Authority considers all highly liquid investments (including restricted assets) with an original maturity of three months or less when purchased to be cash equivalents.

D. Accounts Receivable:

Accounts receivable is recorded at face value. Since substantially all of the Authority’s receivables are from the participating jurisdictions, no allowance for uncollectible accounts is deemed necessary.

E. Capital Assets:

Capital assets, which include property, plant, equipment, and infrastructure assets are reported in the financial statements. Capital assets are defined by the Authority as assets with an initial, individual cost of more than \$5,000 (amount not rounded) and an estimated useful life in excess of one year. Such assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at acquisition value at the date of donation.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend the asset’s life are not capitalized.

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets of business-type activities is included as part of the capitalized value of the assets constructed. No interest was capitalized during the current or previous fiscal year.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 1 - NATURE OF ENTITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (continued)

E. Capital Assets: (Continued)

Property, plant, equipment and infrastructure is depreciated using the straight-line method over the following estimated useful lives:

<u>Assets</u>	<u>Years</u>
Structures, lines and accessories	50
Equipment	3 to 10

F. Investments:

Money market investments, participating interest-earning investment contracts (repurchase agreements) that have a remaining maturity at time of purchase of one year or less, nonparticipating interest-earning investment contracts (nonnegotiable certificates of deposit (CDs)) and external investment pools are measured at amortized cost. All other investments are reported at fair value.

G. Premiums/Discount on Bonds Held for Investment:

The premium/discounts paid on bonds held for investment are being amortized over the life of investment using the effective interest method.

H. Budgets:

The Authority adopts annual budgets for water service revenues and Operating Fund expenditures. The budgets are prepared on the basis of expected cash receipts and disbursements rather than on the accrual basis.

I. Unamortized Deferred Charge on Refunding:

The deferred charge on refunding, resulting from the refunding of the Series 2002C Revenue Bonds is being amortized using the bonds outstanding method over the life of the Series 2010 Revenue Refunding Bonds, which is not materially different from the effective interest method. The current year amortization is included in interest expense.

J. Use of Estimates:

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 1 - NATURE OF ENTITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (continued)

K. Net Position:

Net position is the difference between a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. Net investment in capital assets represents capital assets, less accumulated depreciation, less any outstanding debt related to the acquisition, construction or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position.

L. Net Position Flow Assumption:

Sometimes the Authority will fund outlays for a particular purpose from both restricted (e.g., restricted bond) and unrestricted resources. In order to calculate the amounts to report as restricted - net position and unrestricted - net position, a flow assumption must be made about the order in which the resources are considered to be applied. It is the Authority's policy to consider restricted - net position to have been depleted before unrestricted - net position is applied.

M. Deferred Outflows/Inflows of Resources:

In addition to assets, the statement of financial position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense/expenditure) until then. The Authority has multiple items that qualify for reporting in this category. One item is the deferred charge on refunding reported in the government-wide statement of net position. A deferred charge on refunding results from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. The other item is comprised of certain items related to the measurement of the net pension asset/liability and net OPEB liabilities and contributions to the pension and OPEB plans made during the current year and subsequent to the net pension asset/liability and net OPEB liability measurement date. For more detailed information on these items, reference the related notes.

In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority has one type of item that qualifies for reporting in this category. Certain items related to the measurement of the net pension asset/liability and net OPEB liabilities are reported as deferred inflows of resources. For more detailed information on these items, reference the related notes.

N. Restricted Assets:

Certain proceeds of the Authority's revenue bonds, as well as certain resources set aside for their repayment, are classified as restricted assets on the balance sheet because they are maintained in separate bank accounts and their use is limited by applicable bond covenants.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 1 - NATURE OF ENTITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (continued)

O. Inventories:

Inventories are reported at cost, and cost is determined on the first-in, first-out basis.

P. Prepaid Expenses:

Certain payments to vendors represent costs applicable to future accounting periods and are recorded as prepaid items in both the government-wide and fund financial statements. The cost of prepaid items is recorded as expenditures/expenses when consumed rather than when purchased.

Q. Pensions:

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Authority's Retirement Plan and the additions to/deductions from the Authority's Retirement Plan's net fiduciary position have been determined on the same basis as they were reported by the Virginia Retirement System (VRS). For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.

R. Other Postemployment Benefits (OPEB)

Group Life Insurance

The Virginia Retirement System (VRS) Group Life Insurance (GLI) Program provides coverage to state employees, teachers, and employees of participating political subdivisions. The GLI Program was established pursuant to §51.1-500 et seq. of the Code of Virginia, as amended, and which provides the authority under which benefit terms are established or may be amended. The GLI Program is a defined benefit plan that provides a basic group life insurance benefit for employees of participating employers. For purposes of measuring the net GLI Program OPEB liability, deferred outflows of resources and deferred inflows of resources related to the GLI OPEB, and GLI OPEB expense, information about the fiduciary net position of the VRS GLI Program OPEB and the additions to/deductions from the VRS GLI OPEB's net fiduciary position have been determined on the same basis as they were reported by VRS. In addition, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

NOTE 2 - DEPOSITS AND INVESTMENTS:

Deposits:

Deposits with banks are covered by the Federal Deposit Insurance Corporation (FDIC) and collateralized in accordance with the Virginia Security for Public Deposits Act (the "Act") Section 2.2-4400 et. seq. of the Code of Virginia. Under the Act, banks and savings institutions holding public deposits in excess of the amount insured by the FDIC must pledge collateral to the Commonwealth of Virginia Treasury Board. Financial Institutions may choose between two collateralization methodologies and depending upon that choice, will pledge collateral that ranges in the amounts from 50% to 130% of excess deposits. Accordingly, all deposits are considered fully collateralized.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 2 - DEPOSITS AND INVESTMENTS: (continued)

Investments:

Statutes authorize the Authority to invest in obligations of the United States or agencies thereof, obligations of the Commonwealth of Virginia or political subdivisions thereof, obligations of the International Bank for Reconstruction and Development (World Bank), the Asian Development Bank, the African Development Bank, "prime quality" commercial paper and certain corporate notes, banker's acceptances, repurchase agreements and the State Treasurer's Local Government Investment Pool (LGIP).

The Authority has not implemented a formal investment policy.

Credit Risk of Debt Securities:

The Authority's rated debt investments as of June 30, 2018 were rated by Standard & Poor's and the ratings are presented below using the Standard & Poor's rating scale.

<u>Authority's Rated Debt Investments' Values</u>	
<u>Rated Debt Investments</u>	<u>Fair Quality Ratings</u>
	<u>AAAm</u>
Money market - U.S. Treasury Securities	\$ <u>22,810,884</u>
Total	\$ <u><u>22,810,884</u></u>

Interest Rate Risk:

	<u>Investment Maturities (in years)</u>	
	<u>Fair Value</u>	<u>Less Than 1 Year</u>
Money market - U.S. Treasury Securities	\$ <u>22,810,884</u>	\$ <u>22,810,884</u>
	\$ <u><u>22,810,884</u></u>	\$ <u><u>22,810,884</u></u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 3 - CAPITAL ASSETS:

A summary of the Authority's capital assets and the changes therein for the year ended June 30, 2018, follows:

	<u>Beginning Balance</u>	<u>Increases</u>	<u>Decreases</u>	<u>Ending Balance</u>
Capital assets not being depreciated:				
Land and land rights	\$ 1,090,685	\$ -	\$ -	\$ 1,090,685
Construction in progress	58,725	823,082	78,725	803,082
Total capital assets not being depreciated	<u>\$ 1,149,410</u>	<u>\$ 823,082</u>	<u>\$ 78,725</u>	<u>\$ 1,893,767</u>
Other capital assets, being depreciated:				
Water system	\$ 85,248,334	\$ 377,487	\$ -	\$ 85,625,821
Equipment	1,094,840	81,828	-	1,176,668
Hydro costs incurred	34,873	-	-	34,873
Total other capital assets being depreciated	<u>\$ 86,378,047</u>	<u>\$ 459,315</u>	<u>\$ -</u>	<u>\$ 86,837,362</u>
Accumulated depreciation:				
Water system	\$ (43,732,992)	\$ (2,523,630)	\$ -	\$ (46,256,622)
Equipment	(736,360)	(66,546)	-	(802,906)
Hydro costs incurred	(32,781)	(1,395)	-	(34,176)
Total accumulated depreciation	<u>\$ (44,502,133)</u>	<u>\$ (2,591,571)</u>	<u>\$ -</u>	<u>\$ (47,093,704)</u>
Other capital assets being depreciated, net	<u>\$ 41,875,914</u>	<u>\$ (2,132,256)</u>	<u>\$ -</u>	<u>\$ 39,743,658</u>
Capital assets, net	<u>\$ 43,025,324</u>	<u>\$ (1,309,174)</u>	<u>\$ 78,725</u>	<u>\$ 41,637,425</u>

Depreciation expense for the fiscal year totaled \$2,591,571.

