CITY OF PETERSBURG
WATER & SEWER SYSTEM VALUATION

March 3, 2017

Prepared for
CITY OF PETERSBURG
103 W. TABB ST.
PETERSBURG, VA 23803

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

2901 SOUTH LYNNHAVEN ROAD
SUITE 200
VIRGINIA BEACH, VA 23452

| SURVEYING | GIS | LANDSCAPE ARCHITECTURE | CONSTRUCTION SERVICES

TIMMONS GROUP
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2901 S. Lynnhaven Rd.
Suite 200
Virginia Beach, VA 23452

P 757.213.6679
F 757.340.1415
www.timmons.com

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1.0 Introduction

1.1 Scope of Report

The scope of this report is to develop a value for the existing water and wastewater collection and conveyance system. The valuation will be based on best available information on asset depreciation, book value, replacement cost and a value for the City of Petersburg share of the water and wastewater system owned and operated by ARWA and SCWWTP respectively. Currently Petersburg share of the water and wastewater assets and liabilities for ARWA and SCWWTP are 16.69% and 52.5%. There are various documents available for reference in developing this report which include condition assessment information, GIS database information, billing, revenue, expenses, Capital Expenditure needs, debt service and liability information which can be expected for current and future years. The replacement cost for major system components will also be developed to obtain an idea of the total system replacement cost. This is necessary as many of the assets have reached the end of their useful life and have a book value of $0. Based on traditional valuation procedures, the book value is used to determine the system value, however these assets which have reached the end of their useful life are providing service but require increased maintenance and repair. This report will look at original cost less depreciation (OCLD) to determine the book value. A second method which will be looked at will consider the market value of any assets which could be sold for cash. A range will be developed for the system valuation to be used to compare with offers to purchase the water and sewer system.

1.2 Objectives of this Study

There are several objectives required to come to a conclusion on the valuation of the system. Some of these objectives will be easily and accurately attained while some judgement and assumptions will be required to achieve other objectives. The objectives include;

Water System

- Determine the length, size and age of buried water assets in the system
- Determine the number of fire hydrants In the system
- Identify the number, size and age of water storage tanks in the system
- Identify number, age and capacity of water pumping facilities in the system
- Quantify equipment, vehicles, and plant associated with water system
- Identify operating cost of water system
- Clarify which portion of the proposed Capital Improvement program will be used for this valuation.
- Identify magnitude of existing debt service remaining on water system
- Calculate replacement cost for all system components which are identified
- Determine net position of ARWA
- Evaluate OCLD, Operating expense, Debt Service, replacement cost ARWA net position and Capital cost to determine a range of values for existing water system.

Sewer System

- Determine length, size and age of buried assets in the system
- Determine number of manholes in the system

- Identify number and type of sewer pump station including pumping capacity
- Quantify equipment, vehicles and Plant associated with sewer system
- Identify operating cost of sewer system
- Quantify debt service on sewer system
- Calculate replacement cost for all system components associated with sewer system
- Determine net position of SCWWTP
- Evaluate OCLD, operating expenses, debt service, replacement cost of system, net position of SCWWTP and capital cost to determine a range of values for the sewer system.

2.0 Asset Inventory

2.1 Water Buried Assets

City of Petersburg water distribution system (WDS) encompasses approximately 23.2 square miles through a network of 260 miles of piping and associated appurtenances and service connections. The WDS pipe sizes range from 1 to 30 inches in diameter. The City serves approximately 38,429 customers with about 11,900 accounts. To generate the water buried assets inventory, City of Petersburg, VA Geographical Information System (GIS) database files were utilized.

The distribution of WDS pipe length in miles over pipe diameter in inches in the City's database is shown in Figure 1. The majority of the water pipes in the system are 6 and 8 inches in diameter. There are an estimated 1,378 fire hydrants in the water distribution system.

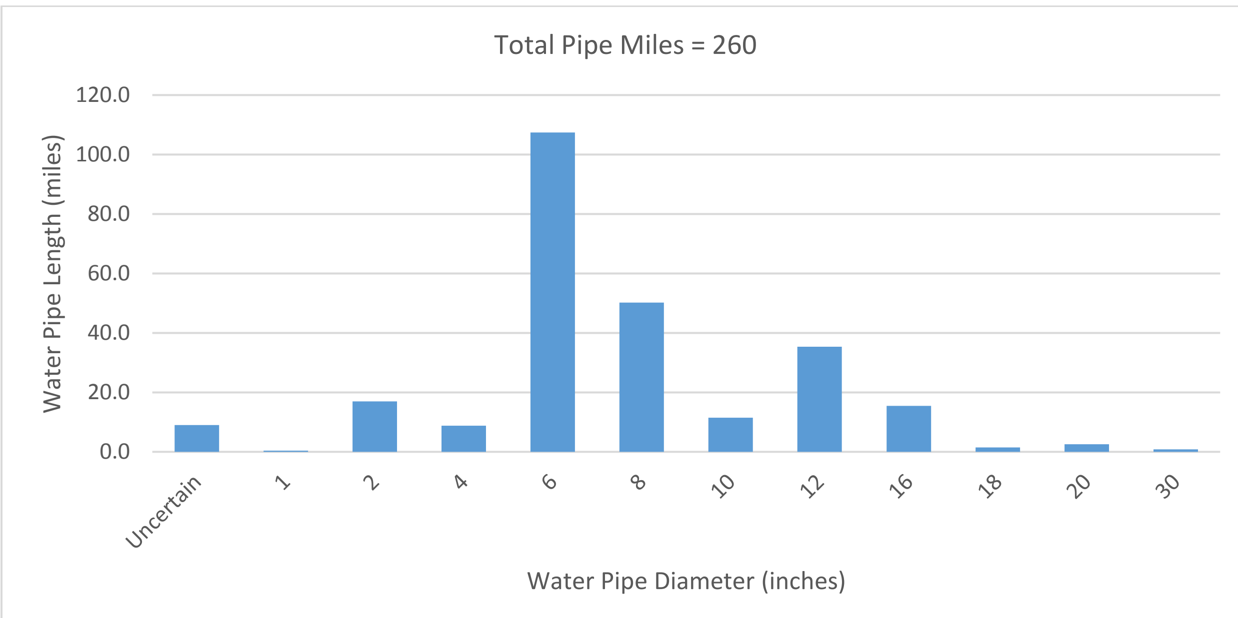

Figure 1: Water Distribution System by Pipe Diameter

In 2015, Timmons Group completed a GIS effort for the City of Petersburg. The scope was to develop a GIS database of the water/wastewater assets in the right-of-way (ROW). The total water pipe miles included in the GIS database (222 miles) did not equal the total water pipe miles Petersburg has historically associated with their system (260 miles). There was a discrepancy in total pipe miles for two reasons: (1) only assets in the ROW were marked during the course of the study, but the City has assets not located in the ROW (e.g., cross country runs), (2) only the marked assets were surveyed for inclusion in the GIS database. However, not all the assets in the ROW had been marked, so they were not included in the GIS database.

Therefore, the total water pipe miles as determined using the Timmons Group compiled GIS data is less than the total water pipe miles Petersburg has historically associated with their system. The unsolicited proposals the City of Petersburg received pursuant to the PPEA to purchase their water and wastewater utility assets were based on the lesser total pipe miles as determined by the recent Timmons Group GIS effort. As a result, the distribution of the WDS pipe length in miles over pipe diameter in inches is presented again in Figure 2 with the lesser total pipe miles. A map of the City's WDS is presented in Figure 3.

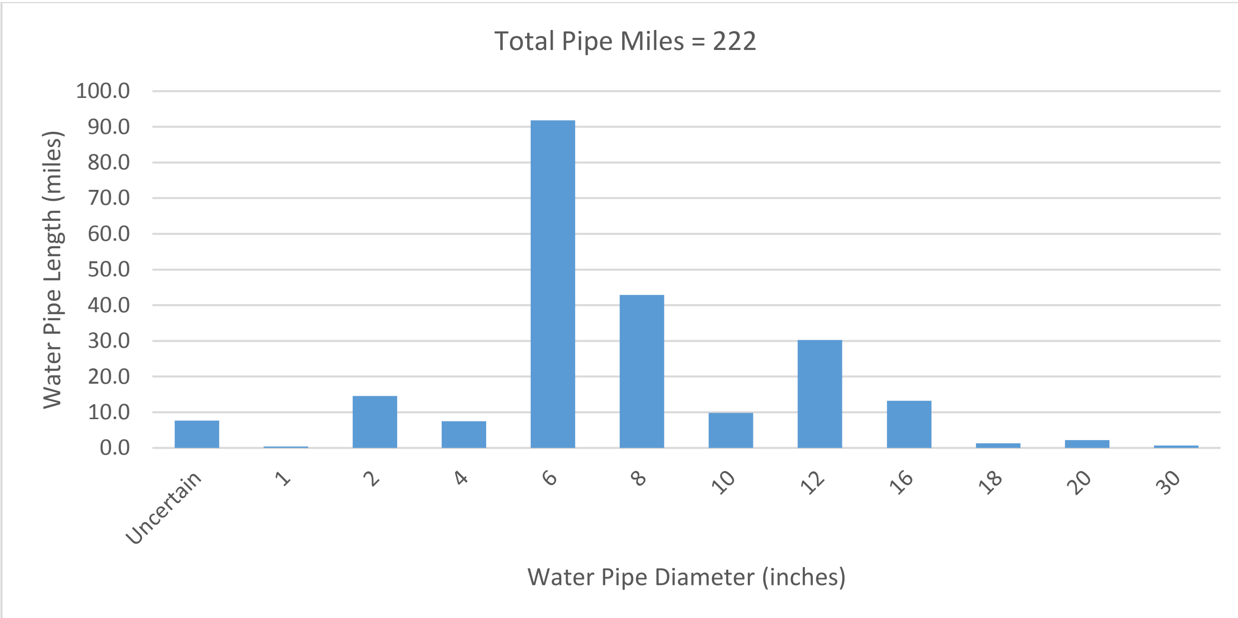

Figure 2: Water Distribution System by Pipe Diameter (based on Timmons Group GIS Effort)

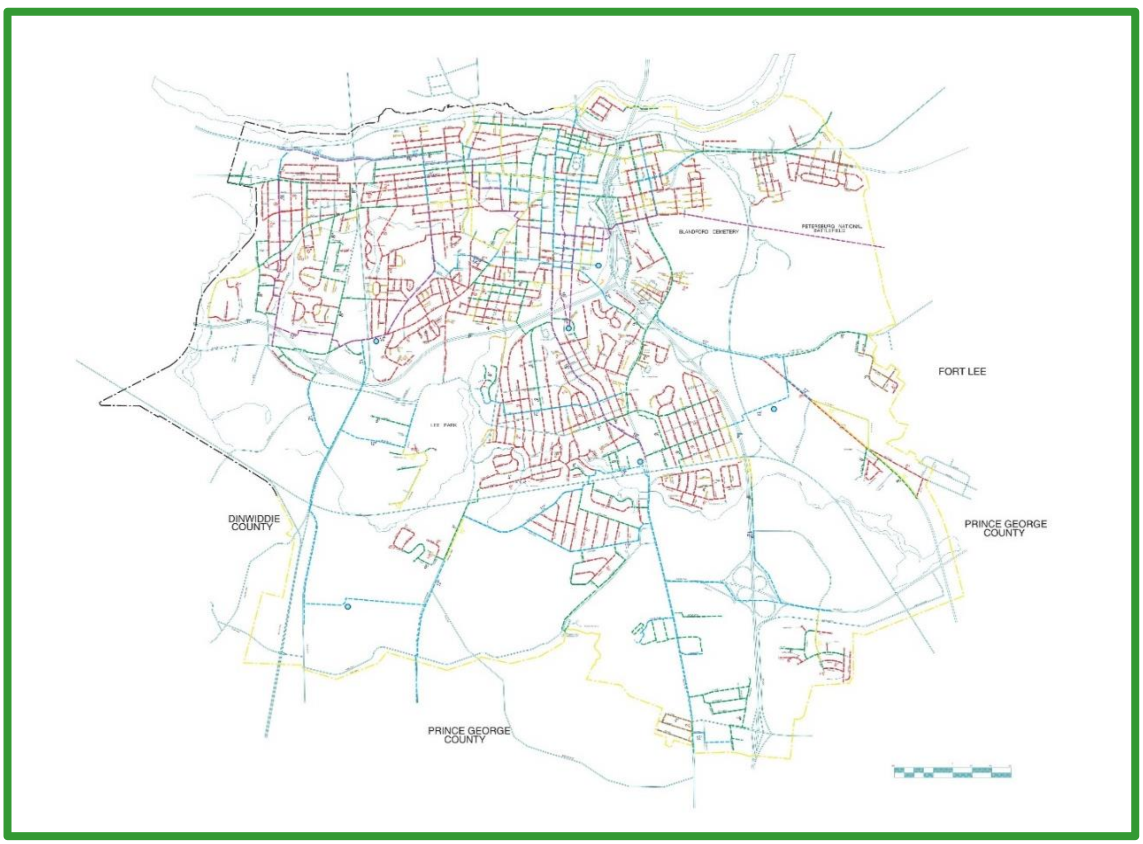

Figure 3: City of Petersburg Water Distribution System

2.2 Wastewater Buried Assets

The wastewater buried assets inventory for the sanitary sewer system was created using Geographical Information System (GIS) database files provided by the City. The sewer system is composed of 195 miles of pipes. The distribution of sanitary sewer pipe length in miles over pipe diameter in inches in the City's database is shown in Figure 4. The majority of the sewer pipes in the system are 8 inches in diameter. According to the GIS database provided by the City, there are 2,885 manholes in the system. The size and material of the manholes have not been confirmed.

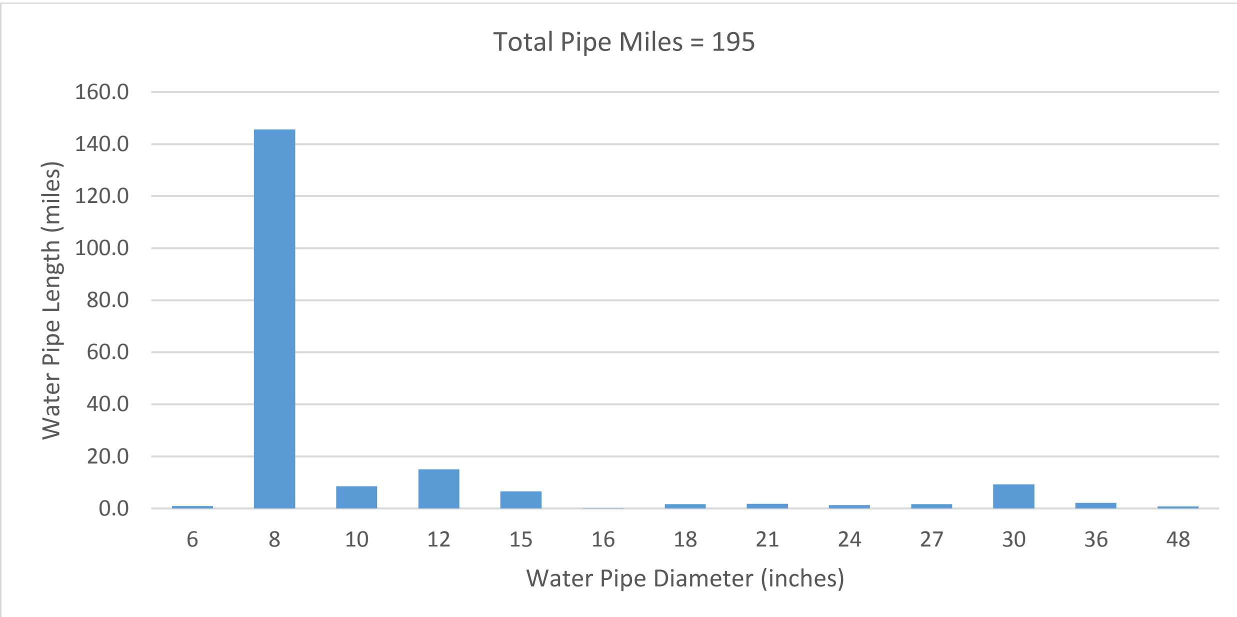

Figure 4: Sanitary Sewer System by Pipe Diameter

As described in Section 2.1, the total sanitary sewer pipe miles as determined using the 2015 Timmons Group compiled GIS data (103 miles) is less than the total sanitary sewer pipe miles Petersburg has historically associated with their system (195 miles). The unsolicited proposals the City of Petersburg received pursuant to the PPEA to purchase their water and wastewater utility assets were based on the lesser total pipe miles as determined by the recent Timmons Group GIS effort. As a result, the distribution of the WDS pipe length in miles over pipe diameter in inches is presented again in Figure 5 with the lesser total pipe miles. A map of the City's sanitary sewer system is presented in Figure 6.