NOTE 4 - LONG-TERM OBLIGATIONS:

A. Changes in Long-Term Obligations:

The following is a summary of long-term obligations transactions for the year ended June 30, 2018:

	<u>Balance July 1, 2017</u>	<u>Issuances</u>	<u>Retirements</u>	<u>Balance June 30, 2018</u>	<u>Due Within One Year</u>
Revenue bonds	\$ 10,920,000	\$ 13,500,000	\$ (598,000)	\$ 23,822,000	\$ 1,370,000
Add (less) amounts:					
For issuance premiums	754,878	-	(54,155)	700,723	-
Total revenue bonds	<u>\$ 11,674,878</u>	<u>\$ 13,500,000</u>	<u>\$ (652,155)</u>	<u>\$ 24,522,723</u>	<u>\$ 1,370,000</u>
Net OPEB liability - group life insurance*	<u>\$ 143,000</u>	<u>\$ -</u>	<u>\$ (24,000)</u>	<u>\$ 119,000</u>	<u>\$ -</u>
Net OPEB liability - health insurance *	<u>\$ 112,672</u>	<u>\$ 10,448</u>	<u>\$ (16,082)</u>	<u>\$ 107,038</u>	<u>\$ -</u>
Compensated absences	<u>\$ 170,612</u>	<u>\$ 23,289</u>	<u>\$ -</u>	<u>\$ 193,901</u>	<u>\$ -</u>
Totals	<u>\$ 12,101,162</u>	<u>\$ 13,533,737</u>	<u>\$ (692,237)</u>	<u>\$ 24,942,662</u>	<u>\$ 1,370,000</u>

* Balance as of July 1, 2017 restated resulting from implementation of GASB 75

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 4 - LONG-TERM OBLIGATIONS: (continued)

B. Annual Amortization of Long-Term Obligations:

The annual requirements to amortize all long-term obligations outstanding at June 30, 2018 are as follows:

Year Ended June 30,	Revenue and	
	Principal	Interest
2019	\$ 1,370,000	\$ 772,022
2020	1,416,000	725,174
2021	1,468,000	676,480
2022	1,516,000	625,886
2023	1,565,000	573,516
2024	1,619,000	520,610
2025	1,673,000	467,053
2026	1,730,000	410,841
2027	1,796,000	351,732
2028	1,848,000	290,453
2029	1,605,000	231,872
2030	1,659,000	175,886
2031	1,715,000	117,816
2032	1,775,000	57,546
2033	<u>1,067,000</u>	<u>13,423</u>
Total	\$ <u>23,822,000</u>	\$ <u>6,010,310</u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 4 - LONG-TERM OBLIGATIONS: (continued)

C. Details of Long-Term Obligations:

	<u>Total Amount</u>	<u>Amount Due Within One Year</u>
On December 21, 2017, the Authority issued \$13,500,000 of Water Revenue Bonds bearing interest at 2.516% payable semiannually through October 2032. Principal payments commence October 2018, payable annually, through October 2032.	\$ 13,500,000	\$ 750,000
On November 23, 2010, the Authority issued \$9,750,000 of Water Revenue Refunding Bonds, Series 2010 to provide funds to defease \$9,910,000 of Water Revenue Refunding Bonds, Series 2002. The bonds were issued at a premium of \$1,095,893. The Authority advance refunded the 2002 Series bonds to reduce its total debt service payments by \$664,976 and to obtain an economic gain (difference between the present values of the debt service payments on the old and new debt) of \$346,778. The defeased bonds were called and retired on May 1, 2012. Bond issue costs in the amount of \$152,595 are associated with these bonds. The bonds bear interest, payable semiannually, at rates of between 3.362% - 5.1%. Principal is payable annually on October 1, 2012 through 2031.	7,725,000	395,000
On May 30, 2012, the Authority issued \$3,623,000 of Water Revenue Bonds bearing interest at 3.10% payable semiannually through October 2027. Principal payments commence October 2013.	<u>2,597,000</u>	<u>225,000</u>
Bond issuance premiums	700,723	
Total Revenue Bonds	\$ <u>24,522,723</u>	\$ <u>1,370,000</u>
Net OEB liability - health insurance	\$ <u>107,038</u>	\$ <u>-</u>
Net OPEB liability - group life insurance	\$ <u>119,000</u>	\$ <u>-</u>
Compensated absences	\$ <u>193,901</u>	\$ <u>-</u>
Total long-term obligations	<u>\$ 24,942,662</u>	<u>\$ 1,370,000</u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 4 - LONG-TERM OBLIGATIONS: (continued)

D. Pledge of Revenues and Funds: (Continued)

The Authority pledges and assigns to the trustee all revenues derived from the ownership or operation of the System and all monies in the Construction Account, the Revenue Account, the Operating Account, the Bond Account, the Debt Service Reserve Accounts and the Replacement Account for the payment of the principal of interest on the bonds, subject only to the right of the Authority to make application thereof to other purposes as provided in the Trust Agreement.

NOTE 5 - PENSION PLAN:

Plan Description

All full-time, salaried permanent employees of the Authority are automatically covered by a VRS Retirement Plan upon employment. This is an agent multi-employer plan administered by the Virginia Retirement System (the System) along with plans for other employer groups in the Commonwealth of Virginia. Members earn one month of service credit for each month they are employed and for which they and their employer pay contributions to VRS. Members are eligible to purchase prior service, based on specific criteria as defined in the Code of Virginia, as amended. Eligible prior service that may be purchased includes prior public service, active military service, certain periods of leave, and previously refunded service.

The System administers three different benefit structures for covered employees – Plan 1, Plan 2, and Hybrid. Each of these benefit structures has a different eligibility criteria. The specific information for each plan and the eligibility for covered groups within each plan are set out in the table below:

RETIREMENT PLAN PROVISIONS		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>About Plan 1 Plan 1 is a defined benefit plan. The retirement benefit is based on a member’s age, creditable service and average final compensation at retirement using a formula.</p>	<p>About Plan 2 Plan 2 is a defined benefit plan. The retirement benefit is based on a member’s age, creditable service and average final compensation at retirement using a formula.</p>	<p>About the Hybrid Retirement Plan The Hybrid Retirement Plan combines the features of a defined benefit plan and a defined contribution plan.</p> <ul style="list-style-type: none"> • The defined benefit is based on a member’s age, creditable service and average final compensation at retirement using a formula. • The benefit from the defined contribution component of the plan depends on the member and employer contributions made to the plan and the investment performance of those contributions.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>About Plan 1 (Cont.)</p>	<p>About Plan 2 (Cont.)</p>	<p>About the Hybrid Retirement Plan (Cont.)</p> <ul style="list-style-type: none"> • In addition to the monthly benefit payment payable from the defined benefit plan at retirement, a member may start receiving distributions from the balance in the defined contribution account, reflecting the contributions, investment gains or losses, and any required fees.
<p>Eligible Members Employees are in Plan 1 if their membership date is before July 1, 2010, and they were vested as of January 1, 2013 and they have not taken a refund.</p> <p>Hybrid Opt-In Election VRS non-hazardous duty covered Plan 1 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014.</p> <p>The Hybrid Retirement Plan’s effective date for eligible Plan 1 members who opted in was July 1, 2014.</p> <p>If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.</p>	<p>Eligible Members Employees are in Plan 2 if their membership date is on or after July 1, 2010, or their membership date is before July 1, 2010, and they were not vested as of January 1, 2013.</p> <p>Hybrid Opt-In Election Eligible Plan 2 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014.</p> <p>The Hybrid Retirement Plan’s effective date for eligible Plan 2 members who opted in was July 1, 2014.</p> <p>If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.</p>	<p>Eligible Members Employees are in the Hybrid Retirement Plan if their membership date is on or after January 1, 2014. This includes:</p> <ul style="list-style-type: none"> • Political subdivision employees* • Members in Plan 1 or Plan 2 who elected to opt into the plan during the election window held January 1-April 30, 2014; the plan’s effective date for opt-in members was July 1, 2014. <p>*Non-Eligible Members Some employees are not eligible to participate in the Hybrid Retirement Plan. They include:</p> <ul style="list-style-type: none"> • Political subdivision employees who are covered by enhanced benefits for hazardous duty employees.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Hybrid Opt-In Election (Cont.) Members who were eligible for an optional retirement plan (ORP) and had prior service under Plan 1 were not eligible to elect the Hybrid Retirement Plan and remain as Plan 1 or ORP.</p>	<p>Hybrid Opt-In Election (Cont.) Members who were eligible for an optional retirement plan (ORP) and have prior service under Plan 2 were not eligible to elect the Hybrid Retirement Plan and remain as Plan 2 or ORP.</p>	<p>*Non-Eligible Members (Cont.) Those employees eligible for an optional retirement plan (ORP) must elect the ORP plan or the Hybrid Retirement Plan. If these members have prior service under Plan 1 or Plan 2, they are not eligible to elect the Hybrid Retirement Plan and must select Plan 1 or Plan 2 (as applicable) or ORP.</p>
<p>Retirement Contributions Employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. Member contributions are tax-deferred until they are withdrawn as part of a retirement benefit or as a refund. The employer makes a separate actuarially determined contribution to VRS for all covered employees. VRS invests both member and employer contributions to provide funding for the future benefit payment.</p>	<p>Retirement Contributions Employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction.</p>	<p>Retirement Contributions A member's retirement benefit is funded through mandatory and voluntary contributions made by the member and the employer to both the defined benefit and the defined contribution components of the plan. Mandatory contributions are based on a percentage of the employee's creditable compensation and are required from both the member and the employer. Additionally, members may choose to make voluntary contributions to the defined contribution component of the plan, and the employer is required to match those voluntary contributions according to specified percentages.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Creditable Service Creditable service includes active service. Members earn creditable service for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional creditable service the member was granted. A member's total creditable service is one of the factors used to determine their eligibility for retirement and to calculate their retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit.</p>	<p>Creditable Service Same as Plan 1.</p>	<p>Creditable Service <u>Defined Benefit Component:</u> Under the defined benefit component of the plan, creditable service includes active service. Members earn creditable service for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional creditable service the member was granted. A member's total creditable service is one of the factors used to determine their eligibility for retirement and to calculate their retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit.</p> <p><u>Defined Contribution Component:</u> Under the defined contribution component, creditable service is used to determine vesting for the employer contribution portion of the plan.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Vesting Vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members become vested when they have at least five years (60 months) of creditable service. Vesting means members are eligible to qualify for retirement if they meet the age and service requirements for their plan. Members also must be vested to receive a full refund of their member contribution account balance if they leave employment and request a refund.</p> <p>Members are always 100% vested in the contributions that they make.</p>	<p>Vesting Same as Plan 1.</p>	<p>Vesting <u>Defined Benefit Component:</u> Defined benefit vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members are vested under the defined benefit component of the Hybrid Retirement Plan when they reach five years (60 months) of creditable service. Plan 1 or Plan 2 members with at least five years (60 months) of creditable service who opted into the Hybrid Retirement Plan remain vested in the defined benefit component.</p> <p><u>Defined Contribution Component:</u> Defined contribution vesting refers to the minimum length of service a member needs to be eligible to withdraw the employer contributions from the defined contribution component of the plan.</p> <p>Members are always 100% vested in the contributions that they make.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Vesting (Cont.)</p>	<p>Vesting (Cont.)</p>	<p>Vesting (Cont.) <u>Defined Contribution Component: (Cont.)</u> Upon retirement or leaving covered employment, a member is eligible to withdraw a percentage of employer contributions to the defined contribution component of the plan, based on service.</p> <ul style="list-style-type: none"> • After two years, a member is 50% vested and may withdraw 50% of employer contributions. • After three years, a member is 75% vested and may withdraw 75% of employer contributions. • After four or more years, a member is 100% vested and may withdraw 100% of employer contributions. <p>Distribution is not required by law until age 70½.</p>
<p>Calculating the Benefit The Basic Benefit is calculated based on a formula using the member's average final compensation, a retirement multiplier and total service credit at retirement. It is one of the benefit payout options available to a member at retirement.</p>	<p>Calculating the Benefit See definition under Plan 1.</p>	<p>Calculating the Benefit <u>Defined Benefit Component:</u> See definition under Plan 1.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Calculating the Benefit (Cont.) An early retirement reduction factor is applied to the Basic Benefit if the member retires with a reduced retirement benefit or selects a benefit payout option other than the Basic Benefit.</p>	<p>Calculating the Benefit (Cont.)</p>	<p>Calculating the Benefit (Cont.) <u>Defined Contribution Component:</u> The benefit is based on contributions made by the member and any matching contributions made by the employer, plus net investment earnings on those contributions.</p>
<p>Average Final Compensation A member's average final compensation is the average of the 36 consecutive months of highest compensation as a covered employee.</p>	<p>Average Final Compensation A member's average final compensation is the average of their 60 consecutive months of highest compensation as a covered employee.</p>	<p>Average Final Compensation Same as Plan 2. It is used in the retirement formula for the defined benefit component of the plan.</p>
<p>Service Retirement Multiplier VRS: The retirement multiplier is a factor used in the formula to determine a final retirement benefit. The retirement multiplier for non-hazardous duty members is 1.70%.</p> <p>Sheriffs and regional jail superintendents: The retirement multiplier for sheriffs and regional jail superintendents is 1.85%.</p> <p>Political subdivision hazardous duty employees: The retirement multiplier of eligible political subdivision hazardous duty employees other than sheriffs and regional jail superintendents is 1.70% or 1.85% as elected by the employer.</p>	<p>Service Retirement Multiplier VRS: Same as Plan 1 for service earned, purchased or granted prior to January 1, 2013. For non-hazardous duty members the retirement multiplier is 1.65% for creditable service earned, purchased or granted on or after January 1, 2013.</p> <p>Sheriffs and regional jail superintendents: Same as Plan 1.</p> <p>Political subdivision hazardous duty employees: Same as Plan 1.</p>	<p>Service Retirement Multiplier <u>Defined Benefit Component:</u> VRS: The retirement multiplier for the defined benefit component is 1.00%.</p> <p>For members who opted into the Hybrid Retirement Plan from Plan 1 or Plan 2, the applicable multipliers for those plans will be used to calculate the retirement benefit for service credited in those plans.</p> <p>Sheriffs and regional jail superintendents: Not applicable.</p> <p>Political subdivision hazardous duty employees: Not applicable.</p> <p><u>Defined Contribution Component:</u> Not applicable.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Normal Retirement Age VRS: Age 65.</p> <p>Political subdivisions hazardous duty employees: Age 60.</p>	<p>Normal Retirement Age VRS: Normal Social Security retirement age.</p> <p>Political subdivisions hazardous duty employees: Same as Plan 1.</p>	<p>Normal Retirement Age <u>Defined Benefit Component:</u> VRS: Same as Plan 2.</p> <p>Political subdivisions hazardous duty employees: Not applicable.</p> <p><u>Defined Contribution Component:</u> Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>
<p>Earliest Unreduced Retirement Eligibility VRS: Age 65 with at least five years (60 months) of creditable service or at age 50 with at least 30 years of creditable service.</p> <p>Political subdivisions hazardous duty employees: Age 60 with at least five years of creditable service or age 50 with at least 25 years of creditable service.</p>	<p>Earliest Unreduced Retirement Eligibility VRS: Normal Social Security retirement age with at least five years (60 months) of creditable service or when their age and service equal 90.</p> <p>Political subdivisions hazardous duty employees: Same as Plan 1.</p>	<p>Earliest Unreduced Retirement Eligibility <u>Defined Benefit Component:</u> VRS: Normal Social Security retirement age and have at least five years (60 months) of creditable service or when their age and service equal 90.</p> <p>Political subdivisions hazardous duty employees: Not applicable.</p> <p><u>Defined Contribution Component:</u> Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>
<p>Earliest Reduced Retirement Eligibility VRS: Age 55 with at least five years (60 months) of creditable service or age 50 with at least 10 years of creditable service.</p>	<p>Earliest Reduced Retirement Eligibility VRS: Age 60 with at least five years (60 months) of creditable service.</p>	<p>Earliest Reduced Retirement Eligibility <u>Defined Benefit Component:</u> VRS: Age 60 with at least five years (60 months) of creditable service.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Earliest Reduced Retirement Eligibility (Cont.)</p> <p>Political subdivisions hazardous duty employees: 50 with at least five years of creditable service.</p>	<p>Earliest Reduced Retirement Eligibility (Cont.)</p> <p>Political subdivisions hazardous duty employees: Same as Plan 1.</p>	<p>Earliest Reduced Retirement Eligibility (Cont.)</p> <p>Political subdivisions hazardous duty employees: Not applicable.</p> <p><u>Defined Contribution Component:</u> Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>
<p>Cost-of-Living Adjustment (COLA) in Retirement The Cost-of-Living Adjustment (COLA) matches the first 3% increase in the Consumer Price Index for all Urban Consumers (CPI-U) and half of any additional increase (up to 4%) up to a maximum COLA of 5%.</p> <p><u>Eligibility:</u> For members who retire with an unreduced benefit or with a reduced benefit with at least 20 years of creditable service, the COLA will go into effect on July 1 after one full calendar year from the retirement date.</p> <p>For members who retire with a reduced benefit and who have less than 20 years of creditable service, the COLA will go into effect on July 1 after one calendar year following the unreduced retirement eligibility date.</p>	<p>Cost-of-Living Adjustment (COLA) in Retirement The Cost-of-Living Adjustment (COLA) matches the first 2% increase in the CPI-U and half of any additional increase (up to 2%), for a maximum COLA of 3%.</p> <p><u>Eligibility:</u> Same as Plan 1.</p>	<p>Cost-of-Living Adjustment (COLA) in Retirement <u>Defined Benefit Component:</u> Same as Plan 2.</p> <p><u>Defined Contribution Component:</u> Not applicable.</p> <p><u>Eligibility:</u> Same as Plan 1 and Plan 2.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Cost-of-Living Adjustment (COLA) in Retirement (Cont.)</p> <p><u>Exceptions to COLA Effective Dates:</u> The COLA is effective July 1 following one full calendar year (January 1 to December 31) under any of the following circumstances:</p> <ul style="list-style-type: none"> • The member is within five years of qualifying for an unreduced retirement benefit as of January 1, 2013. • The member retires on disability. • The member retires directly from short-term or long-term disability under the Virginia Sickness and Disability Program (VSDP). • The member is involuntarily separated from employment for causes other than job performance or misconduct and is eligible to retire under the Workforce Transition Act or the Transitional Benefits Program. • The member dies in service and the member's survivor or beneficiary is eligible for a monthly death-in-service benefit. The COLA will go into effect on July 1 following one full calendar year (January 1 to December 31) from the date the monthly benefit begins. 	<p>Cost-of-Living Adjustment (COLA) in Retirement (Cont.)</p> <p><u>Exceptions to COLA Effective Dates:</u> Same as Plan 1.</p>	<p>Cost-of-Living Adjustment (COLA) in Retirement (Cont.)</p> <p><u>Exceptions to COLA Effective Dates:</u> Same as Plan 1 and Plan 2.</p>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Disability Coverage Members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.7% on all service, regardless of when it was earned, purchased or granted.</p>	<p>Disability Coverage Members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.65% on all service, regardless of when it was earned, purchased or granted.</p>	<p>Disability Coverage Employees of political subdivisions (including Plan 1 and Plan 2 opt-ins) participate in the Virginia Local Disability Program (VLDP) unless their local governing body provides an employer-paid comparable program for its members.</p> <p>Hybrid members (including Plan 1 and Plan 2 opt-ins) covered under VLDP are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.</p>
<p>Purchase of Prior Service Members may be eligible to purchase service from previous public employment, active duty military service, an eligible period of leave or VRS refunded service as creditable service in their plan. Prior creditable service counts toward vesting, eligibility for retirement and the health insurance credit. Only active members are eligible to purchase prior service. Members also may be eligible to purchase periods of leave without pay.</p>	<p>Purchase of Prior Service Same as Plan 1.</p>	<p>Purchase of Prior Service <u>Defined Benefit Component:</u> Same as Plan 1, with the following exceptions:</p> <ul style="list-style-type: none"> • Hybrid Retirement Plan members are ineligible for ported service. <p><u>Defined Contribution Component:</u> Not applicable.</p>