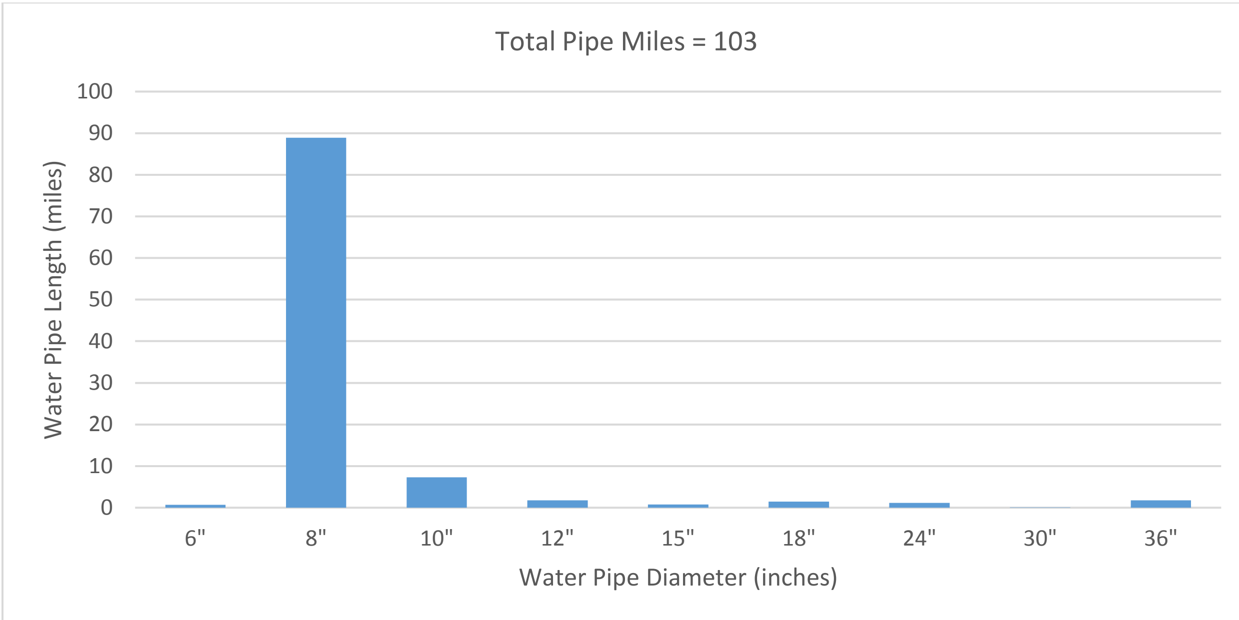

Figure 5: Water Distribution System by Pipe Diameter (based on Timmons Group GIS Effort)

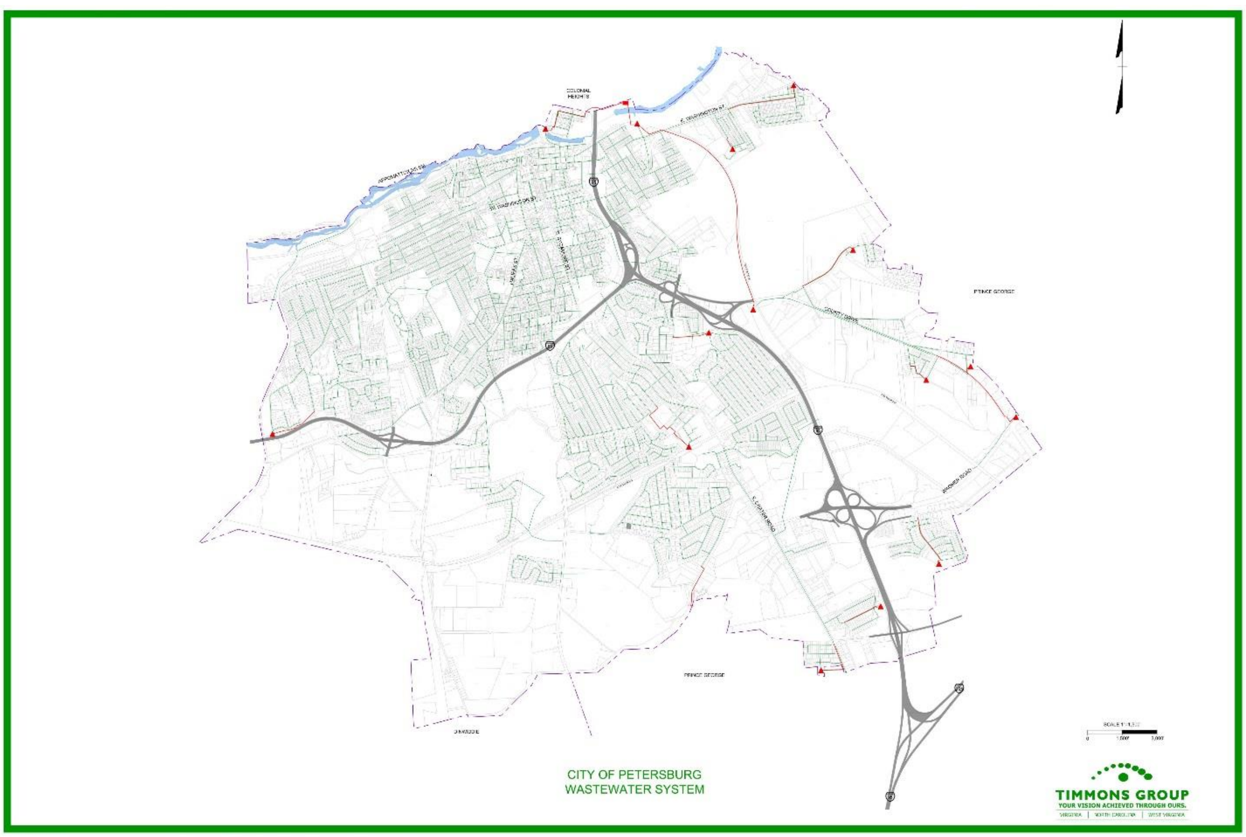

Figure 6: City of Petersburg Sanitary Sewer System

2.3 Water Storage Tanks and Water Booster Pumping Stations

The City's water distribution system is divided into low and high pressure service areas. The City operates two water pump stations, the Locks Water PS and the Mt. Vernon Water PS, both of which serve the high pressure service area. The attributes of each PS is presented in Table 1.

Table 1: Summary of Water Pump Stations

Water PS	Number of Pumps	Rated Capacity (gpm)	TDH (ft)	Motor Horsepower (hp)
Locks Water PS	2	850	85	30
Mt. Vernon Water PS	2	1,500	220	60

The City owns and operates six water storage tanks. Table 2, adapted from Water Distribution System Operation Evaluation (June 2001), summarizes each storage tank. A map of the City's water storage tanks is presented in Figure 7.

Table 2: Summary of Water Storage Tanks

Storage Tank	Pressure Zone	Diameter (ft)	Max HGL (ft)	Min HGL (ft)	Max Level (ft)	Volume (gal)
Mercury Street	Low	80	180	136	50	1,900,000
Mt. Vernon	Low	165	180	145	35	5,600,000
Halifax	High	50	265	176	89	1,300,000
Industrial Park	High	80	265	225	40	1,000,000
Walnut Hill	High	55	265	240	25	500,000
Jamestown	High	72	265	230	35	1,000,000

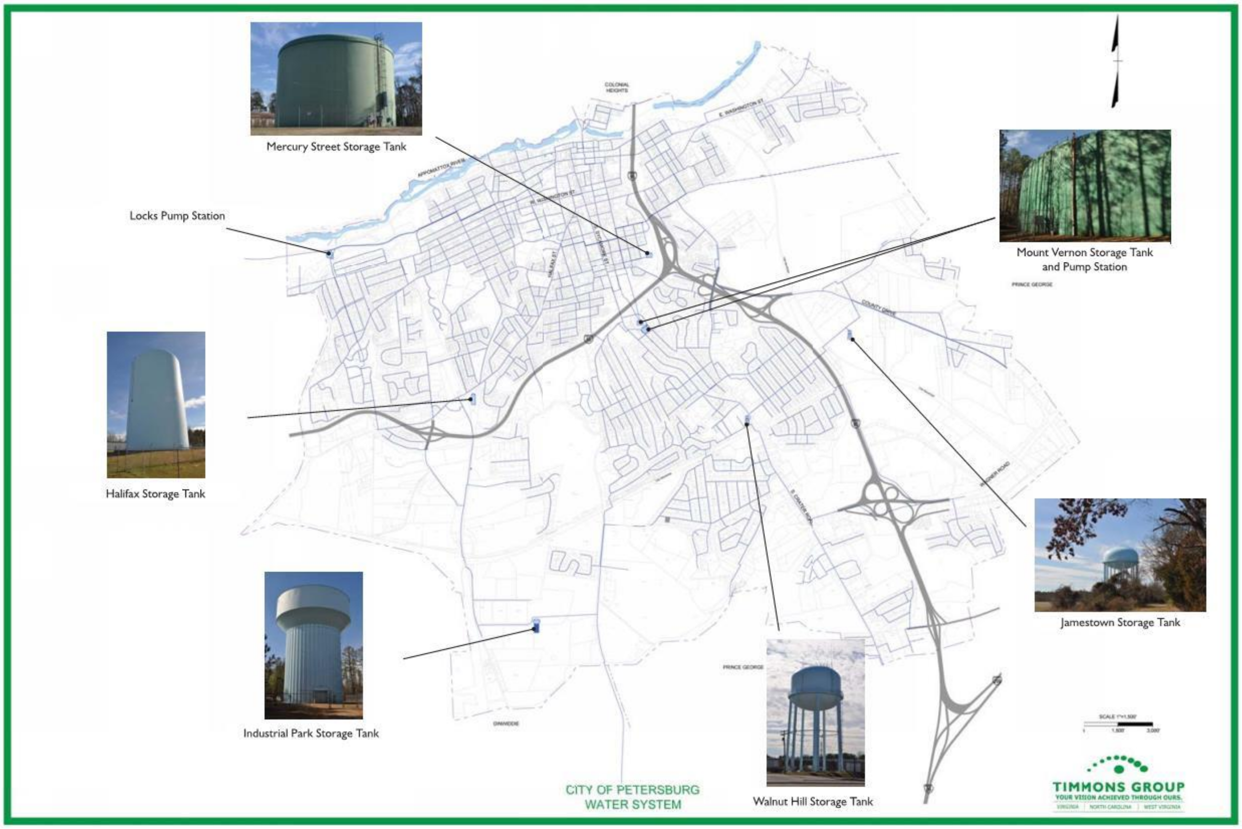

Figure 7: Location of Water Storage Tanks

2.4 Wastewater Pumping Stations and Treatment Facilities

The Building Schedule in the City of Petersburg Capital Asset Listing lists 17 pump stations (PS) within the sanitary sewer system. Table 3 details the rated capacity of each PS in gallons per minute (GPM) and the forcemain diameter in inches. A map of the City's wastewater pump stations is presented in Figure 8.

Table 3: City of Petersburg Pump Stations

Pump Station	Rated Capacity (GPM)	Forcemain Diameter (inch)
Main PS	14400	30
Poor Creek PS	4300	20
East Bank St. PS	1400	10
Prince George (460/Courthouse Rd) PS	900	12
E. Walnut Hill PS	700	8
Hickory Hill PS	510	10
Lakewood PS	460	8
South Plains PS	460	8
Woodmere PS	450	6
Mecklenburg PS	330	6
Pin Oak PS	275	4
Anderson St. PS	200	4
Rohoic Creek PS	180	6
Berkeley Manor PS	174	6
Travis Lane PS	150	6
Ft. Hayes PS	140	6
Edgewood PS	100	6

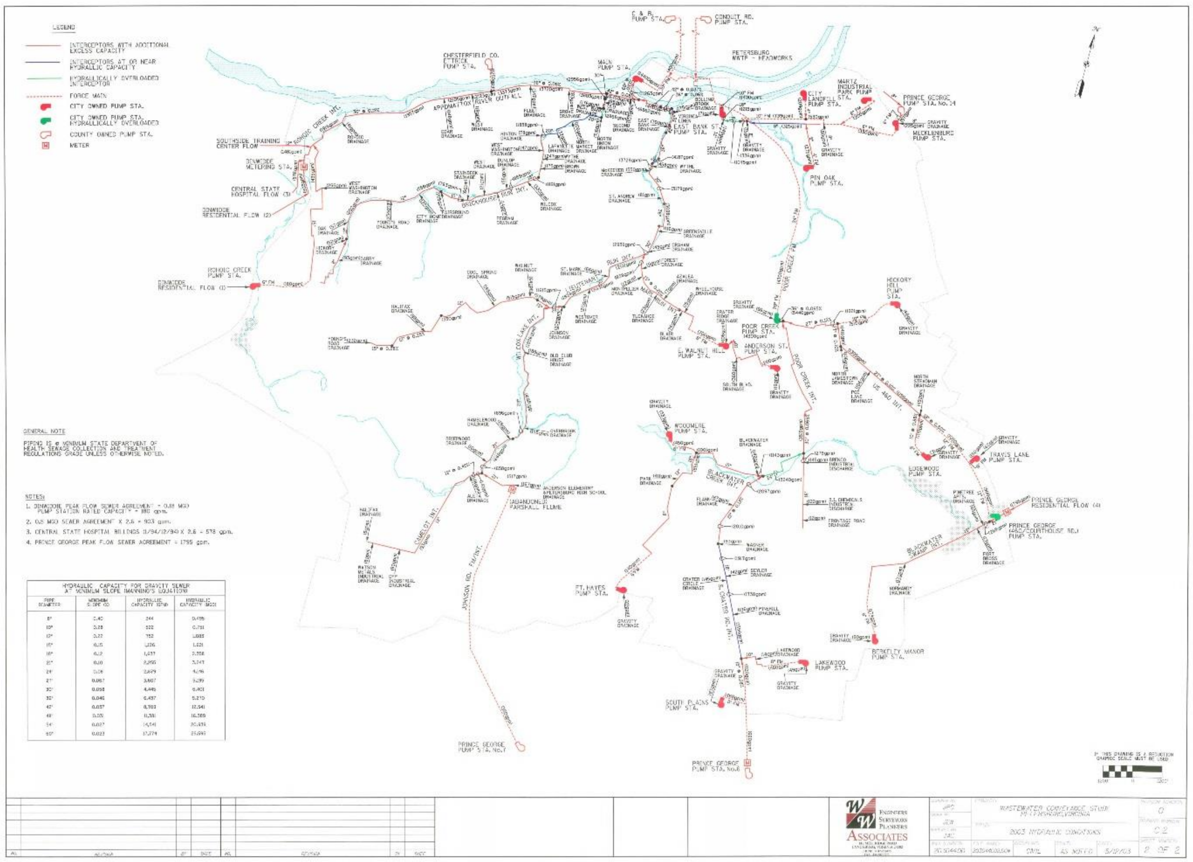

Figure 8: Location of Wastewater Pump Stations (Wiley Wilson, 2003)

3.0 Condition Assessment and Useful Life

Evaluating the condition of a system and verifying the amount of useful life left is imperative when undergoing a valuation assessment. The price of the potential sale of the system will be influenced by the amount of investment required in the future and the system's current condition.