Pension Plan Data

Information about the VRS Political Subdivision Retirement Plan is also available in the separately issued VRS 2017 Comprehensive Annual Financial Report (CAFR). A copy of the 2017 VRS CAFR may be downloaded from the VRS website at <http://www.varetire.org/Pdf/Publications/2017-annual-report.PDF>, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA 23218-2500.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Employees Covered by Benefit Terms

As of the June 30, 2016 actuarial valuation, the following employees were covered by the benefit terms of the pension plan:

	Number
Inactive members or their beneficiaries currently receiving benefits	14
Inactive members:	
Vested inactive members	3
Non-vested inactive members	4
Inactive members active elsewhere in VRS	5
Total inactive members	<u>12</u>
Active members	<u>28</u>
Total covered employees	<u><u>54</u></u>

Contributions

The contribution requirement for active employees is governed by §51.1-145 of the Code of Virginia, as amended, but may be impacted as a result of funding options provided to political subdivisions by the Virginia General Assembly. Employees are required to contribute 5.00% of their compensation toward their retirement. Prior to July 1, 2012, all or part of the 5.00% member contribution may have been assumed by the employer. Beginning July 1, 2012 new employees were required to pay the 5% member contribution. In addition, for existing employees, employers were required to begin making the employee pay the 5.00% member contribution. This could be phased in over a period of up to 5 years and the employer is required to provide a salary increase equal to the amount of the increase in the employee-paid member contribution.

The Authority's contractually required employer contribution rate for the year ended June 30, 2018 was 5.86% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2015.

This rate, when combined with employee contributions, was expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the pension plan from the Authority were \$74,997 and \$77,470 for the years ended June 30, 2018 and June 30, 2017, respectively.

Net Pension (Asset) Liability

The Authority's net pension (asset) liability was measured as of June 30, 2017. The total pension liability used to calculate the net pension (asset) liability was determined by an actuarial valuation performed as of June 30, 2016, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2017.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Actuarial Assumptions – General Employees

The total pension liability for General Employees in the Authority's Retirement Plan was based on an actuarial valuation as of June 30, 2016, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2017.

Inflation	2.5%
Salary increases, including inflation	3.5% – 5.35%
Investment rate of return	7.0%, net of pension plan investment expense, including inflation*

* Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7.0% to simplify preparation of pension liabilities.

Mortality rates:

Largest 10 – Non-Hazardous Duty: 20% of deaths are assumed to be service related

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

All Others (Non 10 Largest) – Non-Hazardous Duty: 15% of deaths are assumed to be service related

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Actuarial Assumptions – General Employees (continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Largest 10 – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

All Others (Non 10 Largest) – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Long-Term Expected Rate of Return

The long-term expected rate of return on pension System investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension System investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-term Expected Rate of Return</u>	<u>Weighted Average Long-term Expected Rate of Return</u>
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	15.00%	9.53%	1.43%
Total	<u>100.00%</u>		<u>4.80%</u>
		Inflation	<u>2.50%</u>
		*Expected arithmetic nominal return	<u>7.30%</u>

* The above allocation provides a one-year return of 7.30%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.83%, including expected inflation of 2.50%.

Discount Rate

The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that System member contributions will be made per the VRS Statutes and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2019, the rate contributed by the employer for the Appomattox River Water Authority Retirement Plan will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2019 on, participating employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Changes in Net Pension Liability (Asset)

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at June 30, 2016	\$ 5,523,546	\$ 5,197,503	\$ 326,043
Changes for the year:			
Service cost	\$ 141,274	\$ -	\$ 141,274
Interest	377,709	-	377,709
Changes of assumptions	(181,571)	-	(181,571)
Differences between expected and actual experience	(8,307)	-	(8,307)
Contributions - employer	-	77,470	(77,470)
Contributions - employee	-	70,147	(70,147)
Net investment income	-	630,091	(630,091)
Benefit payments, including refunds of employee contributions	(255,396)	(255,396)	-
Administrative expenses	-	(3,675)	3,675
Other changes	-	(559)	559
Net changes	\$ 73,709	\$ 518,078	\$ (444,369)
Balances at June 30, 2017	\$ 5,597,255	\$ 5,715,581	\$ (118,326)

Sensitivity of the Net Pension Liability (Asset) to Changes in the Discount Rate

The following presents the net pension liability (asset) of the Authority using the discount rate of 7.00%, as well as what the Authority's net pension liability (asset) would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

	Rate		
	(6.00%)	(7.00%)	(8.00%)
Appomattox River Water Authority Net Pension Liability (Asset)	\$ 506,415	\$ (118,326)	\$ (645,216)

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 5 - PENSION PLAN: (continued)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2018, the Authority recognized pension expense of \$57,122. At June 30, 2018, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual experience	\$ 54,916	\$ 18,745
Change of assumptions	-	132,365
Net difference between projected and actual earnings on pension plan investments	-	82,326
Employer contributions subsequent to the measurement date	<u>74,997</u>	<u>-</u>
Total	<u>\$ 129,913</u>	<u>\$ 233,436</u>

\$74,997 reported as deferred outflows of resources related to pensions resulting from the Authority's contributions subsequent to the measurement date will be recognized as an increase of the Net Pension Liability (Asset) in the year ended June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense in future reporting periods as follows:

<u>Year ended June 30</u>	
2019	\$ (56,350)
2020	(32,309)
2021	(35,623)
2022	(54,038)
2023	-
Thereafter	-

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 6 - COMPENSATED ABSENCES:

Accumulated unpaid vacation, vested sick leave and other compensatory leave amounts are accrued when incurred. At June 30, 2018 and 2017 liabilities were as follows:

	<u>2018</u>	<u>2017</u>
Accumulated and compensatory leave	\$ <u>193,901</u>	\$ <u>170,612</u>

Sick leave is vested and payable upon eligible retirement from the Authority and accordingly recorded as a liability in the financial statements.

NOTE 7 - RISK MANAGEMENT:

The Authority is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Authority joined together with other local governments in the State to form the Virginia Municipal Group Self Insurance Association, a public entity risk pool currently operating as a common risk management and insurance program for member governments. The Authority pays an annual premium to the pool for its workers compensation coverage and other liability insurance. The Agreement for Formation of the association provides that the association will be self-sustaining through member premiums. The Authority also participates in the VaRisk2, a group liability self insurance plan, administered by the Commonwealth of Virginia, Department of General Services, Division of Risk Management. The Authority pays an annual premium for its public officials general liability insurance to the public entity risk pool currently operating as a common risk management and insurance program for participating governments. Settled claims have not exceeded pool coverage in any of the past three fiscal years.

The Authority continues to carry commercial insurance for all other risks of loss, including employee health and accident insurance. Settled claims resulting from these risks have not exceeded commercial insurance coverage in any of the past three fiscal years.

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS:

Health Insurance:

The Authority implemented GASB Statement Number 75 *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* for the fiscal year ending June 30, 2018. This Statement replaces the requirements of Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*.

Plan Description

In addition to the pension benefits described in Note 5, the Authority administers a single-employer defined benefit healthcare plan. The plan provides postemployment health care benefits to all eligible permanent employees who meet the requirements under the Authority's pension plans. The plan does not issue a publicly available financial report.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (CONTINUED)

Benefits Provided

Participants who are eligible to retire from the VRS pension plan are allowed access to the plan until they reach age 65. Retirees pay the blended (employees and retirees) published rate, however as they are older than the typical employee (and thus more expensive) there is a cost to this right to purchase insurance at the blended rate.

VRS retirement eligibility is age 50 with 10 years of service or age 55 with 5 years of service for employees hired prior to July 1, 2010 who were vested in the plan prior to July 1, 2013. VRS retirement eligibility is the earlier of age 60 with 5 years of service or 90 combined age and service points for other employees.

Plan Membership

At June 30, 2017 (measurement date), the following employees were covered by the benefit terms:

Total active employees with coverage	26
Total retirees with coverage	<u>4</u>
Total	<u><u>30</u></u>

Contributions

The Authority does not pre-fund benefits; therefore, no assets are accumulated in a trust fund. The current funding policy is to pay benefits directly from general assets on a pay-as-you-go basis. The funding requirements are established and may be amended by the Authority. The amount paid by the Authority for OPEB as the benefits came due during the year ended June 30, 2018 was \$12,200.

Total OPEB Liability

The Authority's total OPEB liability was measured as of June 30, 2017. The total OPEB liability was determined by an actuarial valuation as of July 1, 2017.

Actuarial Assumptions

The total OPEB liability in the July 1, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	2.50% per year as of June 30, 2017
Salary Increases	3.5% -5.35% including inflation
Discount Rate	2.85% for accounting and funding disclosures as of July 1, 2016 3.58% for accounting and funding disclosures as of June 30, 2017
Investment Rate of Return	7.0% as of June 30, 2017

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Health Insurance: (continued)

Discount Rate

The discount rate used to determine the liabilities under GASB 75 is based on an index rate for 20-year tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher. This rate was 2.85% as of June 30, 2016 and 3.58% as of June 30, 2017.

Changes in Total OPEB Liability

	<u>Total OPEB Liability</u>	
Balances at June 30, 2017	\$	112,672
Changes for the year:		
Service cost		7,411
Interest		3,037
Difference between expected and actual experience		-
Changes in assumptions		(3,882)
Contributions - employer		-
Net investment income		-
Benefit payments		(12,200)
Net changes		<u>(5,634)</u>
Balances at June 30, 2018	\$	<u>107,038</u>

Sensitivity of the Total OPEB Liability to Changes in the Discount Rate

The following amounts present the total OPEB liability of the Authority, as well as what the total OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (2.58%) or one percentage point higher (4.58%) than the current discount rate:

	<u>1% Decrease (2.58%)</u>	<u>Current Discount Rate (3.58%)</u>	<u>1% Increase (4.58%)</u>
\$	113,789	\$ 107,038	\$ 100,668

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Health Insurance: (continued)

Sensitivity of the Total OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the total OPEB liability of the Authority, as well as what the total OPEB liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower (3.20%) or one percentage point higher (5.20%) than the current healthcare cost trend rates:

	1% Decrease (3.20%)	Healthcare Cost Trend Rates (4.20%)	1% Increase (5.20%)
\$	97,667	\$ 107,038	\$ 117,976

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources

For the year ended June 30, 2018, the Authority recognized OPEB expense in the amount of \$9,672. At June 30, 2018, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Changes in assumptions	\$ -	\$ 3,106
Total	<u>\$ -</u>	<u>\$ 3,106</u>

Amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in OPEB expense in future reporting periods as follows:

Year Ended June 30	
2019	\$ (776)
2020	(776)
2021	(776)
2022	(778)
2023	-
Thereafter	-

Additional disclosures on changes in net OPEB liability, related ratios, and employer contributions can be found in the required supplementary information following the notes to the financial statements.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance:

Plan Description

All full-time, salaried permanent employees of the state agencies, teachers, and employees of participating political subdivisions are automatically covered by the VRS Group Life Insurance Program upon employment. This is a cost-sharing multiple-employer plan administered by the Virginia Retirement System (the System), along with pensions and other OPEB plans, for public employer groups in the Commonwealth of Virginia.

In addition to the Basic Group Life Insurance benefit, members are also eligible to elect additional coverage for themselves as well as a spouse or dependent children through the Optional Group Life Insurance Program. For members who elect the optional group life insurance coverage, the insurer bills employers directly for the premiums. Employers deduct these premiums from members' paychecks and pay the premiums to the insurer. Since this is a separate and fully insured program, it is not included as part of the Group Life Insurance Program OPEB.

The specific information for Group Life Insurance Program OPEB, including eligibility, coverage and benefits is set out in the table below:

GROUP LIFE INSURANCE PROGRAM PLAN PROVISIONS
<p>Eligible Employees</p> <p>The Group Life Insurance Program was established July 1, 1960, for state employees, teachers and employees of political subdivisions that elect the program, including the following employers that do not participate in VRS for retirement:</p> <ul style="list-style-type: none">• City of Richmond• City of Portsmouth• City of Roanoke• City of Norfolk• Roanoke City School Board <p>Basic group life insurance coverage is automatic upon employment. Coverage ends for employees who leave their position before retirement eligibility or who take a refund of their member contributions and accrued interest.</p>
<p>Benefit Amounts</p> <p>The benefits payable under the Group Life Insurance Program have several components.</p> <ul style="list-style-type: none">• <u>Natural Death Benefit</u> - The natural death benefit is equal to the employee's covered compensation rounded to the next highest thousand and then doubled.• <u>Accidental Death Benefit</u> – The accidental death benefit is double the natural death benefit.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (Continued)

Plan Description: (Continued)

GROUP LIFE INSURANCE PROGRAM PLAN PROVISIONS (CONTINUED)
<p>Benefit Amounts: (Continued)</p> <ul style="list-style-type: none">• <u>Other Benefit Provisions</u> – In addition to the basic natural and accidental death benefits, the program provides additional benefits provided under specific circumstances. These include:<ul style="list-style-type: none">○ Accidental dismemberment benefit○ Safety belt benefit○ Repatriation benefit○ Felonious assault benefit○ Accelerated death benefit option
<p>Reduction in Benefit Amounts</p> <p>The benefit amounts provided to members covered under the Group Life Insurance Program are subject to a reduction factor. The benefit amount reduces by 25% on January 1 following one calendar year of separation. The benefit amount reduces by an additional 25% on each subsequent January 1 until it reaches 25% of its original value.</p>
<p>Minimum Benefit Amount and Cost-of-Living Adjustment (COLA)</p> <p>For covered members with at least 30 years of creditable service, there is a minimum benefit payable under the Group Life Insurance Program. The minimum benefit was set at \$8,000 by statute. The amount is increased annually based on the VRS Plan 2 cost-of-living adjustment and is currently \$8,111.</p>

Contributions

The contribution requirements for the Group Life Insurance Program are governed by §51.1-506 and §51.1-508 of the Code of Virginia, as amended, but may be impacted as a result of funding provided to state agencies and school divisions by the Virginia General Assembly. The total rate for the Group Life Insurance Program was 1.31% of covered employee compensation. This was allocated into an employee and an employer component using a 60/40 split. The employee component was 0.79% (1.31% x 60%) and the employer component was 0.52% (1.31% x 40%). Employers may elect to pay all or part of the employee contribution; however, the employer must pay all of the employer contribution. Each employer's contractually required employer contribution rate for the year ended June 30, 2018 was 0.52% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2015. The actuarially determined rate, when combined with employee contributions, was expected to finance the costs of benefits payable during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the Group Life Insurance Program from the entity were \$7,729 and \$7,608 for the years ended June 30, 2018 and June 30, 2017, respectively.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

GLI OPEB Liabilities, GLI OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to the Group Life Insurance Program OPEB

At June 30, 2018, the entity reported a liability of \$119,000 for its proportionate share of the Net GLI OPEB Liability. The Net GLI OPEB Liability was measured as of June 30, 2017 and the total GLI OPEB liability used to calculate the Net GLI OPEB Liability was determined by an actuarial valuation as of that date. The covered employer's proportion of the Net GLI OPEB Liability was based on the covered employer's actuarially determined employer contributions to the Group Life Insurance Program for the year ended June 30, 2017 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2017, the participating employer's proportion was .00793% as compared to .00817% at June 30, 2016.

For the year ended June 30, 2018, the participating employer recognized GLI OPEB expense of \$0. Since there was a change in proportionate share between measurement dates, a portion of the GLI OPEB expense was related to deferred amounts from changes in proportion.

At June 30, 2018, the employer reported deferred outflows of resources and deferred inflows of resources related to the GLI OPEB from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual experience	\$ -	\$ 3,000
Net difference between projected and actual earnings on GLI OPEB program investments	-	4,000
Change in assumptions	-	6,000
Changes in proportion	-	3,000
Employer contributions subsequent to the measurement date	<u>7,729</u>	<u>-</u>
Total	<u>\$ 7,729</u>	<u>\$ 16,000</u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

GLI OPEB Liabilities, GLI OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to the Group Life Insurance Program OPEB (continued)

\$7,729 reported as deferred outflows of resources related to the GLI OPEB resulting from the employer's contributions subsequent to the measurement date will be recognized as a reduction of the Net GLI OPEB Liability in the fiscal year ending June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the GLI OPEB will be recognized in the GLI OPEB expense in future reporting periods as follows:

<u>Year Ended June 30</u>	
2019	\$ 3,296
2020	3,296
2021	3,296
2022	3,296
2023	1,943
Thereafter	873

Actuarial Assumptions

The total GLI OPEB liability was based on an actuarial valuation as of June 30, 2016, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2017.

Inflation	2.5%
Salary increases, including inflation:	
General state employees	3.5% – 5.35%
Teachers	3.5%-5.95%
SPORS employees	3.5%-4.75%
VaLORS employees	3.5%-4.75%
JRS employees	4.5%
Locality - General employees	3.5%-5.35%
Locality - Hazardous Duty employees	3.5%-4.75%
Investment rate of return	7.0%, net of investment expenses, including inflation*

*Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7.0% to simplify preparation of OPEB liabilities.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Mortality Rates – General State Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males set back 1 year, 85% of rates; females set back 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year; females set back 1 year with 1.5% increase compounded from ages 70 to 85.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males 115% of rates; females 130% of rates.