3.1 Water Buried Assets

An accurate assessment of the condition of the water buried assets has not been maintained by the City of Petersburg. Additionally, the installation date of many of the water buried assets is not known so the end of useful life cannot be predicted. Therefore, renewal costs for the water buried assets is based on 5% to 10% of the replacement cost. Table 4 provides a planning level estimate of replacement costs and the price per linear foot of varying pipe sizes.

Table 4: Water Buried Assets Renewal Costs

Pipe Diameter (in)	Feet of Pipe	$/LF to Replace	Replacement Cost ($)	5% of Replacement Cost	10% of Replacement Cost
Pipes Uncertain	40,502	350	14,175,700	708,785	1,417,570
Pipes 1"	1,954	270	527,580	26,379	52,758
Pipes 2"	76,814	280	21,507,920	1,075,396	2,150,792
Pipes 4"	39,749	280	11,129,720	556,486	1,112,972
Pipes 6"	484,971	300	145,491,300	7,274,565	14,549,130
Pipes 8"	226,568	320	72,501,760	3,625,088	7,250,176
Pipes 10"	51,653	340	17,562,020	878,101	1,756,202
Pipes 12"	159,620	370	59,059,400	2,952,970	5,905,940
Pipes 16"	69,956	410	28,681,960	1,434,098	2,868,196
Pipes 18"	6,866	470	3,227,020	161,351	322,702
Pipes 20"	11,564	500	5,782,000	289,100	578,200
Pipes 30"	3,556	550	1,955,800	97,790	195,580
Total	1,173,773			19,080,109	38,160,218

The 5% to 10% of the replacement has been referenced to indicate a potential range of value for the portions of the system which have reached the end of their useful life, have been fully depreciated but continue to provide some level of service. These values will not be used to determine system value but are provided for your information

3.2 Sanitary Sewer Assets

An accurate assessment of the condition of the sewer buried assets has not been maintained by the City of Petersburg. Additionally, the installation date of many of the sewer buried assets is not known so the end of useful life cannot be predicted. Therefore, renewal costs for the sewer buried assets is based on 5% to 10% of the replacement cost. Table 5 provides a planning level estimate of replacement costs and the price per linear foot of varying pipe sizes.

Table 5: Sewer Buried Assets Renewal Costs

Pipe Diameter (in)	Feet of Pipe	$/LF to Replace	Replacement Cost ($)	5% of Replacement Cost	10% of Replacement Cost
6	4,490	111	498,424	24,921	49,842
8	768,749	118	90,712,325	4,535,616	9,071,233
10	44,978	130	5,847,112	292,356	584,711
12	79,641	139	11,070,127	553,506	1,107,013
15	34,675	139	4,819,861	240,993	481,986
16	232	167	38,819	1,941	3,882
18	8,753	167	1,461,749	73,087	146,175
21	8,971	202	1,812,167	90,608	181,217
24	6,660	210	1,398,508	69,925	139,851
27	8,863	262	2,322,028	116,101	232,203
30	48,770	290	14,143,426	707,171	1,414,343
36	11,042	363	4,008,168	200,408	400,817
48	3,776	506	1,910,597	95,530	191,060
Total	1.029,600			7,002,166	14,004,331

The 5% to 10% of the replacement has been referenced to indicate a potential range of value for the portions of the system which have reached the end of their useful life, have been fully depreciated but continue to provide some level of service. These values will not be used to determine system value but are provided for your information

3.3 Water Storage and Pumping Assets

3.3.1 Asset Inspections

In March 2016, Southern Corrosion provided the City of Petersburg with a memo detailing recommended rehabilitation on all six of their water storage tanks. Southern Corrosion recommended that the exterior of all six tanks be repainted. They recommended that the following tanks have the wet interior area of the tank repainted: Mt Vernon Tank, Mercury St Tank, and the Industrial Tank. Southern Corrosion recommended that the following tanks have the tank interior washed out to remove accumulated sediment and subsequently disinfected: Halifax Tank, Walnut Hill Tank, and the Jamestown Tank. Additionally, it was recommended that the dry interior area of the Jamestown Tank be repainted.

In 2014 Timmons Group conducted an assessment on behalf of the City of Petersburg to identify and address the City's capital needs for water and wastewater infrastructure. During this assessment Timmons Group performed physical inspections of each of the City's water storage tanks and water pump stations. The inspection reports evaluated the condition of 116 possible assets in each tank/PS. Each asset was evaluated in two categories, a conditioning ranking and a performance ranking. Scores of 1 to 5 were assigned to each of the 116 assets that make up a facility. A low score in the condition category meant the asset was in better condition while a high score meant the asset's integrity was severely compromised. A low score in the performance category meant the asset was functioning as intended while a high score meant the asset was not functioning as intended.

Table 6 below provides a summary of the assessment of each tank/PS. The number of points scored is divided by the total number of possible points to determine a percentage of points scored. Lower percentages indicate a given tank is performing as intended and is in better condition. An assessment of 0% would indicate a new tank/PS. Not every tank/PS is equipped with all 116 assets identified for evaluation. Therefore, each tank/PS is rated according to applicable asset categories only.

Table 6: Water Storage Tanks & Water PS Inspection Assessment Summary

Water Storage Tank	Points Scored	# of applicable categories	total possible score	Assessment
Walnut Hill tank	29	8	80	36%
Industrial tank	37	14	140	26%
Jamestown tank	26	10	100	26%
Mt Vernon tank	12	5	50	24%
Mercury St tank	8	4	40	20%
Halifax tank	tank was not inspected			

Water Booster PS	Points Scored	# of applicable categories	total possible score	Assessment
Lock Water PS	211	51	510	41%
Mt Vernon Water PS	98	27	270	36%

The Mt. Vernon Water PS may need replacement of its exhaust fan system and heating system in the future. Several aspects of the Locks Water PS are showing visible degradation (but are operating properly), including the building roof, generator pad, check valves, SCADA system, generator ATS and operability, and the pump casing, seals, and mounting.

3.4 Wastewater Pumping Stations Assets

3.4.1 Asset Inspections

In 2014 Timmons Group conducted an assessment on behalf of the City of Petersburg to identify and address the City's capital needs for water and wastewater infrastructure. During this assessment Timmons Group performed physical inspections of each of the City's pump stations. The inspection reports evaluated the condition of 116 possible assets in each PS. Each asset was evaluated in two categories, a conditioning ranking and a performance ranking. Scores of 1 to 5 were assigned to each of the 116 assets that make up a facility. A low score in the condition category meant the asset was in better condition while a high score meant the asset's integrity was severely compromised. A low score in the performance category meant the asset was functioning as intended while a high score meant the asset was not functioning as intended.

Table 7 below provides a summary of the assessment of each PS. The number of points scored is divided by the total number of possible points to determine a percentage of points scored. Lower percentages indicate a given PS is performing as intended and is in better condition. An assessment of 0% would indicate a new PS. Not every PS is equipped with all 116 assets identified for evaluation. Therefore, the pump station is rated according to applicable asset categories only.

Table 7: Pump Station Inspection Assessment Summary

Pump Station	Points Scored	Number of Applicable Categories	Total Possible Score	Assessment
Mecklenburg PS	221	41	410	54%
Rohoic Creek PS	260	56	560	46%
Main PS	210	49	490	43%
Lakewood PS	70	17	170	41%
E. Walnut Hill PS	214	52	520	41%
Pin Oak PS	52	13	130	40%
East Bank St. PS	50	14	140	36%
South Plains PS	47	14	140	34%
Hickory Hill PS	50	15	150	33%
Berkeley Manor PS	42	14	140	30%
Travis Lane PS	38	13	130	29%
Ft. Hayes PS	28	11	110	25%
Poor Creek PS	156	72	720	22%
Prince George (460/Courthouse Rd) PS	112	52	520	22%
Anderson St. PS	106	53	530	20%
Edgewood PS	28	14	140	20%
Woodmere PS	28	14	140	20%

The East Walnut Hill PS shows minor degradation or function of electrical housekeeping, pump motor, level transmitters, valving, and HVAC louvers. The Main PS shows minor degradation of station piping, level transmitters, electrical housekeeping, and miscellaneous instrumentation, and pump motors. The Main PS needs new check valves, several health and safety upgrades, an updated SCADA system, and a spare pump. Poor Creek PS is functioning properly, but generally shows slight signs of degradation.

Two smaller pump stations, Rohoic Creek and Mecklenburg, earned higher assessment percentages than the large pump stations. A higher assessment percentage indicates a more degraded condition and more impaired performance. Rohoic Creek PS exhibits visible degradation of the electrical components in the pump building, degraded condition of pumps, piping, and valves, and the condition of building walls and slab. Mecklenburg PS shows degradation of the HVAC system and electrical components in the pump building. The following assets do not function in the Mecklenburg PS: level transmitters, alarms, and SCADA system.

4.0 Renewal Investment Outlook

In order to maintain proper operation and good working condition of the water and sewer assets, adequate rehabilitation and replacement need to occur. The future renewal investment outlook for the City of Petersburg is presented in Figure 9. This cost schedule is based on the 15 year CIP, as presented in Attachment 1.

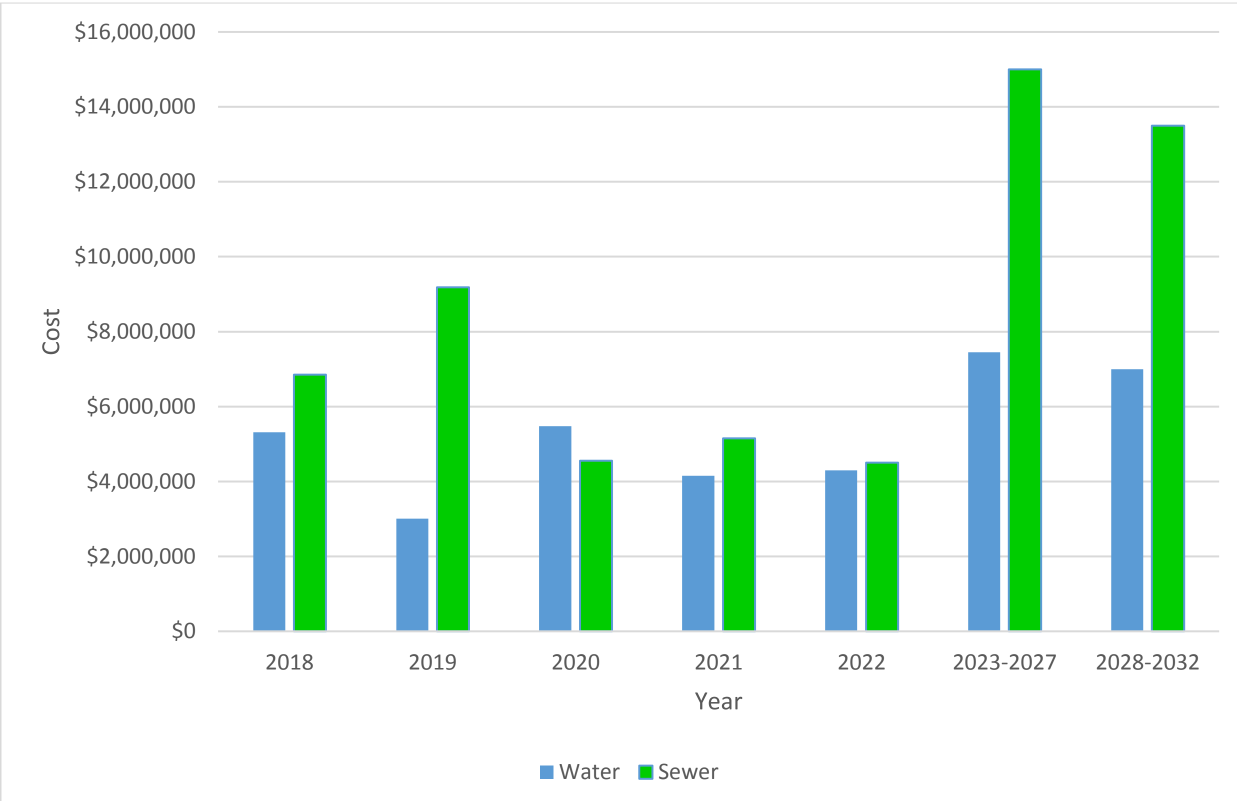

Figure 9: 15 year Renewal Investment Outlook for the Water and Sewer Systems

5.0 Systems Valuation

The City of Petersburg, Virginia, has received an unsolicited proposal pursuant to the Public-Private Education Facilities and Infrastructure Act of 2002 (PPEA) to purchase all of the water and wastewater utility assets. This report is undertaking a valuation of the water and sanitary system. The joint assets, support, and administration shared by the water system and sanitary system will have to be separated in order to provide a value for the water system and a value for the wastewater system.

Several methods of valuation will be performed to develop a range of values for the water and wastewater systems. Original cost less depreciation, net position, and market value will be the three methods used.

5.1 Statement of Assumptions

The City of Petersburg does not have a comprehensive or complete asset inventory of its water and wastewater system. Due to the lack of available information, several assumptions went into the system valuation. The installation dates of the buried assets (water distribution piping and sanitary sewer collection piping) have not been recorded. Therefore, the rate of rehabilitation/replacement of pipes has been assumed. Additionally, if the installation dates are unknown, the depreciation costs cannot be fully counted. Assumptions in the depreciation costs will be made. The original costs of many of the assets are not available; therefore, some original costs will be assumed.

5.2 Net Position of Authorities and Petersburg Assets

Treated drinking water is supplied to the City of Petersburg by the Appomattox River Water Authority (ARWA). The City of Petersburg has rights to 16.69% of production capacity and is responsible for the same percentage in regards to the cost of capital maintenance. The ARWA treatment facility can treat up to 84.3 MGD. So the City of Petersburg has rights to 14.1 MGD of production capacity. The 2016 ARWA Financial Report (Attachment 3) details the authority's net position as $42,921,125. The statement of net position represents 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. Given the City's rights and ARWA's net position, the City owns $7,163,536 of the ARWA.

Treatment of City of Petersburg's wastewater is performed by the South Central Wastewater Authority (SCWWA). The City of Petersburg has rights to 52.5% of production capacity and is responsible for the same percentage in regards to the cost of capital maintenance. The SCWWA treatment facility can treat up to 23 MGD. So the City of Petersburg has rights to 12.1 MGD of production capacity. The 2016 SCWWA Financial Report (Attachment 4) details the authority's net position as $23,381,797. Given the City's rights and SCWWA's net position, the City owns $12,275,443 of the SCWWA.

The total City of Petersburg ownership in ARWA and SCWWA is $19,438,979. This value will added to the value of the system to determine total valuation.

The Net Position of the Petersburg Water and Sewer System as referenced in the FY15 audited financial statement lists the Net Position of the Petersburg Utility System to be $15,514,112.

Based on the summary of net position of the combined Petersburg, SCWWTP and ARWA the value of the Petersburg assets is $34,953,091.

5.3 Original Cost less Depreciation

The first method of valuation is to determine the book value of the entirety of the City's fixed assets by looking at the original cost less depreciation. As described in Section 5.1, the City's schedule of fixed assets is incomplete in that it does not have information available on all of the original costs or depreciation costs. Additionally, much of the fixed assets have an OCLD of $0, or has been fully depreciated. When the OCLD of an asset equals $0, it means the asset should have been replaced at the end of useful life, but it was not replaced and remains in service.

According to the City of Petersburg, Schedule of Fixed Asset Depreciation for the year ended June 30, 2015, (Attachment 2) the OCLD of the water and sanitary systems was $10,460,273. Including the share of net position in ARWA and SCWWA, the total system valuation is $29,899,252.

5.4 Market Value Analysis

The second method which has been considered for valuing the system is a combination of the value of Net position and Market Value of Petersburg Share in ARWA. While the audited financial statement indicates the Net Position, if there are willing sellers to buy excess water capacity available through ARWA, the market value of this commodity may be considered. In the recent past, The City of Petersburg was in negotiations with a neighboring locality to purchase excess capacity in ARWA. The value of 1 MGD of capacity from ARWA was valued at $970,000. Given the allocation of ARWA capacity at 14.1 MGD, the market value of this treatment capacity can be estimated at $13,677,000. If this value is used in lieu of the Net Position of Petersburg Share of ARWA, this amount can be added to the OCLD of the Petersburg System plus the Net position of SCWWTP.