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 25%

Mortality Rates – Teachers

Pre-Retirement:

RP-2014 White Collar Employee Rates to age 80, White Collar Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020.

Post-Retirement:

RP-2014 White Collar Employee Rates to age 49, White Collar Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males 1% increase compounded from ages 70 to 90; females set back 3 years with 1.5% increase compounded from ages 65 to 70 and 2.0% increase compounded from ages 75 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; 115% of rates for males and females.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – Teachers: (continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

Mortality Rates – SPORS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 85%

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – VaLORS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 50% to 35%

Mortality Rates – JRS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males set back 1 year, 85% of rates; females set back 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year; females set back 1 year with 1.5% compounding increase from ages 70 to 85.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males 115% of rates; females 130% of rates.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – JRS Employees: (continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Decreased rates at first retirement eligibility
Withdrawal Rates	No change
Disability Rates	Removed disability rates
Salary Scale	No change

Mortality Rates – Largest Ten Locality Employers – General Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – Non-Largest Ten Locality Employers – General Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Mortality Rates – Largest Ten Locality Employers – Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – Largest Ten Locality Employers – Hazardous Duty Employees: (continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Increased disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 70%

Mortality Rates – Non-Largest Ten Locality Employers – Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – Non-Largest Ten Locality Employers – Hazardous Duty Employees: (continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 60% to 45%

NET GLI OPEB Liability

The net OPEB liability (NOL) for the Group Life Insurance Program represents the program’s total OPEB liability determined in accordance with GASB Statement No. 74, less the associated fiduciary net position. As of June 30, 2017, NOL amounts for the Group Life Insurance Program is as follows (amounts expressed in thousands):

		Group Life Insurance OPEB Program
		<hr/>
Total GLI OPEB Liability	\$	2,942,426
Plan Fiduciary Net Position		1,437,586
Employers' Net GLI OPEB Liability (Asset)	\$	<hr/> <hr/> 1,504,840
 Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability		 48.86%

The total GLI OPEB liability is calculated by the System’s actuary, and each plan’s fiduciary net position is reported in the System’s financial statements. The net GLI OPEB liability is disclosed in accordance with the requirements of GASB Statement No. 74 in the System’s notes to the financial statements and required supplementary information.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Long-Term Expected Rate of Return

The long-term expected rate of return on the System’s investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of System’s investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-term Expected Rate of Return</u>	<u>Weighted Average Long-term Expected Rate of Return</u>
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	<u>15.00%</u>	9.53%	<u>1.43%</u>
Total	<u>100.00%</u>		<u>4.80%</u>
		Inflation	<u>2.50%</u>
		*Expected arithmetic nominal return	<u>7.30%</u>

*The above allocation provides a one-year return of 7.30%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.83%, including expected inflation of 2.50%.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Discount Rate

The discount rate used to measure the total GLI OPEB liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made per the VRS guidance and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2019, the rate contributed by the entity for the GLI OPEB will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2019 on, employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the GLI OPEB's fiduciary net position was projected to be available to make all projected future benefit payments of eligible employees. Therefore the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total GLI OPEB liability.

Sensitivity of the Employer's Proportionate Share of the Net GLI OPEB Liability to Changes in the Discount Rate

The follow presents the employer's proportionate share of the net GLI OPEB liability using the discount rate of 7.00%, as well as what the employer's proportionate share of the net GLI OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

	Rate		
	1% Decrease	Current Discount	1% Increase
	(6.00%)	(7.00%)	(8.00%)
Authority's proportionate share of the Group Life Insurance Program Net OPEB Liability	\$ 154,000	\$ 119,000	\$ 91,000

Group Life Insurance Program Fiduciary Net Position

Detailed information about the Group Life Insurance Program's Fiduciary Net Position is available in the separately issued VRS 2017 Comprehensive Annual Financial Report (CAFR). A copy of the 2017 VRS CAFR may be downloaded from the VRS website at <http://www.varetire.org/Pdf/Publications/2017-annual-report.pdf>, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 9 - DEFERRED COMPENSATION PLAN:

Eligible employees of the Authority may participate in a deferred compensation plan in accordance with Internal Revenue Code section 457. The plan permits participants to defer a portion of their salary until future years. The deferred compensation is not available to employees until termination of employment, retirement, death or an unforeseen emergency. The Authority has no fiduciary responsibility for the plan, has no liability for losses incurred under the plan as the plan is administered by the U.S. Conference of Mayors and the plan is not accessible by the Authority's creditors; therefore, any related assets and liabilities are not reflected in the financial statements.

NOTE 10 - RELATED PARTY TRANSACTIONS:

The Authority is governed by a common Board of Directors with the South Central Wastewater Authority ("SCWWA"). The Authority has an agreement with SCWWA to share several key positions utilized by both the Authority and SCWWA. Accordingly the two Authorities share personnel costs necessary to fund the positions. During the current fiscal year the Authority received reimbursement in the amount of \$212,414 from SCWWA including \$110,202 reported as accounts receivable at June 30, 2018 for reimbursement of salary and benefits paid to Authority employees that allocate time and duties with SCWWA. Similarly, the Authority pays a reimbursement to SCWWA for salary and benefits for SCWWA employees that allocate time and duties with the Authority. The Authority reported expenses of \$234,084 as reimbursement.

NOTE 11 - FAIR VALUE MEASUREMENTS:

Fair value for investments is determined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. The three-level fair value hierarchy prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

- Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2 — Significant observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.
- Level 3 — Significant unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 11 - FAIR VALUE MEASUREMENTS: (continued)

The Authority is providing the following information related to its investments:

	Fair Value Measurements at Reporting Date Using			
	Total June 30, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. Treasury & Agency Money Market Funds	\$ 22,810,884	\$ 22,810,884	\$ -	\$ -
Total investments measured at fair value	<u>\$ 22,810,884</u>	<u>\$ 22,810,884</u>	<u>\$ -</u>	<u>\$ -</u>

NOTE 12 - UPCOMING PRONOUNCEMENTS:

Statement No. 83, *Certain Asset Retirement Obligations*, addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. A government that has legal obligations to perform future asset retirement activities related to its tangible capital assets should recognize a liability based on the guidance in this Statement. This Statement establishes criteria for determining the timing and pattern of recognition of a liability and a corresponding deferred outflow of resources for AROs. The requirements of this Statement are effective for reporting periods beginning after June 15, 2018.

Statement No. 84, *Fiduciary Activities*, establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and postemployment benefit arrangements that are fiduciary activities. This Statement describes four fiduciary funds that should be reported, if applicable: (1) pension (and other employee benefit) trust funds, (2) investment trust funds, (3) private-purpose trust funds, and (4) custodial funds. This Statement also provides for recognition of a liability to the beneficiaries in a fiduciary fund when an event has occurred that compels the government to disburse fiduciary resources. The requirements of this Statement are effective for reporting periods beginning after December 15, 2018.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 12 - UPCOMING PRONOUNCEMENTS: (continued)

Statement No. 87, *Leases*, increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. The requirements of this Statement are effective for reporting periods beginning after December 15, 2019.

Statement No. 88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements*, clarifies which liabilities governments should include when disclosing information related to debt. It defines debt for purposes of disclosure in notes to financial statements as a liability that arises from a contractual obligation to pay cash (or other assets that may be used in lieu of cash) in one or more payments to settle an amount that is fixed at the date the contractual obligation is established. The Statement requires that additional essential information related to debt be disclosed in notes to financial statements, including unused lines of credit; assets pledged as collateral for the debt; and terms specified in debt agreements related to significant events of default with finance-related consequences, significant termination events with finance-related consequences, and significant subjective acceleration clauses. For notes to financial statements related to debt, it requires that existing and additional information be provided for direct borrowings and direct placements of debt separately from other debt. The requirements of this Statement are effective for reporting periods beginning after June 15, 2018.

Statement No. 89, *Accounting for Interest Cost Incurred Before the End of a Construction Period*, enhances the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and simplifies accounting for interest cost incurred before the end of a construction period. Such interest cost includes all interest that previously was accounted for in accordance with the requirements of paragraphs 5-22 of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, which are superseded by this Statement. This Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. As a result, interest cost incurred before the end of a construction period will not be included in the historical cost of a capital asset reported in a business-type activity or enterprise fund. This Statement also reiterates that in financial statements prepared using the current financial resources measurement focus, interest cost incurred before the end of a construction period should be recognized as an expenditure on a basis consistent with governmental fund accounting principles. The requirements of this Statement are effective for reporting periods beginning after December 15, 2019.