Based on this methodology, the value of the Petersburg system is $36,412,716.

5.5 Capital Cost Associated with System Replacement

This method of determining system value has neglected the debt service (liability) associated with replacement of system components which have reached the end of their useful life. It is assumed the rate study associated with the comprehensive review of Petersburg system cost, capital expenditures, anticipated rate increases and other evaluation have identified an annual debt service payment to be included in the operating budget which will fund future capital expenditures as listed in the 15 year CIP attached to this report.

If the rate increases recommended to cover debt service for the 15 year CIP are not implemented, the system valuation referenced above will be reduced depending on the extent rates are not increased to cover system replacement cost.

5.6 Statement of Debt

The Utility Department currently carries $12.7 million of debt to be paid on loans. These debt service payments are included in the current operating budget and it is assumed current revenue generation and expenditures are balanced such that these debt service payments will continue to be made without any affect to recommended rate increases or this system valuation.

6.0 Funding Alternatives

In order to provide funding for the rehabilitation and replacement of portions of the City of Petersburg water and wastewater system, much of which has reached the end of its useful design life, several alternatives are presented. The five-year capital improvement plan (CIP) presented in Attachment 1, lists specific water projects and wastewater projects that should be undertaken to ensure adequate function of each system.

The water system CIP lists 15 projects and programs targeted to replace aging infrastructure, maintain high water quality in the system and provide a high level of redundancy to provide reliable service to the residents and businesses of Petersburg. The total value of the 5 year program for the water system is estimated to cost $22,245,000. The cost to fund this level of construction is assumed to be covered by increases in rates which will be used to cover debt service included in the 5 year operating budget proposed to be implemented to replace aging infrastructure in Petersburg.

The sewer system CIP lists 18 projects or programs to replace aging infrastructure, reduce inflow and infiltration, monitor flows from various pump stations and perform master planning and develop a sanitary sewer evaluation study. The total value of the 5 year sewer system CIP which has been proposed is $30,235,000. The cost to fund this level of construction is assumed to be covered by increases in rates which will be used to cover debt service included in the 5 year operating budget proposed to be implemented to replace aging infrastructure in Petersburg.

Four different bond/loan programs for water and/or wastewater systems are described in the following sections. Some of the programs referenced below require rates be a certain percentage of Median household income or a rate study can be performed by the VRA to determine if rates are suitable to cover fixed and variable operating cost. If the funding agency dictates a rate increase is required and the locality refuses to comply with the recommendation of the funding agency, funding may be withheld. These programs can also look at existing debt structure to determine if refunding of existing debt is warranted to obtain more favorable long term funding. Similarly, if a recommendation to refund exist debt is not undertaken, the funding agency may suspend loan or bond proceedings

6.1 DEQ VA Clean Water Revolving Loan Fund

The Virginia Department of Environmental Quality (VDEQ) runs a clean water revolving loan fund program for publicly owned wastewater treatment facilities and collection systems. As DEQ states on their website, the fund "provides a low interest financing option to Virginia cities, towns and wastewater authorities for the upgrade, expansion, extension, replacement, repair, rehabilitation, and/or additions to public wastewater collection and treatment facilities."

This loan would apply to the sewer system only. Loan payments must begin within the year following the completion of construction activities as specified in the financing agreement, or as negotiated based on the loan recipient's anticipated revenue flow. The loan has requirements to comply with buying American Iron and Steel, MBE/WBE Fair Share Objective, and the Davis-Bacon Act concerning wages.

Petersburg was approved for a loan in November 2016 for $750,000 at 0% interest. The intended use of the loan is to reduce sanitary sewer overflows (SSOs) in the City and replace aging infrastructure. A financial review is required by Virginia Resource Authority to obtain approval of the requested loan amount so funds can be used by The City of Petersburg.

6.2 VA Resources Authority

The Virginia Resources Authority (VRA) provides Virginia localities access to cost-effective, sustainable, and innovative financial solutions for projects that support vibrant and healthy Virginia communities. The VRA will provide loans for both water and sewer projects. VRA will look at the City's annual revenue and expenses (including debt service) while performing the underwriting for the loan. If the expenses exceed the revenue, VRA will require the City to increase its water and/or sewer rates before being approved. Interest rates of 3.5% to 4.0% can be expected for the loan. However, due to Petersburg's poor credit rating, an even higher rate may be expected.

6.3 VA Department of Health Office of Water Programs

The Virginia Department of Health (VDH) Office of Drinking Water (ODW) manages two funding sources under the Financial and Construction Assistance Programs (FCAP) consisting of the: (1) Drinking Water State Revolving Fund (DWSRF)Program, and (2) Water Supply Assistance Grant (WSAG) Fund Program. Construction applications for both funding sources are received on a year-round basis. The Virginia DWSRF Program combines federal and state funds to offer a mix loan, grant and refinancing opportunities.

Loans would apply to water system improvements only. Principal and interest payments on each loan will commence not later than one year after completion of the project. Payment terms and the beginning date of the payment of the loan may be negotiated depending on availability of revenue and the waterworks' financial situation. Normally, the loan must be fully amortized not later than twenty years. Recently, PPEA proposals have been designated to qualify for a loan. The loan term for these projects can be up to 30 year. Historically the core program rate has been between 1.4% and 3.0%.

6.4 US Department of Agriculture Rural Water Fund

The US Department of Agriculture (USDA) Rural Water Fund provides loans for water infrastructure only for rural communities. USDA provides 40-year loan terms with fixed interest rates. The loans have requirements to comply with buying American Iron and Steel, MBE/WBE Fair Share Objective, and the Davis-Bacon Act concerning wages.

7.0 Conclusion

This report has looked at the condition of the existing water and sewer assets and has provide information on physical characteristics of the system. A summary of water and sewer assets has been provided and information on Capital expenditures, rate increases, OCLD and Net Position has been provided. The methods of valuing the system have been completed and a range of value between $29,899,252 and $36,412,716 has been established as the value of the Petersburg water and sewer system with associated share of ARWA and SCWWTP assets.

ATTACHMENT 1 – CITY OF PETERSBURG 15 YEAR CAPITAL IMPROVEMENT PLAN

CITY OF PETERSBURG	15 YEAR CIP	TIMMONS GROUP YOUR VISION ACHIEVED THROUGH OURS.

FISCAL YEAR	2018	2019	2020	2021	2022	2023-2027	2028-2032
Water							
Water and Sewer Master Plan, Engineering and Modeling	$100,000						
Locks Booster Station Rehab and Upgrade	$1,100,000		$700,000				$1,000,000
Water Meter Performance Contract (on-going)	$500,000						
Lock's Water Line Replacement	$2,160,000						
Replace Distribution Mains	$500,000	$500,000	$500,000	$500,000	$500,000	$2,000,000	$2,000,000
Mount Vernon Pump Station Rehab and Upgrade	$400,000			$700,000			$1,000,000
Mount Vernon Tank Painting		$580,000					
Rives Water Line (part of widening project)						$1,000,000	
Wagner Road Water Line					$1,300,000	$1,450,000	
SCADA Assessment							
SCADA Implementation	$130,000						
Replace Water Transmission Mains		$1,500,000	$3,000,000		$2,000,000		
Water Meter Calibration/Replacement	$100,000	$100,000	$100,000	$100,000	$100,000	$500,000	$2,000,000
New Public Works / Operations Facility (co-located)			$850,000	$850,000			
Walnut Hill Tank Rehabilitation				$400,000			
Mercury Street Tank Rehabilitation					$400,000		
New Water Tanks						$900,000	
Jamestown Tank Rehabilitation				$550,000			
Halifax Tank Rehabilitation				$550,000			
Industrial Park Tank Rehabilitation						$600,000	
Implement City Works	$75,000	$75,000	$75,000	$500,000			
Equipment Repalacement	$250,000	$250,000	$250,000			$1,000,000	$1,000,000
Water Total	$5,315,000	$3,005,000	$5,475,000	$4,150,000	$4,300,000	$7,450,000	$7,000,000

FISCAL YEAR	2018	2019	2020	2021	2022	2023-2027	2028-2032
Sewer							
Poor Creek Force Main Temporary Repair	$500,000						
Water and Sewer Master Plan Phase 3 – Engineering and Modeling	$100,000						
Infiltration and Inflow Reduction	$500,000						
Main Station Upgrade Health and Safety	$250,000						
Main Pump Station pumps and motors	$2,000,000						
Poor Creek Force Main PPEA – Section A		$1,950,000					
Poor Creek Force Main PPEA- Section B		$1,025,000					
Poor Creek Force Main PPEA- Section C		$795,000					
Poor Creek Force Main PPEA – Section 1A		$435,000					
Blackwater Creek Interceptor Upgrade			$800,000			$1,000,000	
South Crater Interceptor Upgrade		$500,000		$800,000			
SCADA Implementation	$100,000	$330,000					
Infiltration and Inflow Study	$350,000						
Infiltration and Inflow Reduction Projects	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$8,000,000	$8,000,000
Backup Generator at Main PS		$400,000				$0	$500,000
Equipment replacement	$250,000	$250,000	$250,000		$1,000,000	$1,000,000	$1,000,000
New Public Works / Operations Facility (co-located)				$850,000			
Rehabilitate Rohoic Creek Pump Station	$300,000						
Pump Station Rehabilitation		$1,000,000	$1,000,000	$1,000,000	$1,000,000	$4,000,000	$4,000,000
Main Pump Statin Force Main Rehabilitation						$1,000,000	
Sewer Total	$6,850,000	$9,185,000	$4,550,000	$5,150,000	$4,500,000	$15,000,000	$13,500,000
Combined Water and Sewer Totals	$12,165,000	$12,190,000	$10,025,000	$9,300,000	$8,800,000	$22,450,000	$20,500,000

ATTACHMENT 2 – CITY OF PETERSBURG ORIGINAL COST LESS DEPRECIATION SCHEDULE

CITY OF PETERSBURG, VIRGINIA
SCHEDULE OF FIXED ASSET DEPRECIATION
PUBLIC UTILITIES
Year Ended June 30th, 2015

DEPT #	ACCT #	CLASS	LOCATION	BLDG	DESCRIPTION	DATE ACQUIRED	COST	LIFE (YEARS)	NET BOOK VALUE (6/30/15)
44112	8304	P	24	999	PAVEMENT BREAKING & REMOVAL 25FT	6/1/1986	250.00	88	167.61
44112	8304	P	24	999	BASE MATL & ASPHALT DITCH REPAIR	6/1/1986	754.00	88	505.52
44112	8304	P	28	999	ADDITIONAL WATERLINE/PIPE	1/1/2000	506,178.59	50	354,325.01
44112	8302	P	41	999	BUCKNER ST-STORM DRAINAGE REPAIR	12/1/2000	7,950.09	35	4,542.91
44112	8302	P	12	1	GENERAL CONSTRUCTION #14103	6/30/2007	9,153.65	50	7,689.07
44112	8302	P	12	1	PATTERSON AVE SEWER REPAIRS	6/30/2007	22,373.06	50	18,793.37
44112	8302	P	12	1	MCKENNEY ST SEWER REPAIRS	6/30/2007	38,730.56	50	32,533.67
44112	8302	P	12	1	EAST WALNUT HILL FORCE MAIN	6/30/2007	219,319.00	50	184,227.96
44112	8302	P	17	1	Sewer line replacement along Mechanics Alley	1/12/2012	14,979.13	20	12,732.26
44112	8302	P	17	1	Replaced 8" of sewer located on Buckner Street	12/22/2011	24,000.00	20	19,200.00
44112	8302	P	17	1	Ravine & Reservior Streets Sewer Replacement	1/5/2012	19,400.00	20	16,490.00
44112	8302	P	17	1	Buckner St - Sewer Line	10/21/2011	9,415.51	20	7,532.41
44112	8304	P	17	1	Water line replacement along Mechanics Alley	1/12/2012	32,199.35	20	27,369.45
44112	8299	P	17	1	Main Pumping Station Installation of Influent Grinder	12/13/2011	23,470.00	20	18,776.00
44112	8302	P	17	1	Prince George PPFA - pump station	6/30/2012	1,789,247.67	20	1,520,860.52
44112	8299	P	17	1	Poor (Poe) Creek Pump Station	6/30/2014	3,117,226.00	20	2,961,364.70
44112	8201	P	17	1	Water Meters	3/26/2015	5,259,403.00	20	5,259,403.00
44112	7105	V	17	1	SECA MD#444 SECTIONAL RODDER MOUNTED ON SINGLE A	2/1/1991	15,926.00	5	-
44112	7105	V	17	1	91 CHEVY TRUCK 1TON CC31403 SN # 1GBKC34N5MJ10713	3/1/1991	18,449.00	5	-
44112	7105	V	17	1	91 CHEVY 3/4T CC20903 1GBGC24K2ME177921	5/1/1991	14,455.00	5	-
44120	7105	V	17	1	'94 INTERNATIONAL MD4900 24X2 CAB & CHASSIS W/ INST	4/1/1994	133,813.66	20	-
95101	9130	V	17	3	2001 FORD E-550 CHASSIS 4X2 REG CAB W/ 16FT BOOM & A	8/1/2000	53,963.00	7	-
44112	8105	V	17	1	2003 GMC 3/4T 4X4 MD #TK25903 VIN # 1GTHK24U83E244	1/1/2003	18,973.00	7	-
44112	8205	V	17	1	2005 FORD F350 TRUCK !FDSF34P55EC07490	4/1/2005	11,245.00	7	-
44112	8105	V	17	1	2005 GMC MDL # TC25903 VIN # 1GTHC24U95E247854,	3/1/2005	17,238.00	7	-
44112	8105	V	17	1	2005 CHEVY COLORADO VIN # 1GCCS148258242410	4/1/2005	11,245.00	7	-
44112	8105	V	17	1	2006 FORD PICK-UP F-350 SN# 1FDSF30546EA99644	9/1/2005	16,665.74	7	-
95101	9130	V	17	1	2005 Freightliner CCTV VAN ID#WD4PD744755813861	3/1/2006	137,592.00	10	13,759.20
44112	8205	V	17	1	2007 CHEV COLORADO PICKUP 1GCCS149278156798	3/31/2007	10,990.00	5	-

CITY OF PETERSBURG, VIRGINIA
SCHEDULE OF FIXED ASSET DEPRECIATION
PUBLIC UTILITIES
Year Ended June 30th, 2015

DEPT #	ACCT #	CLASS	LOCATION	BLDG	DESCRIPTION	DATE ACQUIRED	COST	LIFE (YEARS)	NET BOOK VALUE (6/30/15)
44112	8205	V	17	1	2007 GMC SIERRA TK1500 3/4 TON PICKUP, 4X4 1GTHK24U	6/30/2007	19,872.00	5	-
44112	8205	V	17	1	2008 Chevy Colorado Pickup 4x2(VIN#1GCCS149X88172149	1/2/2008	10,990.00	5	-
44112	8205	V	17	1	2008 Ford F250 Pickup(VIN# 1FTNF21558ED12758)	12/28/2007	19,112.80	5	-
44112	8205	V	17	1	2008 Ford F250 Pickup(VIN# 1FTNF20518ED12757)	1/21/2008	16,112.80	5	-
44112	8106	V	17	1	2009 Ford F250 Pickup 1FTNF20589EA79316	3/17/2009	16,685.00	5	-
44112	8105	V	17	1	2010 Ford F-250 Pickup 1FTNF2A56AEA55115	8/20/2009	16,685.00	5	-
44112	8105	V	17	1	2010 Compact Ranger Pickup 1FTKR1AD8APA26487	1/6/2010	12,906.00	5	-
44112	8105	V	17	1	2004 Ford Pickup 2FTRF17WX4CA56354	6/30/2010	-	5	-
44112	8105	V	17	1	2004 Dodge Pickup 1D&GG16KX4S642945	6/30/2010	-	5	-
44112	8105	V	17	1	2004 Ford STWagon 1FAHP5828A180514	6/30/2010	-	5	-

Total $ 10,460,272.66

ATTACHMENT 3 – ARWA 2016 FINANCIAL REPORT

Appomattox
River
Water
Authority

Financial Report
Year Ended June 30, 2016

APPOMATTOX RIVER WATER AUTHORITY

Petersburg, 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 -

Thomas L. Mattis, Chairman
Colonial Heights

Percy C. Ashcraft, Secretary-Treasurer
Prince George County

W. Kevin Massengill, Assistant Secretary-Treasurer
Dinwiddie County

James J. L. Stegmaier, Member
Chesterfield County

Dironna Belton
City of Petersburg

- Officials -

Robert C. Wichser Ph.D., 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
Petersburg, 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, 2016, 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, 2016, 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 1 to the financial statements, in 2016, the Appomattox River Water Authority adopted new accounting guidance, GASB Statement No. 82 Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73.. 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 3-7 and 41-44 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 2015 financial statements, and expressed an unmodified opinion on those audited financial statements in our report dated October 9, 2015. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2015, 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 26, 2016, 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 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 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 26, 2016

To the Board of Directors
Appomattox River Water Authority
Petersburg, 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 ended June 30, 2016.

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 at the close of the most recent fiscal year by $42,921,125 (net position). Of this amount $4,105,453 is reported as unrestricted net position.

-- The Authority's total net position decreased by $631,375.

-- The Authority's total long-term debt (excluding premium amortization, compensated absences, OPEB obligation and net pension liability) decreased by $1,005,600 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 $42,921,125 at the close of the most recent fiscal year.

By far the largest portion of the Authority's net position (78 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	Net Position	
	2016	2015	2014
Current and other assets	$ 10,978,989	$ 9,979,134	$ 9,625,108
Capital assets	44,440,581	47,552,608	49,379,585
Total assets	$ 55,419,570	$ 57,531,742	$ 59,004,693
Deferred charge on refunding	$ 704,048	$ 748,219	$ 792,390
Differences between expected and actual experience	205,366	-	-
Post measurement date employer pension contributions	90,504	87,660	-
Total deferred outflows	$ 999,918	$ 835,879	$ 792,390
Long-term liabilities	$ 13,089,975	$ 14,060,681	$ 15,059,253
Other liabilities	277,324	453,722	469,165
Total liabilities	$ 13,367,299	$ 14,514,403	$ 15,528,418
Net difference of actual and expected pension asset earnings	$ 131,064	$ 300,718	$ -
Total deferred inflows	$ 131,064	$ 300,718	$ -
Net investment in capital assets	$ 33,415,596	$ 35,997,130	$ 36,844,483
Restricted	5,400,076	5,261,905	4,899,728
Unrestricted	4,105,453	2,293,465	2,524,454
Total net position	$ 42,921,125	$ 43,552,500	$ 44,268,665

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		
	2016	2015	2014
Revenues:			
Operating revenues	$ 9,591,728	$ 8,612,284	$ 8,269,532
Gain (loss) on disposal of capital assets	-	-	-
Investment income	4,982	604	648
Total revenues	$ 9,596,710	$ 8,612,888	$ 8,270,180
Expenses:			
Operating expenses (excluding depreciation)	$ 7,162,425	$ 6,190,086	$ 6,435,245
Depreciation expense	2,544,396	2,514,057	2,424,235
Interest expense	521,264	560,530	557,618
Total expenses	$ 10,228,085	$ 9,264,673	$ 9,417,098
Increase (decrease) in net position	$ (631,375)	$ (651,785)	$ (1,146,918)
Net position-July 1, restated as of 7/1/2014	43,552,500	44,204,285	45,415,583
Net position-June 30	$ 42,921,125	$ 43,552,500	$ 44,268,665

As previously reported the Authority implemented GASB Statement Number 68 and related statements and accordingly the beginning net position, as of June 30, 2015, was restated to record the net pension asset.

The Authority's net position decreased by $631,375 during the current year. Operating revenues increased by $979,444, reflecting an increase in rates, while operating expenses (excluding depreciation and abandoned project costs) increased $135,546 over fiscal year 2015 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, 2016 amounts to $44,440,581 (net of accumulated depreciation). Investment in capital assets decreased by approximately 6.54% during the year. Below is a comparison of the items that make up capital assets as of June 30, 2016 with that of June 30, 2015 and 2014.

	2016	2015	2014
Land	$ 1,044,167	$ 1,044,167	$ 1,044,167
Water systems	84,179,582	83,673,872	83,075,816
Equipment	1,055,242	975,510	860,947
Hydro costs incurred	34,873	34,873	34,873
Accumulated depreciation	(41,938,223)	(39,410,881)	(36,890,154)
Construction in progress	64,940	1,235,067	1,253,936
Total capital assets	$ 44,440,581	$ 47,552,608	$ 49,379,585

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 $11,951,300 in bonds outstanding versus $12,956,900 last year, a decrease of 7.8%. The decrease represents payment of principal in accordance with the bond documents.

Other long-term obligations of the Authority include accrued vacation pay. More detailed information on the Authority's long-term obligations is presented in Note 4, 6 and 8 of the notes to the financial statements.

Review of Operations

Operating Revenues. Operating Revenues increased ($960,181) from 2015 or 11%, generally can be attributed to an increase in rates due to enhanced funding the Authority's reserves and funding future projects.

Operating Expenses. Operating Expenses (excluding depreciation) increased ($135,546) from 2015 by 2.2% mainly due to filling open positions in operations/maintenance and the cost of retiree payouts.

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.

Water Supply Plan

-- On November 1, 2013 the Authority received from the Virginia Department of Environmental Quality and the U.S. Army Corps of Engineers a new Virginia Water Protection Permit. This 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 continues to work towards 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 three years is shown below:

	2015/2016	2014/2015	2013/2014
Total annual flow (billion gallons)	9.921	10.814	10.523
Average daily flow (mgd)	27.11	29.63	28.83

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 2015/2016 May, June summer high demand period was somewhat wetter than normal. During the 2015/2016 fiscal year, the Authority did not issue any formal permit related water conservation restrictions to its members.

Projects/Studies Completed in 2015/2016

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 2015/2016:

1. Completion and placing into service the New Maintenance Warehouse;
2. Completion of the Annually Required Facility Maintenance Inspection by an Outside Engineer;
3. Design, bidding, award and start of construction on the Facility Lime Feed Upgrade Project;
4. Continuation Towards Development of a Regional Water Interconnect Program;
5. Completion of an Enhanced Capital Program Plan & Financial Analysis Assisted by Outside Consultants;
6. Continuation of Development of an Updated Long-Term Water Service Agreement;
7. Completed the upgrade replacement project related to the facility chlorine PLC;
8. Completed numerous pump repairs, electrical inspections and electrical control unit replacements.

Economic Conditions

The Authority continues to operate under sound effective management with total net position decreasing due to construction or improvements to capital infrastructure. Overall, finances for the Authority for fiscal year 2015-2016 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, Petersburg, Virginia 23803, telephone (804) 590-1145.

- Financial Statements -

APPOMATTOX RIVER WATER AUTHORITY
Petersburg, Virginia

Statement of Net Position
June 30, 2016
(With Comparative Totals for the Prior Year)

	2016	2015
Assets		
Current Assets		
Cash and cash equivalents	$ 1,186,321	$ 244,269
Accounts receivable - water service	2,711,216	2,226,620
Inventory	358,541	278,685
Other receivables	38,574	109,939
Prepaid expenses	85,721	-
Total Current Assets	$ 4,380,373	$ 2,859,513
Noncurrent Assets		
Restricted Assets:		
Cash and cash equivalents	$ 6,597,760	$ 6,869,935
Accrued interest receivable	856	40
Total Restricted Assets	$ 6,598,616	$ 6,869,975
Other Assets:		
Net pension asset	$ -	$ 249,646
Capital Assets:		
Land and land rights	$ 1,044,167	$ 1,044,167
Water system	84,179,582	83,673,872
Equipment	1,055,242	975,510
Hydro costs incurred	34,873	34,873
Accumulated depreciation	(41,938,223)	(39,410,881)
Sub-total net capital assets	$ 44,375,641	$ 46,317,541
Construction in progress	64,940	1,235,067
Total net capital assets	$ 44,440,581	$ 47,552,608
Total Noncurrent Assets	$ 51,039,197	$ 54,672,229
Total Assets	$ 55,419,570	$ 57,531,742
Deferred Outflows of Resources		
Deferred charge on refunding	$ 704,048	$ 748,219
Differences between expected and actual experience	205,366	-
Post measurement date employer pension contributions	90,504	87,660
Total Deferred Outflows of Resources	$ 999,918	$ 835,879

APPOMATTOX RIVER WATER AUTHORITY
Petersburg, Virginia

Statement of Net Position
June 30, 2016 (continued)
(With Comparative Totals for the Prior Year)

		2016		2015
Liabilities				
Current Liabilities Payable from Current Assets:				
Accounts payable	$	110,084	$	187,587
Payroll liabilities		-		22
Total Current Liabilities Payable from Current Assets	$	110,084	$	187,609
Current Liabilities Payable from Restricted Assets:				
Accounts payable	$	35,211	$	108,585
Retainage payable		1,721		17,205
Accrued interest payable		130,308		140,323
Bonds payable - current portion		1,031,300		1,005,600
Total Current Liabilities Payable from Restricted Assets	$	1,198,540	$	1,271,713
Total Current Liabilities	$	1,308,624	$	1,459,322
Noncurrent Liabilities				
Bonds payable - net of current portion	$	11,729,033	$	12,814,487
Net OPEB obligation		65,000		55,500
Net pension liability		107,723		-
Compensated absences		156,919		185,094
Total Noncurrent Liabilities	$	12,058,675	$	13,055,081
Total Liabilities	$	13,367,299	$	14,514,403
Deferred Inflow of Resources				
Net difference between projected and actual earnings on pension plan investments	$	131,064	$	300,718
Net Position				
Net investment in capital assets	$	33,415,596	$	35,997,130
Restricted for debt service and bond covenants		5,400,076		5,261,905
Unrestricted		4,105,453		2,293,465
Total Net Position	$	42,921,125	$	43,552,500

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

APPOMATTOX RIVER WATER AUTHORITY
Petersburg, Virginia

Statement of Revenues, Expenses and Changes in Net Position
Year Ended June 30, 2016
(With Comparative Totals for the Prior Year)

	2016	2015
Operating Revenues		
Water service	$ 9,302,723	$ 8,403,584
Other	289,005	208,700
Total Operating Revenues	$ 9,591,728	$ 8,612,284
Operating Expenses		
Operating and maintenance		
Salaries	$ 1,549,272	$ 1,451,889
Employee benefits	584,300	442,584
Contractual services	1,013,729	1,109,856
Materials, supplies and other costs	2,259,382	2,267,663
Other charges	918,949	918,094
Depreciation	2,544,396	2,514,057
Total Operating Expenses	$ 8,870,028	$ 8,704,143
Net Operating Income (Loss)	$ 721,700	$ (91,859)
Nonoperating Revenues (Expenses)		
Income from investments	$ 4,982	$ 604
Abandoned project costs	(836,793)	-
Interest on bonds	(521,264)	(560,530)
Total Nonoperating Revenues (Expenses)	$ (1,353,075)	$ (559,926)
Change in net position	$ (631,375)	$ (651,785)
Net position, beginning of year	$ 43,552,500	$ 44,204,285
Net position, end of year	$ 42,921,125	$ 43,552,500

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

APPOMATTOX RIVER WATER AUTHORITY
Petersburg, Virginia

Statement of Cash Flows
Year Ended June 30, 2016
(With Comparative Totals for the Prior Year)

	2016	2015
Cash flows from operating activities:		
Receipts from customers and users	$ 9,178,497	$ 8,572,237
Payments to suppliers and vendors	(4,466,490)	(4,340,878)
Payments to and on behalf of employees	(2,172,764)	(1,983,163)
Net cash provided by (used for) operating activities	$ 2,539,243	$ 2,248,196
Cash flows from capital and related financing activities:		
Acquisition of utility plant in service	$ (326,669)	$ (623,635)
Principal paid on bonds	(1,005,600)	(984,900)
Interest paid on bonds	(541,263)	(579,737)
Net cash provided by (used for) capital and related financing activities	$ (1,873,532)	$ (2,188,272)
Cash flows from investing activities:		
Interest received	$ 4,166	$ 604
Net cash provided by (used for) investing activities	$ 4,166	$ 604
Net increase (decrease) in cash and cash equivalents	$ 669,877	$ 60,528
Cash and cash equivalents at beginning of year (including $6,869,935 and $6,636,014 in restricted accounts)	$ 7,114,204	$ 7,053,676
Cash and cash equivalents at end of year (including $6,597,760 and $6,869,935 in restricted accounts)	$ 7,784,081	$ 7,114,204
Reconciliation of operating income (loss) to net cash provided by (used for) operating activities:		
Operating income (loss)	$ 721,700	$ (91,859)
Adjustments to reconcile operating income (loss) to net cash provided by (used for) operating activities:		
Depreciation	2,544,396	2,514,057
Changes in operating assets and liabilities:		
(Increase) decrease in receivables	(413,231)	(40,047)
(Increase) decrease in inventories	(79,856)	(3,805)
(Increase) decrease in prepaid expenses	(85,721)	-
Increase (decrease) in operating accounts payable	(108,853)	(41,460)
Increase (decrease) in payroll liabilities	(22)	(2,770)
Increase (decrease) in due to South Central Wastewater Authority	-	(25,436)
Increase (decrease) in compensated absences	(28,175)	26,420
(Increase) decrease in net pension asset	249,646	(398,572)
(Increase) decrease in net pension liability	107,723	-
(Increase) decrease in pension deferred outflow of resources	(208,210)	(3,114)
Increase (decrease) in pension deferred inflow of resources	(169,654)	300,718
Increase (decrease) in OPEB obligation	9,500	14,064
Net cash provided by (used for) operating activities	$ 2,539,243	$ 2,248,196

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

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.

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 Components of and Changes in Net Pension (Asset) Liability and Related Ratios
– Schedule of Employer Contributions
– Notes to Pension Required Supplementary Information
– Schedule of OPEB Funding Progress

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 (e.g., roads, bridges, sidewalks, and similar items), 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.

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

Assets	Years
Structures, lines and accessories	50
Equipment	3 to 10

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

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.

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. 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. There are two items that qualify for reporting in this category. One item is the deferred charge on refunding reported in the 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 contributions to the pension plan made during the current year and subsequent to the net pension asset measurement date, which will be recognized as an increase of the net pension asset next fiscal year. For more detailed information on these items, reference the pension note.

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

L. Deferred Outflows/Inflows of Resources: (continued)

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. Certain items related to the measurement of the net pension asset are reported as deferred inflows of resources. These include differences between expected and actual experience, change in assumptions, and the net difference between projected and actual earnings on pension plan investments. For more detailed information on these items, reference the pension note.

M. 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.

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.

O. Inventories:

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

P. Adoption of Accounting Principles:

Governmental Accounting Standards Board Statement No. 72, *Fair Value Measurement and Application*

The Authority implemented the provisions of the above Statement during the fiscal year ended June 30, 2016. The Statement generally requires investments to be measured at fair value. The Statement requires the Authority to use valuation techniques which are appropriate under the circumstances and are either a market approach, a cost approach or an income approach. The Statement establishes a hierarchy of inputs used to measure fair value. There was no material impact on the Authority's financial statement as a result of the implementation of Statement No. 72. All required disclosures are located in Note 9.

Governmental Accounting Standards Board Statement No. 79, *Certain External Investment Pools and Pool Participants*

The Authority implemented the provisions of the above Statement during the fiscal year ended June 30, 2016. This Statement addresses accounting and financial reporting for certain external investment pools and pool participants. Specifically, it establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes. An external investment pool qualifies for that reporting if it meets all of the applicable criteria established in this Statement. There was no material impact on the Authority's financial statement as a result of the implementation of Statement No. 79. All required disclosures are located in Note 2.