Management is currently evaluating the impact these standards will have on the financial statements when adopted.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2018 (continued)

NOTE 13 - ADOPTION OF ACCOUNTING PRINCIPLES:

The Authority implemented the financial reporting provisions of Governmental Accounting Standards Board Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* during the fiscal year ended June 30, 2018. This Statement establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures related to postemployment benefits other than pensions (other postemployment benefits or OPEB). Note disclosure and required supplementary information requirements about OPEB are also addressed. The requirements of this Statement will improve accounting and financial reporting by state and local governments for OPEB. In addition, the Authority implemented Governmental Accounting Standards Board Statement No. 85, *Omnibus 2017* during the fiscal year ended June 30, 2018. This Statement addresses practice issues identified during implementation and application of certain GASB statements for a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits (OPEB)). The implementation of these Statements resulted in the following restatement of net position as of July 1, 2017:

	<u>Amount</u>
Net Position as of July 1, 2017, previously reported	\$ 43,337,631
OPEB liabilities in accordance with GASB Statement No. 75	<u>(184,372)</u>
Net Position as of July 1, 2017, as restated	<u>\$ 43,153,259</u>

- Required Supplementary Information -

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Changes in Net Pension (Asset) Liability and Related Ratios
For the Years Ended June 30, 2015 through June 30, 2018

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total pension liability				
Service cost	\$ 141,274	\$ 134,438	\$ 128,956	\$ 115,714
Interest	377,709	361,682	323,274	304,237
Differences between expected and actual experience	(8,307)	(28,955)	280,591	-
Changes of assumptions	(181,571)	-	-	-
Benefit payments, including refunds of employee contributions	(255,396)	(221,000)	(147,277)	(148,713)
Net change in total pension liability	<u>\$ 73,709</u>	<u>\$ 246,165</u>	<u>\$ 585,544</u>	<u>\$ 271,238</u>
Total pension liability - beginning	<u>5,523,546</u>	<u>5,277,381</u>	<u>4,691,837</u>	<u>4,420,599</u>
Total pension liability - ending (a)	<u><u>\$ 5,597,255</u></u>	<u><u>\$ 5,523,546</u></u>	<u><u>\$ 5,277,381</u></u>	<u><u>\$ 4,691,837</u></u>
Plan fiduciary net position				
Contributions - employer	\$ 77,470	\$ 90,504	\$ 84,275	\$ 84,546
Contributions - employee	70,147	71,510	66,467	62,807
Net investment income	630,091	90,092	227,824	674,742
Benefit payments, including refunds of employee contributions	(255,396)	(221,000)	(147,277)	(148,713)
Administrative expense	(3,675)	(3,223)	(3,066)	(3,607)
Other	(559)	(38)	(48)	35
Net change in plan fiduciary net position	<u>\$ 518,078</u>	<u>\$ 27,845</u>	<u>\$ 228,175</u>	<u>\$ 669,810</u>
Plan fiduciary net position - beginning	<u>5,197,503</u>	<u>5,169,658</u>	<u>4,941,483</u>	<u>4,271,673</u>
Plan fiduciary net position - ending (b)	<u><u>\$ 5,715,581</u></u>	<u><u>\$ 5,197,503</u></u>	<u><u>\$ 5,169,658</u></u>	<u><u>\$ 4,941,483</u></u>
Authority's net pension (asset) liability - ending (a) - (b)	\$ (118,326)	\$ 326,043	\$ 107,723	\$ (249,646)
Plan fiduciary net position as a percentage of the total pension (asset) liability	102.11%	94.10%	97.96%	105.32%
Covered payroll	\$ 1,462,461	\$ 1,467,991	\$ 1,339,006	\$ 1,256,141
Authority's net pension (asset) liability as a percentage of covered payroll	(8%)	22%	8%	(20%)

This schedule is intended to report information for 10 years. Information prior to the 2014 valuation is not available. Additional years will be included when available.

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Employer Contributions
For the Years Ended June 30, 2009 through June 30, 2018

Fiscal Year	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Employee Payroll (4)	Contributions as a % of Covered Payroll (5)
2009	\$ 3,853	\$ 3,853	\$ -	\$ 1,041,243	0.37%
2010	3,592	3,592	-	970,852	0.37%
2011	29,570	29,570	-	1,033,917	2.86%
2012	28,190	28,190	-	985,675	2.86%
2013	74,118	74,118	-	1,126,410	6.58%
2014	82,654	82,654	-	1,256,141	6.58%
2015	87,660	87,660	-	1,339,006	6.55%
2016	90,504	90,504	-	1,467,991	6.17%
2017	77,470	77,470	-	1,462,461	5.30%
2018	74,997	74,997	-	1,475,042	5.08%

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information
For the Year Ended June 30, 2018

Changes of benefit terms – There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation. The 2014 valuation includes Hybrid Retirement Plan members for the first time. The hybrid plan applies to most new employees hired on or after January 1, 2014 and not covered by enhanced hazardous duty benefits. Because this is a fairly new benefit and the number of participants was relatively small, the impact on the liabilities as of the measurement date of June 30, 2017 are not material.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2016 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

Largest 10 – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Retirement Rates	Lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience
Disability Rates	Increased rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 70%

All Others (Non 10 Largest) – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Changes in Total OPEB Liability (Asset) and Related Ratios - Health Insurance
For the Year Ended June 30, 2018

	2018
Total OPEB liability	
Service cost	\$ 7,411
Interest	3,037
Changes in assumptions	(3,882)
Differences between expected and actual experience	-
Benefit payments	(12,200)
Net change in total OPEB liability	\$ (5,634)
Total OPEB liability – beginning	112,672
Total OPEB liability – ending	\$ 107,038
 Covered payroll	 \$ N/A
 Authority's total OPEB liability (asset) as a percentage of covered payroll	 N/A

Schedule is intended to show information for 10 years. Additional years will be included as they become available.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information - OPEB - Health Insurance
For the Year Ended June 30, 2018

Valuation Date: July 1, 2017
Measurement Date: June 30, 2017

No assets are accumulated in a trust that meets the criteria in GASB 75 to pay related benefits.

Methods and assumptions used to determine OPEB liability:

Actuarial Cost Method	Entry Age Normal cost method
Discount Rate	2.85% as of June 30, 2016; 3.58% as of June 30, 2017
Inflation	2.50% per year as of June 30, 2017; 2.50% per year as of June 30, 2018
Healthcare Trend Rate	Healthcare trend rate of 4.20%. Rates are selected based on an economic model developed by a healthcare economist for the Society of Actuaries.
Salary Increase Rates	Salary increase rates of 3.5% - 5.35% including inflation
Demographic Assumptions	Assumed that 50% of employees with medical coverage would elect to retain the coverage at retirement.

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Authority's Share of Net OPEB Liability
Group Life Insurance Program
For the Year Ended June 30, 2018

Date (1)	Employer's Proportion of of the Net GLI OPEB Liability (Asset) (2)	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) (3)	Employer's Covered Payroll (4)	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) as a Percentage of Covered Payroll (3)/(4) (5)	Plan Fiduciary Net Position as a Percentage of Total GLI OPEB Liability (6)
2017	0.00793% \$	119,000 \$	1,462,461	8.14%	48.86%

Schedule is intended to show information for 10 years. Information prior to the 2017 valuation is not available. However, additional years will be included as they become available.

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Employer Contributions
 Group Life Insurance Program
 For the Years Ended June 30, 2017 through June 30, 2018

Date	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	Contributions as a % of Covered Payroll (5)
2018	\$ 7,729	\$ 7,729	\$ -	\$ 1,475,042	1%
2017	7,608	7,608	-	1,462,461	1%

Schedule is intended to show information for 10 years. Information is unavailable for all 10 years. Additional years will be included as they become available.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information
Group Life Insurance Program
For the Year Ended June 30, 2018

Changes of benefit terms – There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2016 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

General State Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 25%

Teachers

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

SPORS Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 85%

VaLORS Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better fit experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 50% to 35%

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information
Group Life Insurance Program
For the Year Ended June 30, 2018 (Continued)

JRS Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Decreased rates at first retirement eligibility
Withdrawal Rates	No change
Disability Rates	Removed disability rates
Salary Scale	No change

Largest Ten Locality Employers - General Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

Non-Largest Ten Locality Employers - General Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Largest Ten Locality Employers - Hazardous Duty Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Increased disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 70%

Non-Largest Ten Locality Employers - Hazardous Duty Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 60% to 45%

- Compliance -

**Independent Auditors' Report on Internal Control over Financial Reporting and on
Compliance and Other Matters Based on an Audit of Financial Statements
Performed in Accordance with *Government Auditing Standards***

**To the Honorable Board of Directors
Appomattox River Water Authority
S. Chesterfield, Virginia**

We have audited, in accordance with the auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the *Specifications for Audits of Authorities, Boards, and Commissions*, issued by the Auditor of Public Accounts of the Commonwealth of Virginia, the financial statements of the business-type activities of Appomattox River Water Authority as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise Appomattox River Water Authority's basic financial statements and have issued our report thereon dated September 20, 2018.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered Appomattox River Water Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Appomattox River Water Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of Appomattox River Water Authority's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether Appomattox River Water Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

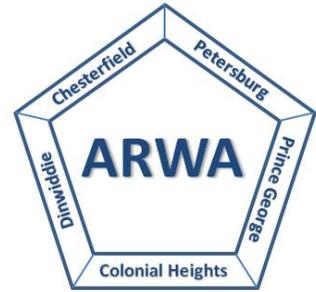
The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Robinson, Farmer Cox Associates
Charlottesville, Virginia
September 20, 2018

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

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

Appomattox River Water Authority



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

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY: BOARD OF DIRECTORS

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

SUBJECT: STATUS REPORT – ON-GOING PROJECTS

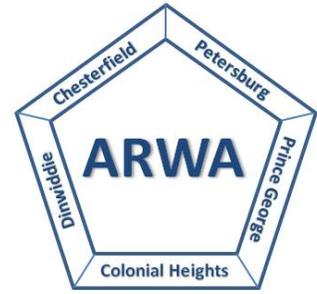
DATE: NOVEMBER 15, 2018

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

In-Plant Capital Projects:

- Construction is ongoing, predominantly at Raw Water Pump Station No. 1.
- Construction meeting was held on October 31, 2018.
- The switchgear building was being installed on the day of the meeting.
- The dam transition work is being planned out and will be submitted for review.
- In October, backfill of electrical conduits at the dam were completed.
- Anticipate construction of the building and generator pad to be completed in November, 2018

Appomattox River Water Authority



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

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

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

SUBJECT: OPERATING AND FINANCIAL STATUS REPORT

DATE: NOVEMBER 15, 2018

Operating Status Report

General:

- The next scheduled Board of Directors Meeting is **Thursday January 17, 2018** at the Appomattox River Water Authority at 2:00 pm.
- Staff will be with member Utility Directors/Engineers on November 16th for the FY19/20 work session
- The Authority Trust Engineer has been onsite to perform his inspection for the Annual Maintenance Inspection and staff has reviewed and commented of the draft.
- Work has begun to evaluate the extent of the Hydrilla in the Chesdin Reservoir. A sonar survey of the coastline was performed the week of October 29th and a more in depth survey is schedule for the week of November 12th.
- Finished water distribution for October 2018 was 1.069 BG. This is the first time the ARWA has sold over 1 BG in October.