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

P. Adoption of Accounting Principles: (continued)

Governmental Accounting Standards Board Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73*

The Authority early implemented provisions of the above Statement during the fiscal year ended June 30, 2016. The objective of this Statement is to address certain issues that have been raised with respect to Statements No. 67, *Financial Reporting for Pension Plans,* No. 68, *Accounting and Financial Reporting for Pensions,* and No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68.* Specifically, this Statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. No restatement was required as a result of this implementation.

Q. 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.

R. Pensions:

For purposes of measuring the net pension asset, 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 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.

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, 2016 were rated by *Standard & Poor's* and the ratings are presented below using the *Standard & Poor's* rating scale.

Authority's Rated Debt Investments' Values

Rated Debt Investments	Fair Quality Ratings
	AAAm
Money market - U.S. Treasury Securities	$ 6,747,979
Total	$ 6,747,979

Interest Rate Risk:

	Investment Maturities (in years)	
	Fair Value	Less Than 1 Year
Money market - U.S. Treasury Securities	$ 6,747,979	$ 6,747,979
	$ 6,747,979	$ 6,747,979

NOTE 3 - CAPITAL ASSETS:

A summary of the Authority's capital assets and the changes therein for the year ended June 30, 2016, follows:

	Beginning Balance	Increases	Decreases	Ending Balance
Capital assets not being depreciated:				
Land and land rights	$ 1,044,167	$ -	$ -	$ 1,044,167
Construction in progress	1,235,067	172,376	1,342,503	64,940
Total capital assets not being depreciated	$ 2,279,234	$ 172,376	$ 1,342,503	$ 1,109,107
Other capital assets, being depreciated:				
Water system	$ 83,673,872	$ 505,710	$ -	$ 84,179,582
Equipment	975,510	96,786	17,054	1,055,242
Hydro costs incurred	34,873	-	-	34,873
Total other capital assets being depreciate	$ 84,684,255	$ 602,496	$ 17,054	$ 85,269,697
Accumulated depreciation:				
Water system	$ (38,777,570)	$ (2,466,517)	$ -	$ (41,244,087)
Equipment	(603,320)	(76,484)	(17,054)	(662,750)
Hydro costs incurred	(29,991)	(1,395)	-	(31,386)
Total accumulated depreciation	$ (39,410,881)	$ (2,544,396)	$ (17,054)	$ (41,938,223)
Other capital assets being depreciated, n	$ 45,273,374	$ (1,941,900)	$ -	$ 43,331,474
Capital assets, net	$ 47,552,608	$ (1,769,524)	$ 1,342,503	$ 44,440,581

Depreciation expense for the fiscal year totaled $2,544,396.

During fiscal year 2016 the Authority deemed previously capitalized project costs to be abandoned. The abandoned project costs totaled $836,793.

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, 2016:

	2007 Revenue Bonds	2010 Refunding Revenue Bonds	2012 Revenue Bonds	Compensated Absences	Net OPEB Obligation	Net Pension Liability (Asset)	Total Long-Term Obligations
Balance, July 1, 2015	$ 925,900	$ 8,800,000	$ 3,231,000	$ 185,094	$ 55,500	$ (249,646)	$ 12,947,848
Issuances/Increases	-	-	-	-	9,500	735,935	745,435
Retirements/Decreases	(460,600)	(340,000)	(205,000)	(28,175)	-	(378,566)	(1,412,341)
Balance, June 30, 2016	$ 465,300	$ 8,460,000	$ 3,026,000	$ 156,919	$ 65,000	$ 107,723	$ 12,280,942
Amounts due within one year	(465,300)	(355,000)	(211,000)	-	-	-	(1,031,300)
Premium on bond issuance	-	809,033	-	-	-	-	809,033
Carrying amount of long-term obligations	$ -	$ 8,914,033	$ 2,815,000	$ 156,919	$ 65,000	$ 107,723	$ 12,058,675

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, 2016 are as follows:

Year Ended June 30,	Revenue and Revenue Refunding Bonds Principal	Revenue and Revenue Refunding Bonds Interest
2017	$ 1,031,300	$ 501,364
2018	598,000	468,426
2019	620,000	441,797
2020	647,000	414,059
2021	679,000	384,955
2022	707,000	354,473
2023	735,000	322,721
2024	768,000	290,963
2025	801,000	259,080
2026	835,000	225,098
2027	878,000	188,796
2028	907,000	150,903
2029	640,000	116,300
2030	670,000	84,895
2031	700,000	52,035
2032	735,000	17,617
Total	$ 11,951,300	$ 4,273,482

NOTE 4 - LONG-TERM OBLIGATIONS: (continued)

C. Details of Long-Term Obligations:

	Total Amount	Amount Due Within One Year
On January 26, 2007, the Authority issued $1,950,000 of Water Revenue Bonds bearing interest at 3.77% payable semiannually through October 2016. Principal payments commence October 2013, payable annually, through October 2016.	$ 465,300	$ 465,300
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.	8,460,000	355,000
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.	3,026,000	211,000
Total Revenue Bonds	$ 11,951,300	$ 1,031,300

Pledge of Revenues and Funds:

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 VRS Retirement Plan upon employment. This agent multi-employer plan is 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:

<table>
<tr><th colspan="3">RETIREMENT PLAN PROVISIONS</th></tr>
<tr><th>PLAN 1</th><th>PLAN 2</th><th>HYBRID RETIREMENT PLAN</th></tr>
<tr>
<td>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. Employees are eligible for Plan 1 if their membership date is before July 1, 2010, and they were vested as of January 1, 2013.</td>
<td>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. Employees are eligible for 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.</td>
<td>About the Hybrid Retirement Plan
The Hybrid Retirement Plan combines the features of a defined benefit plan and a defined contribution plan. Most members hired on or after January 1, 2014 are in this plan, as well as Plan 1 and Plan 2 members who were eligible and opted into the plan during a special election window. (see “Eligible Members”)

• 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.</td>
</tr>
</table>

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
About Plan 1 (Cont.)	**About Plan 2 (Cont.)**	**About the Hybrid Retirement Plan (Cont.)** • 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.
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. **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. The Hybrid Retirement Plan's effective date for eligible Plan 1 members who opted in was July 1, 2014. If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.	**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. **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. The Hybrid Retirement Plan's effective date for eligible Plan 2 members who opted in was July 1, 2014. If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.	**Eligible Members** Employees are in the Hybrid Retirement Plan if their membership date is on or after January 1, 2014. This includes: • 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. ***Non-Eligible Members** Some employees are not eligible to participate in the Hybrid Retirement Plan. They include: • Political subdivision employees who are covered by enhanced benefits for hazardous duty employees.

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
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.	**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.	***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.
Retirement Contributions Employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. Some political subdivisions elected to phase in the required 5% member contribution but all employees will be paying the full 5% by July 1, 2016. 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.	**Retirement Contributions** Employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. Some political subdivisions elected to phase in the required 5% member contribution but all employees will be paying the full 5% by July 1, 2016.	**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.

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
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.	**Creditable Service** Same as Plan 1.	**Creditable Service** **Defined Benefit Component:** 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. **Defined Contributions Component:** Under the defined contribution component, creditable service is used to determine vesting for the employer contribution portion of the plan.

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
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. Members are always 100% vested in the contributions that they make.	**Vesting** Same as Plan 1.	**Vesting** **Defined Benefit Component:** 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. **Defined Contributions Component:** 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. Members are always 100% vested in the contributions that they make.

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

<table>
<tr><th colspan="3">RETIREMENT PLAN PROVISIONS (CONTINUED)</th></tr>
<tr><th>PLAN 1</th><th>PLAN 2</th><th>HYBRID RETIREMENT PLAN</th></tr>
<tr><td>Vesting (Cont.)</td><td>Vesting (Cont.)</td><td>Vesting (Cont.)
<u>Defined Contributions Component:</u> (Cont.)
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.
• 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.

Distribution is not required by law until age 70½.</td></tr>
<tr><td>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.</td><td>Calculating the Benefit
See definition under Plan 1.</td><td>Calculating the Benefit
<u>Defined Benefit Component:</u>
See definition under Plan 1.</td></tr>
</table>

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
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.	**Calculating the Benefit (Cont.)**	**Calculating the Benefit (Cont.)** **Defined Contribution Component:** 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.
Average Final Compensation A member's average final compensation is the average of the 36 consecutive months of highest compensation as a covered employee.	**Average Final Compensation** A member's average final compensation is the average of their 60 consecutive months of highest compensation as a covered employee.	**Average Final Compensation** Same as Plan 2. It is used in the retirement formula for the defined benefit component of the plan.
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%. **Sheriffs and regional jail superintendents:** The retirement multiplier for sheriffs and regional jail superintendents is 1.85%. **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.	**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. **Sheriffs and regional jail superintendents:** Same as Plan 1. **Political subdivision hazardous duty employees:** Same as Plan 1.	**Service Retirement Multiplier** **Defined Benefit Component:** **VRS:** The retirement multiplier for the defined benefit component is 1.00%. 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. **Sheriffs and regional jail superintendents:** Not applicable. **Political subdivision hazardous duty employees:** Not applicable. **Defined Contribution Component:** Not applicable.

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Normal Retirement Age **VRS:** Age 65. **Political subdivisions hazardous duty employees:** Age 60.	**Normal Retirement Age** **VRS:** Normal Social Security retirement age. **Political subdivisions hazardous duty employees:** Same as Plan 1.	**Normal Retirement Age** **<u>Defined Benefit Component:</u>** **VRS:** Same as Plan 2. **Political subdivisions hazardous duty employees:** Not applicable. **<u>Defined Contribution Component:</u>** Members are eligible to receive distributions upon leaving employment, subject to restrictions.
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. **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.	**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. **Political subdivisions hazardous duty employees:** Same as Plan 1.	**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. **Political subdivisions hazardous duty employees:** Not applicable. **<u>Defined Contribution Component:</u>** Members are eligible to receive distributions upon leaving employment, subject to restrictions.
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.	**Earliest Reduced Retirement Eligibility** **VRS:** Age 60 with at least five years (60 months) of creditable service.	**Earliest Reduced Retirement Eligibility** **<u>Defined Benefit Component:</u>** **VRS:** Members may retire with a reduced benefit as early as age 60 with at least five years (60 months) of creditable service.

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Earliest Reduced Retirement Eligibility (Cont.) **Political subdivisions hazardous duty employees:** 50 with at least five years of creditable service.	**Earliest Reduced Retirement Eligibility (Cont.)** **Political subdivisions hazardous duty employees:** Same as Plan 1.	**Earliest Reduced Retirement Eligibility (Cont.)** **Political subdivisions hazardous duty employees:** Not applicable. **Defined Contribution Component:** Members are eligible to receive distributions upon leaving employment, subject to restrictions.
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%. **Eligibility:** 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. 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.	**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%. **Eligibility:** Same as Plan 1.	**Cost-of-Living Adjustment (COLA) in Retirement** **Defined Benefit Component:** Same as Plan 2. **Defined Contribution Component:** Not applicable. **Eligibility:** Same as Plan 1 and Plan 2.

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

<table>
<tr><th colspan="3">RETIREMENT PLAN PROVISIONS (CONTINUED)</th></tr>
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<tr>
<td>Cost-of-Living Adjustment (COLA) in Retirement (Cont.)

<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:
• 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.</td>
<td>Cost-of-Living Adjustment (COLA) in Retirement (Cont.)

<u>Exceptions to COLA Effective Dates:</u>
Same as Plan 1.</td>
<td>Cost-of-Living Adjustment (COLA) in Retirement (Cont.)

<u>Exceptions to COLA Effective Dates:</u>
Same as Plan 1 and Plan 2.</td>
</tr>
</table>

NOTE 5 - PENSION PLAN: (continued)

Plan Description (continued)

<table>
<tr><th colspan="3">RETIREMENT PLAN PROVISIONS (CONTINUED)</th></tr>
<tr><th>PLAN 1</th><th>PLAN 2</th><th>HYBRID RETIREMENT PLAN</th></tr>
<tr>
<td>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.

VSDP members are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.</td>
<td>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.

VSDP members are subject to a one-year waiting period before becoming eligible for non-work related disability benefits.</td>
<td>Disability Coverage
Employees of political subdivisions (including Plan 1 and Plan2 opt-ins) participate in the Virginia Local Disability Program (VLDP) unless their local governing body provides an employer-paid comparable program for its members.

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.</td>
</tr>
<tr>
<td>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. When buying service, members must purchase their most recent period of service first. Members also may be eligible to purchase periods of leave without pay.</td>
<td>Purchase of Prior Service
Same as Plan 1.</td>
<td>Purchase of Prior Service
<u>Defined Benefit Component:</u>
Same as Plan 1, with the following exceptions:
• Hybrid Retirement Plan members are ineligible for ported service.
• The cost for purchasing refunded service is the higher of 4% of creditable compensation or average final compensation.
• Plan members have one year from their date of hire or return from leave to purchase all but refunded prior service at approximate normal cost. After that one-year period, the rate for most categories of service will change to actuarial cost.

<u>Defined Contribution Component:</u>
Not applicable.</td>
</tr>
</table>

The System issues a publicly available comprehensive annual financial report that includes financial statements and required supplementary information for VRS. A copy of the most recent report may be obtained from the VRS website at http://www.varetire.org/Pdf/Publications/2015-annual-report.pdf or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

NOTE 5 - PENSION PLAN: (continued)

Employees Covered by Benefit Terms

As of the June 30, 2014 actuarial valuation, the following employees were covered by the benefit terms of the pension plan:

	Number
Inactive members or their beneficiaries currently receiving benefits	12
Inactive members:	
Vested inactive members	2
Non-vested inactive members	2
Inactive members active elsewhere in VRS	5
Total inactive members	9
Active members	24
Total covered employees	45

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 contribution rate for the year ended June 30, 2016 was 6.33% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2013.

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 $90,504 and $87,660 for the years ended June 30, 2016 and June 30, 2015, respectively.

Net Pension (Asset) Liability

The Authority's net pension (asset) liability was measured as of June 30, 2015. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation performed as of June 30, 2014, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2015.

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, 2014, 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, 2015.

NOTE 5 - PENSION PLAN: (continued)

Actuarial Assumptions – General Employees (continued)

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: 14% of deaths are assumed to be service related

Largest 10 – Non-LEOS:
Pre-Retirement:
RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with males set forward 4 years and females set back 2 years

Post-Retirement:
RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with males set forward 1 year

Post-Disablement:
RP-2000 Disability Life Mortality Table Projected to 2020 with males set back 3 years and no provision for future mortality improvement

All Others (Non 10 Largest) – Non-LEOS:
Pre-Retirement:
RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with males set forward 4 years and females set back 2 years

Post-Retirement:
RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with males set forward 1 year

Post-Disablement:
RP-2000 Disability Life Mortality Table Projected to 2020 with males set back 3 years and no provision for future mortality improvement

The actuarial assumptions used in the June 30, 2014 valuation were based on the results of an actuarial experience study for the period from July 1, 2008 through June 30, 2012. Changes to the actuarial assumptions as a result of the experience study are as follows:

Largest 10 – Non-LEOS:
- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

All Others (Non 10 Largest) – Non-LEOS:
- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

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:

Asset Class (Strategy)	Target Allocation	Arithmetic Long-Term Expected Rate of Return	Weighted Average Long-Term Expected Rate of Return
U.S. Equity	19.50%	6.46%	1.26%
Developed Non U.S. Equity	16.50%	6.28%	1.04%
Emerging Market Equity	6.00%	10.00%	0.60%
Fixed Income	15.00%	0.09%	0.01%
Emerging Debt	3.00%	3.51%	0.11%
Rate Sensitive Credit	4.50%	3.51%	0.16%
Non Rate Sensitive Credit	4.50%	5.00%	0.23%
Convertibles	3.00%	4.81%	0.14%
Public Real Estate	2.25%	6.12%	0.14%
Private Real Estate	12.75%	7.10%	0.91%
Private Equity	12.00%	10.41%	1.25%
Cash	1.00%	-1.50%	-0.02%
Total	100.00%		5.83%
		Inflation	2.50%
		*Expected arithmetic nominal return	8.33%

* Using stochastic projection results provides an expected range of real rates of return over various time horizons. Looking at one year results produces an expected real return of 8.33% but also has a high standard deviation, which means there is high volatility. Over larger time horizons the volatility declines significantly and provides a median return of 7.44%, including expected inflation of 2.50%.

NOTE 5 - PENSION PLAN: (continued)

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, 2018, 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, 2018 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.

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, 2014	$ 4,691,837	$ 4,941,483	$ (249,646)
Changes for the year:			
Service cost	$ 128,956	$ -	$ 128,956
Interest	323,274	-	323,274
Differences between expected and actual experience	280,591	-	280,591
Contributions - employer	-	84,275	(84,275)
Contributions - employee	-	66,467	(66,467)
Net investment income	-	227,824	(227,824)
Benefit payments, including refunds of employee contributions	(147,277)	(147,277)	-
Administrative expenses	-	(3,066)	3,066
Other changes	-	(48)	48
Net changes	$ 585,544	$ 228,175	$ 357,369
Balances at June 30, 2015	$ 5,277,381	$ 5,169,658	$ 107,723

NOTE 5 - PENSION PLAN: (continued)

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)	$ 692,529	$ 107,723	$ (386,070)

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

For the year ended June 30, 2016, the Authority recognized pension expense of $66,624. At June 30, 2016, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 205,366	$ -
Net difference between projected and actual earnings on pension plan investments	-	131,064
Employer contributions subsequent to the measurement date	90,504	-
Total	$ 295,870	$ 131,064

$90,504 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, 2017. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30	
2017	$ 23,663
2018	23,663
2019	3,356
2020	23,620
Thereafter	-

NOTE 6 - COMPENSATED ABSENCES:

Accumulated unpaid vacation, vested sick leave and other compensatory leave amounts are accrued when incurred. At June 30, 2016 and 2015 liabilities were as follows:

	2016	2015
Accumulated and compensatory leave	$ 156,919	$ 185,094

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

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 POST-EMPLOYMENT HEALTH CARE BENEFITS:

A. Plan Description:

General employees can purchase health insurance at published rates if they retire under the VRS general employees plan. Reduced retirement under the VRS plan is at the earlier of age 50 with 10 years of service or age 55 with 5 years of service. If hired after July 1, 2010 and do not have 5 years of vested service by January 1, 2013 then the earlier retirement age is the earlier of age 60 with 5 years of service or 90 combined age and service points for other employees.

B. Funding Policy:

These benefits are financed on a pay-as-you-go basis.

An actuarial valuation was performed as of July 1, 2013 to determine the Net OPEB obligation. The plan is not funded. The valuation used the projected unit cost method, with linear pro-ration to assumed benefit commencement.

NOTE 8 - OTHER POST-EMPLOYMENT HEALTH CARE BENEFITS: (continued)

C. Annual OPEB Cost and Net OPEB Obligation:

The Authority's annual other post-employment benefit (OPEB) cost (expense) is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize and unfunded actuarial liabilities (or funding excess) over a period not exceeding thirty years. The following table shows the components of the Authority's annual OPEB cost for the year, the amount actually contributed to the plan, and changes in the Authority's net OPEB obligation.

Annual required contribution	$	10,000
Interest on net OPEB obligation		1,900
Adjustment to annual required contribution		(2,400)
Annual OPEB cost (expense)	$	9,500
Contributions made		-
Increase in net OPEB obligation	$	9,500
Net OPEB obligation, beginning of year		55,500
Net OPEB obligation, end of year	$	65,000

The Authority's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for fiscal year ending June 30, 2016 and the two previous fiscal years were as follows:

Fiscal Year Ended		Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed		Net OPEB Obligation
June 30, 2014	$	8,400	11.9%	$	41,436
June 30, 2015		14,064	0.0%		55,500
June 30, 2016		9,500	0.0%		65,000

D. Funded Status and Funding Progress:

As of July 1, 2013, the most recent actuarial valuation date, the plan was 0% funded. The unfunded actuarial accrued liability (UAAL) is $97,000. The covered payroll (annual payroll of active employees covered by the plan) was unavailable.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information, presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

NOTE 8 - OTHER POST-EMPLOYMENT HEALTH CARE BENEFITS: (continued)

E. Actuarial Methods and Assumptions:

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan member to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-tem perspective of the calculations.

In the July 1, 2013 actuarial valuation, the projected unit credit actuarial cost method was used. The actuarial assumptions included a 3.50% investment rate of return (net of administrative expenses), which is expected long-term investment returns on the employer's own investments calculated, and an annual healthcare cost trend rate of 7.5% initially, gradually decreasing over time. By 2030 the rate of increase is 5.70%, and by 2050 5.0%. The rates include a 2.5% inflation assumption. The UAAL is being amortized as a level percentage of projected payroll on a closed basis over thirty years.

NOTE 9 - 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 reported reimbursement in the amount of $196,932 from SCWWA including $101,823 reported as accounts receivable at June 30, 2016.

NOTE 10 - UPCOMING PRONOUNCEMENTS:

Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, improves the usefulness of information about postemployment benefits other than pensions (other postemployment benefits or OPEB) included in the general purpose external financial reports of state and local governmental OPEB plans for making decisions and assessing accountability. This Statement replaces Statements No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*. It also includes requirements for defined contribution OPEB plans that replace the requirements for those OPEB plans in Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, as amended, Statement 43, and Statement No. 50, *Pension Disclosures*. This Statement is effective for financial statements for fiscal years beginning after June 15, 2016. Earlier application is encouraged.

Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pension*, improves accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits or OPEB). This Statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans, for OPEB*. Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, establishes new accounting and financial reporting requirements for OPEB plans. This Statement is effective for fiscal years beginning after June 15, 2017. Earlier application is encouraged.

NOTE 10 - UPCOMING PRONOUNCEMENTS: (continued)

Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans*, addresses a practice issue regarding the scope and applicability of Statement No. 68, *Accounting and Financial Reporting for Pensions*. This issue is associated with pensions provided through certain multiple-employer defined benefit pension plans and to state or local governmental employers whose employees are provided with such pensions. The requirements of this Statement are effective for reporting periods beginning after December 15, 2015. Earlier application is encouraged.

Statement No. 81, *Irrevocable Split-Interest Agreements*, improves accounting and financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement. The requirements of this Statement are effective for financial statements for periods beginning after December 15, 2016, and should be applied retroactively. Earlier application is encouraged.

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

- Required Supplementary Information -

APPOMATTOX RIVER WATER AUTHORITY
Petersburg, Virginia

Schedule of Components of and Changes in Net Pension (Asset) Liability and Related Ratios
For the Year Ended June 30, 2016

	2015	2014
Total pension liability		
Service cost	$ 128,956	$ 115,714
Interest	323,274	304,237
Differences between expected and actual experience	280,591	-
Benefit payments, including refunds of employee contributions	(147,277)	(148,713)
Net change in total pension liability	$ 585,544	$ 271,238
Total pension liability - beginning	4,691,837	4,420,599
Total pension liability - ending (a)	$ 5,277,381	$ 4,691,837
Plan fiduciary net position		
Contributions - employer	$ 84,275	$ 84,546
Contributions - employee	66,467	62,807
Net investment income	227,824	674,742
Benefit payments, including refunds of employee contributions	(147,277)	(148,713)
Administrative expense	(3,066)	(3,607)
Other	(48)	35
Net change in plan fiduciary net position	$ 228,175	$ 669,810
Plan fiduciary net position - beginning	4,941,483	4,271,673
Plan fiduciary net position - ending (b)	$ 5,169,658	$ 4,941,483
Political subdivision's net pension (asset) liability - ending (a) - (b)	$ 107,723	$ (249,646)
Plan fiduciary net position as a percentage of the total pension (asset) liability	97.96%	105.32%
Covered payroll	$ 1,339,006	$ 1,256,141
Political subdivision's net pension (asset) liability as a percentage of covered payroll	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
Petersburg, Virginia

Schedule of Employer Contributions
For the Year Ended June 30, 2016

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)
2015	$ 87,660	$ 87,660	$ -	$ 1,339,006	6.55%
2016	90,504	90,504	-	1,467,991	6.17%

This schedule is intended to report information for 10 years. Fiscal year 2015 is the first year for this presentation, no other data is available. Additional years will be included when available.

In 2015, Covered Employee Payroll (as defined by GASB 68) included the total payroll for employees covered under the pension plan whether that payroll is subject to pension coverage or not. This definition was modified in GASB Statement No. 82 and now is the payroll on which contributions to a pension plan are based. The ratios presented use the same measure.

Changes of benefit terms – There have been no significant changes to the System benefit provisions since the prior actuarial valuation. A hybrid plan with changes to the defined benefit plan structure and a new defined contribution component were adopted in 2012. The hybrid plan applies to most new employees hired on or after January 1, 2014 and not covered by enhanced hazardous duty benefits. The liabilities presented do not reflect the hybrid plan since it covers new members joining the System after the valuation date of June 30, 2014 and the impact on the liabilities as of the measurement date of June 30, 2015 are not material.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2013 based on the most recent experience study of the System for the four-year period ending June 30, 2012:

Largest 10 – Non-LEOS:
- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

All Others (Non 10 Largest) – Non-LEOS:
- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

Schedule of OPEB Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
July 1, 2012	$ -	$ 113,000	$ 113,000	0.00%	$ 1,194,723	9.46%
July 1, 2013	-	79,200	79,200	0.00%	N/A	N/A
July 1, 2014*	-	88,000	88,000	0.00%	N/A	N/A
July 1, 2015*	-	97,000	97,000	0.00%	N/A	N/A

* The July 1, 2013 actuarial valuation included a rollforward of the unfunded actuarial liability

- 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 Board of Directors
Appomattox River Water Authority
Petersburg, 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, 2016, 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 26, 2016.

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 26, 2016

ATTACHMENT 4 – SCWWTP 2016 FINANCIAL REPORT

South Central Wastewater Authority

Financial Statements

Year Ended June 30, 2016

DIXON HUGHES GOODMAN LLP

South Central Wastewater Authority

Petersburg, Virginia

(A Public Body Politic and Corporation Chartered July, 1996)

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DHG
DIXON HUGHES GOODMAN LLP

Independent Auditors' Report

Board of Directors
South Central Wastewater Authority
Petersburg, Virginia

We have audited the accompanying financial statements of the business-type activities of the South Central Wastewater Authority as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the South Central Wastewater 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; Specifications for Audits of Authorities, Boards and Commissions, issued by the Auditor of Public Accounts of the Commonwealth of Virginia; and the U.S. Department of Agriculture Rural Development Water and Waste Program Audit Guide, issued by the Office of Inspector General. Those standards, specifications and the Guide 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 auditor's 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.

DIXON HUGHES GOODMAN LLP

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 the South Central Wastewater Authority as of June 30, 2016, and the changes in net assets thereof for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 – 6 and schedule of changes in net pension liability and related ratios and schedule of contributions on pages 33 – 35 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Government Auditing 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 audits of the 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.

Other Reporting Required by Government Auditing Standards
In accordance with Government Auditing Standards, we have also issued our report dated November 9, 2016, on our consideration of South Central Wastewater 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 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 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 the South Central Wastewater Authority's internal control over financial reporting and compliance.

Dixon Hughes Goodman LLP

Chester, Virginia
November 9, 2016

Management's Discussion and Analysis

As management of the South Central Wastewater Authority (Authority), we offer readers of the South Central Wastewater Authority's financial statements this narrative overview and analysis of the financial activities of South Central Wastewater Authority for the fiscal year ended June 30, 2016.

Overview of the financial statements

The Authority's basic financial statements are comprised of two components: (1) financial statements, and (2) notes to the financial statements.

The financial statements of the Authority offer both short and long-term financial information about its activities. The statement of net position provides information about the nature and amounts of the Authority's cash, investments and receivables (assets), and its obligations to creditors (liabilities). All of the Authority's current fiscal year revenues and expenses are accounted for in the statement of revenues, expenses, and changes in net position. This statement measures whether the Authority successfully recovered all of its costs through user charges from the jurisdictions served.

The statement of cash flows provides information on the Authority's cash receipts, cash payments, and net changes in cash resulting from operating, investing, capital, and noncapital financial activities. It also provides insight on the source of cash, the use of cash, and cash changes during the reporting period.

Summary of South Central Wastewater Authority Operations

The South Central Wastewater Authority (SCWWA) staff includes thirty-five (35) full-time employees and contributes to the salaries of the Executive Director, Assistant Executive Director, Office/Business Manager, Laboratory Manager, Maintenance Manager, Chief of Maintenance, and Painter/Carpenter who are shared employees with the Appomattox River Water Authority. The Authority operates a 23 million gallon per day (mgd) wastewater treatment plant located on Pocahontas Island in the City of Petersburg. The Authority treats flow from the cities of Colonial Heights and Petersburg as well as portions of Chesterfield, Dinwiddie, and Prince George counties. Wastewater from the cities is pumped directly to the Authority through five (5) pumping stations. Wastewater from the counties is conveyed through the collection systems of the cities by conveyance agreements executed in 1996.

	2016	2015
Total Annual Flow (mg)	**4,867**	4,259
Minimum Day (mgd)	**8.495 (Sept. 2015)**	.329 (Oct. 2014)
Maximum Day (mgd)	**36.658 (Dec. 2015)**	35.008 (June 2015)
Annual Average Day (mgd)	**13.322**	11.668

Financial Highlights

- Selected financial information for 2016 and 2015 is as follows:

	2016	2015
Total capital assets, net	**$ 18,187,291**	$ 17,785,223
Total assets and deferred outflows of resources	**$ 25,135,069**	$ 22,287,677
Total liabilities and deferred inflows of resources	**$ 1,774,272**	$ 1,299,827
Total operating revenues	**$ 6,421,058**	$ 6,152,573
Total operating expenses	**$ 5,388,192**	$ 5,014,114
Change in net position	**$ 2,393,947**	$ (1,051,189)
Ending net position	**$ 23,381,797**	$ 20,987,850

- Operating revenues increased from fiscal year 2015 to fiscal year 2016 by $268,485. Total septage revenues increased as a result of continuing to accept and treat landfill stormwater from Atlantic Waste Management. Electrical credit revenues from EnerNoc (peak-shaving program) ended in May 2016 due to Clean Air Act generator requirements.
- Operating expenses increased by $374,078 from fiscal year 2015 to fiscal year 2016. Equipment repair ($76,500), Salaries ($55,352-based on ARWA salary split true-up), and Equipment Replacement ($295,000). Decreased costs were seen in some categories such as Nutrient Credit Costs, Utilities, Fuel, Sludge Disposal, and Laboratory Services.
- The Authority had paid off all debt service in October 2014.
- Fiscal year 2016 was the fifth year that nutrient credit purchases were due to the Virginia Nutrient Exchange. These credits were for calendar year 2015 and were due in April 2016. The credits are to offset excess nutrients (Total Nitrogen and Total Phosphorus) generated and released in the facility effluent above the permitted annual waste-load allocation. The Authority spent $564,874 on nutrient credits during 2016.
- Also, during 2016, the Authority was able to sell $390,865 in nutrient credits to other governmental entities.

Authority Highlights

- The treatment facility discharge effluent quality met all VPDES permit limits during the fiscal year and no significant problems were encountered with operating the plant.
- The average flow for fiscal year 2016 was 1.654 mgd higher than for fiscal year 2015. Rainfall in fiscal year 2016 (49.68 inches) was slightly lower than in fiscal year 2015 (50.77 inches). Fiscal year 2016 was moderately wet at the treatment plant's rain gauge with the maximum facility flow occurring on December 23, 2015 during a rain event. The treatment plant recorded 8.86 inches of rain for December 2015.
- Authority staff developed and implemented private exchanges of nutrient credits for the 2016 through contracts with Chesterfield and Henrico counties and contracts for 2017, 2018, and 2019 through Chesterfield. These credits cost less than credits purchased through the Virginia Nutrient Credit Exchange Association and provide both Chesterfield and Henrico counties (who have excess nutrient credits to sell at this time) more revenue than they would have received through the Virginia Nutrient Credit Exchange Association.

The Authority is also maintaining an active watch on regulatory issues such as the potential for point source nutrient waste-load changes in the James River Estuary. The following provides more detail.