Operations:

- Finished water met all permit requirements for the month of October. Copies of the VDH monitoring reports are available if anyone would like to see them.
- Operations staff have completed their seasonal cleaning of the sedimentation basins and open flume.
- The West Lagoon (#1) has been place in service and the East Lagoon (#2) has been drained to allow for solids compaction.

Maintenance:

- All Raw and Fin pumps are in service
- Works continues on replacing the transmission ARVs.
- Staff is beginning to winterize equipment.

Instrumentation/IT:

- Troubleshooting Alum flow meters.
- Troubleshooting filter actuators.

Laboratory:

- Quarterly HAAs and THMs testing is complete
- Whole Effluent Toxicity Testing was performed the week of November 5th.

Financial Status Report:

Following is the Executive Summary of the Monthly Financial Statement that includes the YTD Budget Performance and the Financial Statement for October 2018.

Appomattox River Water Authority-Balance Sheet
For Month Ending October 31, 2018

Assets

Current Assets

Petty Cash	\$	400
SunTrust Operating Fund	\$	969,919
SunTrust Replacement Fund	\$	-
Total Unrestricted Cash	\$	970,319

Water Revenue	\$	6,440,917
Reserve Account	\$	2,733,094
Replacement Account	\$	384,470
Debt Service Reserve	\$	1,069,662
Bond Principal/Interest	\$	304,655
Bond Construction	\$	11,982,610
Total Restricted Cash	\$	22,915,406

Total Checking/Savings	\$	23,885,726
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Accounts Receivable	\$	-
Other Current Assets	\$	12,599
Inventory	\$	160,010

Total Current Assets	\$	24,058,335
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Fixed Assets

Land and Land Rights	\$	1,090,685
Water System	\$	85,625,821
Equipment	\$	1,176,668
Hydro	\$	34,873
Construction in Progress	\$	803,082
Accumulated Amortization	\$	(34,175)
Accumulated Depreciation	\$	(47,059,529)
Total Fixed Assets	\$	41,637,425

Other Assets

Def Out Res-Post ER Pension Costs	\$	74,997
Deferred Outflow-OPEB GLI	\$	7,729
Def Out Res-Net Dif Pension Inv	\$	36,171
Total Other Assets	\$	118,897

Total Assets	\$	65,814,657
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Liabilities & Equity

Current Liabilities

Accounts Payable	\$	107,187
Retainage Payable	\$	-
Accrued Interest Payable	\$	198,754

Total Current Liabilities	\$	305,941
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Long Term Liabilities

Def Inf Res-Pen Chg Assumptions	\$	132,365
Def Inf Res-Pens Dif Proj/Act E	\$	82,326
Net Pension Liability	\$	(118,326)
Def Infl-OPEB Chg of Assumptions	\$	3,106
Deferred Inflow-OPEB GLI	\$	16,000
Bonds Payable-2010	\$	7,415,016
Bonds Payable-2012	\$	2,372,000
Bonds Payable-2017	\$	12,750,000
Accrued Leave Payable	\$	193,901
Post Employment Benefit	\$	107,038
OPEB Liability-GLI	\$	119,000
Total Long-Term Liabilities	\$	23,072,426

Total Liabilities	\$	23,378,367
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Equity

Retained Earnings	\$	(3,281,219)
Reserve for Operations	\$	3,341,142
Reserve for Water Revenue	\$	5,991,639
Reserve for Replacements	\$	500,000
Reserve for Bond Interest	\$	198,754
Reserve for Debt Service	\$	2,142,022
Reserve for Bond Principal	\$	1,370,000
Reserve for Reserve	\$	2,602,136
Fixed Assets, Net of Debt	\$	30,696,880

Net Income	\$	(1,125,065)
Total Equity	\$	42,436,290

Total Liabilities & Equity	\$	65,814,657
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Appomattox River Water Authority
YTD Income Statement for the period ending October 31, 2018

Water Rate Center

Revenues and Expenses Summary

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>YTD Budget</i>	<i>Variance</i>
<i>FY 18/19</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	\$ 10,163,119	\$ 2,540,780	\$ 2,944,556	\$ 403,776	15.89%
Misc. Revenue	\$ 30,000	\$ 10,000	\$ 600	\$ (9,400)	-94.00%
Total Operating Revenues	\$ 10,193,119	\$ 2,550,780	\$ 2,945,156	\$ 394,376	15.46%

Expenses

Personnel Cost	\$ 2,378,100	\$ 792,700	\$ 780,864	\$ (11,836)	-1.49%
Contractual/Professional Services	\$ 952,500	\$ 321,833	\$ 294,506	\$ (27,328)	-8.49%
Utilities	\$ 824,000	\$ 274,667	\$ 263,565	\$ (11,101)	-4.04%
Communication/Postal/Freight	\$ 39,200	\$ 13,067	\$ 12,424	\$ (643)	-4.92%
Office/Lab/Purification Supplies	\$ 101,000	\$ 33,667	\$ 42,735	\$ 9,068	26.94%
Insurance	\$ 90,000	\$ 90,000	\$ 85,804	\$ (4,196)	-4.66%
Lease/Rental Equipment	\$ 20,000	\$ 6,667	\$ 4,364	\$ (2,303)	-34.55%
Travel/Training/Dues	\$ 51,400	\$ 17,133	\$ 4,846	\$ (12,287)	-71.72%
Safety/Uniforms	\$ 26,000	\$ 8,667	\$ 6,057	\$ (2,610)	-30.11%
Chemicals	\$ 2,300,000	\$ 766,667	\$ 837,314	\$ 70,648	9.21%
Repair/Maintenance Parts & Supplies	\$ 330,000	\$ 110,000	\$ 91,206	\$ (18,794)	-17.09%
Total Operating Expenses	\$ 7,112,200	\$ 2,435,067	\$ 2,423,684	\$ (11,383)	-0.47%
Operating Suplus/(Deficit)	\$ 3,080,919	\$ 115,713	\$ 521,472	\$ 405,759	350.66%

Replacement Outlay Budget vs. Actual

Machinery & Motors	\$ 160,000	\$ 53,333	\$ 225,125	\$ 171,792	322.11%
Instrumentation	\$ -	\$ -	\$ -	\$ -	#DIV/0!
SCADA	\$ 50,000	\$ 16,667	\$ -	\$ (16,667)	-100.00%
Computer Equipment	\$ 10,000	\$ 3,333	\$ -	\$ (3,333)	-100.00%
Furniture/Fixtures	\$ 6,000	\$ 2,000	\$ -	\$ (2,000)	-100.00%
Motor Vehicles	\$ 28,000	\$ 9,333	\$ 35,540	\$ 26,207	280.78%
Special Studies	\$ 400,000	\$ 133,333	\$ -	\$ (133,333)	-100.00%
Valve Replacement	\$ 50,000	\$ 16,667	\$ -	\$ (16,667)	-100.00%
Concrete	\$ 25,000	\$ 8,333	\$ 3,100	\$ (5,233)	-62.80%
In-Plant Capital Upgrade	\$ -	\$ -	\$ 1,058,204	\$ 1,058,204	#DIV/0!
Chedin East Flow Meter	\$ 40,000	\$ 13,333	\$ -	\$ (13,333)	-100.00%
Replacement-Other	\$ -	\$ -	\$ 64,000	\$ 64,000	#DIV/0!
Total Capital Outlay	\$ 769,000	\$ 256,333	\$ 1,385,970	\$ 1,129,636	440.69%

Debt Service Budget vs. Actual

Interest Income	\$ -	\$ -	\$ 136,942	\$ 136,942	#DIV/0!
Interest Jurisdictions (Income)	\$ -	\$ -	\$ -	\$ -	#DIV/0!
Interest Expense	\$ -	\$ -	\$ 397,509	\$ 397,509	#DIV/0!
Principal Payments	\$ 2,142,225	\$ 2,142,225	\$ 1,370,000	\$ (772,225)	-36.05%

- Internal Audit Subcommittee Update

6. Election of Board Officers

7. Items from Counsel

8. Closed Session

9. Other Items from Board Members/Staff Not on Agenda:

10. Adjourn