Nutrients

The Virginia Department of Environmental Quality (DEQ) finalized regulations establishing reduced limits for nitrogen and phosphorus discharges into the Chesapeake Bay and its tributaries in November 2005. The allocations for the Authority adopted by the Virginia State Water Control Board are based on concentrations of 5 milligrams per liter of total nitrogen and 0.5 milligrams per liter of total phosphorus.

In December 2010, U.S. EPA finalized the Chesapeake Bay Total Maximum Daily Load (TMDL). This is a Bay-wide program that could result in further reductions to wastewater treatment facility allocations of nutrients. The individual states in the Bay watershed will be responsible for compliance with these mandates from the U.S. EPA. One of the requirements of the TMDL is that each state submits Watershed Implementation Plans (WIP's) detailing how they intend to meet the nutrient load caps imposed by U.S. EPA. States including Virginia also will need to develop two-year milestone reports and submit these bi-annual progress reports to U.S. EPA showing what progress had been made.

Facilities within the James River watershed are facing the possibility of additional annual nutrient waste-load reductions. One of the issues raised during the TMDL was the harmful and toxic algae blooms in the middle segment of the James River. The end result was that DEQ adopted the task of conducting a detailed and scientifically acceptable study on algae chlorophyll within the middle segment of the James River to determine if further reductions to nutrient loads within the James River basin are necessary to prevent and control harmful and toxic algae blooms. The results of this study and any potential reductions to nutrient allocations will not be known until 2017. Such consequences may include reductions to wastewater plant nutrient allocations to be based on current actual flows rather than design flows. Such reductions would have a significant impact on wastewater plants discharging into the James River, including SCWWA.

The SCWWA Board of Directors elected to defer the nutrient reduction upgrade project at this time and instead purchase nutrient credits. In February 2012, the Board gave indication that constructing a nutrient reduction project would probably not be approved by their various governing bodies until the cost of debt service was less than the purchase of nutrient credits. Given current project cost estimates and credit costs, this is expected to take place no earlier than 2022. It is possible, however, that regulatory drivers that would eliminate surplus credits available (such as a reduction in middle James River point-source allocations or localities using excess nutrient credits to offset non-point loads) would require the project be on-line by 2022 or perhaps even earlier..

Wet Weather Infiltration & Inflow (I&I)

The wastewater facility biological treatment process is very vulnerable to upsets due to high influent flows during wet-weather events. The base design of the SCWWA plant allows for a peak day flow of 57.5 MGD (2.5 times average) and a peak hour flow of 69.0 MGD (3.0 times average). The Authority does not own the wastewater collection systems transporting the influent to the SCWWA facility. From the regulatory perspective, there is the potential that the contributing jurisdictions will be responsible for finding and eliminating I & I sources in their collection systems. The jurisdictions may also need to consider constructing and operating flow equalization facilities to mitigate the I & I that is not practicable to eliminate to prevent surges to the Authority treatment plant. The City of Petersburg has installed a wastewater equalization (holding) basin at their Poor Creek Pump Station to mitigate peak flows from this sewer-shed. In recent years, the Authority has begun noting that U.S. EPA has begun compliance actions in Virginia against facilities/jurisdictions with flows in the range of 10 to 100 MGD that have noted sewer system overflows in the collection system.

Biosolids Handling

South Central Wastewater Authority utilizes land application for disposal of generated biosolids. Revised Virginia biosolids regulations were approved by the Virginia State Water Control Board in September 2011 and while not all aspects of the regulatory changes were favorable, the regulations do not constitute any significant additional regulatory burden for South Central's biosolids land application program. The Authority presently has an agreement with the Hopewell Regional Wastewater Facility (HRWWF) for back-up incineration of SCWWA biosolids at the HRWWF should the need arise. As of June 30, 2016, SCWWA had not encountered the need to send biosolids to HRWWF for disposal by incineration.

Economic conditions

The Authority continues to operate under sound management current working capital and positive cash flows from operations. Overall finances for the Authority for fiscal year 2016 as viewed by management, including the Board of Directors, is considered sound.

Contacting the Authority

Questions concerning this report or requests for additional information should be directed to the Executive Director, 21300 Chesdin Road, Petersburg, Virginia 23803, telephone (804) 590-1145.

South Central Wastewater Authority
Statement of Net Position
June 30, 2016

	Business-Type Activities
ASSETS	
Unrestricted current assets:	
Cash and cash equivalents	$ 3,807,791
Accounts receivable	436,968
Inventories	538,664
Total unrestricted current assets	4,783,423
Restricted current assets:	
Board restricted - cash and cash equivalents for equipment repair and replacement	2,027,965
Total current assets	6,811,388
Property, plant and equipment - net	18,187,291
DEFERRED OUTFLOW OF RESOURCES	
Deferred pension contributions	136,390
Total assets and deferred outflows	$ 25,135,069
LIABILITIES	
Current liabilities payable from unrestricted assets:	
Accounts payable	$ 350,869
Compensated absences payable	179,905
Total current liabilities	530,774
Long-term liabilities:	
Net pension liability	526,652
Other post-employment benefit obligations	59,700
Total long-term liabilities	586,352
Total liabilities	1,117,126

	Business-Type Activities
DEFERRED INFLOW OF RESOURCES	
Refunds due to member localities	491,870
Deferred pension investment experience	165,276
Total deferred inflow of resources	657,146
Total liabilities and deferred inflows	1,774,272
NET POSITION	
Invested in capital assets, net of related debt	18,187,291
Unrestricted	5,173,506
Total net position	23,360,797
	$ 25,135,069

South Central Wastewater Authority
Statement of Revenues, Expenses and Changes in Net Position
Year Ended June 30, 2016

	Business-Type Activities
Revenues - charges for services - intergovernmental	$ 6,421,058
Operating expenses:	
Salaries and benefits	2,360,385
Equipment rental, repair and replacement	650,030
Nutrient credit purchases	564,874
Chemicals	519,798
Utilities	409,935
Sludge disposal	291,811
Professional fees	200,110
Laboratory	93,545
Training and meetings	77,750
Office supplies and software	72,691
Insurance	55,705
Fuel	34,022
Machinery tax	31,773
Supplies	25,763
Total operating expenses	5,388,192
Operating income before depreciation	1,032,866
Depreciation expense	961,959
Net operating income	70,907
Nonoperating revenues	
Intergovernmental:	
Equipment repair and replacement	577,514
Operations and maintenance reserves	488,086
Total intergovernmental expenses	1,065,600
Miscellaneous income - primarily septage revenue	835,075
Sale of nutrient credits	390,865
Gain on sale of equipment	10,500
Total nonoperating revenue	2,302,040
Change in net position	2,372,947
Net position - beginning of year	20,987,850
Net position - end of year	$ 23,360,797

See accompanying notes.

South Central Wastewater Authority
Statement of Cash Flows
Year Ended June 30, 2016

	Business-Type Activities
Cash flows from operating activities:	
Cash receipts from localities	$ 7,090,183
Cash payments to employees for services	(2,340,683)
Cash payments for goods and services	(2,785,117)
Net cash provided by operating activities	1,964,383
Cash flows from noncapital financing activities:	
Operations and maintenance reserves	488,086
Sale of nutrient credits	390,865
Miscellaneous income	835,075
Net cash provided by noncapital financing activities	1,714,026
Cash flows from capital and related financing activities:	
Cash received from localities for equipment repair and replacement	577,514
Proceeds from sale of equipment	10,500
Plant and equipment purchases/disposals (net)	(1,364,027)
Net cash used by capital and related financial activities	(776,013)
Net change in cash and cash equivalents	2,902,396
Cash and cash equivalents, beginning of year	2,933,360
Cash and cash equivalents, end of year	$ 5,835,756
Cash and cash equivalents - as shown on the statement of net position:	
Cash and cash equivalents	$ 3,807,791
Cash and cash equivalents - board restricted for equipment repair and replacement	2,027,965
	$ 5,835,756
Reconciliation of net operating loss to net cash from operating activities:	
Operating income	$ 70,907
Adjustments to reconcile to net cash from operating activities:	
Depreciation	961,959
Change in:	
Accounts receivable	354,520
Inventories	102,421
Accounts payable	140,269
Net pension liability and related deferred inflows/outflows of resources	(71,998)
Compensated absences payable	23,072
Refunds due to member localities	378,733
Other post employment benefit obligations	4,500
Net cash provided by operating activities	$ 1,964,383

See accompanying notes.

Notes to Financial Statements

1. Organization and Nature of Business

The South Central Wastewater Authority (Authority) is a public body organized under the provisions of the Virginia Water and Sewer 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 purpose of the Authority is to operate and maintain wastewater treatment and related facilities for the members of the Authority.

2. Summary of Significant Accounting Policies

Reporting entity

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 a legally separate entity from the participating governments 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.

The 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.

Basis of accounting

The Authority utilizes the economic resources management focus and the accrual basis of accounting in preparing its financial statements where revenues are recognized when earned and expenses when incurred. The Authority has adopted allowable standard set by the Governmental Accounting Standards Board (GASB).

The Statement of Net Assets presents the Authority's assets and liabilities, with the difference reported as net assets. Net assets are categorized into three components:

> **Invested in capital assets, net of related debt** - represents the Authority's total investment in capital assets, net of accumulated depreciation reduced by outstanding balances for bonds, notes and other debt that are attributed to the acquisition, construction or improvement of those assets.
>
> **Restricted net assets** - result when constraints placed on net asset use are either externally imposed by law through constitutional provisions or enabling legislation.
>
> **Unrestricted net assets** - consist of net assets which do not meet the definition of the two preceding categories.

Cash and cash equivalents and restricted cash and cash equivalents

Cash and cash equivalents and restricted cash and cash equivalents include amounts in demand deposits as well as short-term investments, stated at cost which approximates fair value, with original maturity dates within three months of the dates acquired by the Authority. Restricted cash as presented in the Statement of Net Position is comprised of board restricted funds to be used for the future repair and replacement of equipment throughout the plant. This is not included in restricted net assets as it is not externally imposed by law through constitutional provisions or enabling legislation.

Accounts receivable

The Authority determined that no allowance for doubtful accounts is necessary at June 30, 2016, due to substantially all of the receivables being due from member localities and considered to be fully collectable.

Inventories

Inventories are valued at cost using the first-in, first-out method. Inventories consist of expendable supplies held for consumption and are recorded as expenses when used (consumption method).

Property, plant and equipment

Property, plant and equipment received at the Authority's inception were reported at the net depreciable value, which approximated market value.

Purchased property, plant and equipment with a value of $5,000 or greater is recorded at cost. Maintenance and repairs are expensed in the period incurred; major renewals and betterments are capitalized. When items of property are sold or retired, the related costs are removed from the accounts and any gain or loss is included in current year's operations. Depreciation is charged as an expense against operations and has been provided generally using the straight-line method over the following estimated useful lives:

Sewer system and plant	40 years
Plant machinery	15 years
Equipment and vehicles	5 years

Compensated absences payable

Authority employees are granted vacation and sick leave in varying amounts. In the event of termination other than retirement, Authority employees are paid for accumulated vacation days based on years of service and are not paid for accumulated sick leave. Upon retirement, Authority employees are paid for accumulated vacation days and a portion of accumulated sick leave. The unused vested portion of vacation and sick leave is recorded as a liability at year end.

Credit risk

Financial instruments that potentially subject the Authority to concentrations of credit risk consist principally of cash, cash equivalents, investments, and trade accounts receivable. The Authority places its cash and cash equivalents with high credit quality financial institutions whose credit ratings are monitored by management to minimize credit risk. Investments of the Authority are comprised of obligations of the United States or agencies thereof to minimize credit risk. The concentration of credit risk for accounts receivable is limited due to the fact that almost all of the receivables being due from member localities.

Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses and disclosure of contingent assets and liabilities for the reported periods. Actual results could differ from those estimates and assumptions.

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 Political Subdivision's Retirement Plan and the additions to/deductions from the Political Subdivision'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 the benefit terms. Investments are reported at fair value.

Subsequent events

In preparing these financial statements, the Authority has evaluated events and transactions for potential recognition or disclosure through November 9, 2016, the date the financial statements were available to be issued.

3. Deposits and Investments

Deposits

The Authority follows a deposit policy in accordance with statutes of the Commonwealth of Virginia. $6,517,435 of the Authority's deposits were insured by federal depository insurance or the provisions of the Commonwealth of Virginia Security for Public Deposits Act (Act). Under the Act, banks holding public deposits in excess of the amounts insured by federal depository insurance must pledge collateral in the amount of 50 percent of excess deposits to a collateral pool in the name of the State Treasury Board. Savings and loan institutions are required to collateralize 100 percent of deposits in excess of federal depository insurance limits. The State Treasury Board has the authority to assess additional collateral from participating financial institutions to cover collateral shortfalls in the event of default and is responsible for monitoring compliance with the collateralization and reporting requirements of the Act and for notifying local governments of compliance by banks and savings and loan institutions. At June 30, 2016, the carrying amount of the Authority's deposits was $5,835,756 and the associated bank balance was $6,517,435. Differences between the Authority's carrying value of deposits and the bank balance were due to outstanding checks, deposits in transit and other reconciling items.

Investment policy

In accordance with the Code of Virginia (1950), as amended, and other applicable laws and regulations, the Authority's investment policy (Policy) permits investments in U.S. government obligations, obligations of the Commonwealth of Virginia or political subdivisions thereof, negotiable certificates of deposit, negotiable bank deposit notes, repurchase agreements, bankers' acceptances, prime quality commercial paper, corporate notes, mortgage or asset-backed securities, money market funds, guaranteed investment contracts (GICs), and the State Treasurer's Local Government Investment Pool.

Concentration of credit risk

The Policy establishes limitations on portfolio composition by issuer in order to control concentration of credit risk. No more than 5% of the Authority's portfolio will be invested in the securities of any one issuer with the exception of: (1) the U.S. government or agencies thereof, (2) fully insured/collateralized certificates of deposit or repurchase agreements that are collateralized by the U.S. government or agencies thereof, and (3) mutual funds whereby the portfolio is limited to U.S. government or agency securities.

As of June 30, 2016, the Authority held no investments.

4. Property, Plant and Equipment

Property, plant and equipment owned by the Authority consist of the following:

	Balance July 1, 2015	Increases	Decreases	Balance June 30, 2016
Capital assets not being depreciated:				
Land	$ 92,968	$ -	$ -	**$ 92,968**
Construction in progress	1,961,618	1,121,633	(1,058,416)	**2,024,835**
Total capital assets not being depreciated	2,054,586	1,121,633	(1,058,416)	**2,117,803**
Other capital assets:				
Sewer system and plant	31,393,912	1,024,080	-	**32,417,992**
Plant machinery	7,184,207	135,435	-	**7,319,642**
Equipment and vehicles	2,707,320	141,295	(12,852)	**2,835,763**
Total other capital assets at historical cost	41,285,439	1,300,810	(12,852)	**42,573,397**
Accumulated depreciation for:				
Sewer system and plant	(17,654,090)	(682,564)	-	**(18,336,654)**
Plant machinery	(5,672,129)	(170,109)	-	**(5,842,238)**
Equipment and vehicles	(2,228,583)	(109,286)	12,852	**(2,325,017)**
Total accumulated depreciation	(25,554,802)	(961,959)	12,852	**(26,503,909)**
	$ 17,785,223	$ 1,460,484	$ (1,058,416)	**$ 18,187,291**

6. Defined Benefit Pension Plan

The Authority contributes to the Virginia Retirement System (VRS), an agent and cost-sharing multiple-employer defined benefit pension plan administered by the VRS.

Plan description

All full-time, salaried permanent (professional) employees of the Authority are automatically covered by VRS Retirement Plan upon employment. This plan is administered by the Virginia Retirement System (the System) along with plans for other employer groups in the Commonwealth of Virginia. The Political Subdivision Retirement Plans are an agent, multiple-employer plan. Members earn one month of service credit for each month they are employed and they and their employer are paying contributions to VRS. Members are eligible to purchase prior public 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 below:

VRS PLAN 1:

About VRS Plan 1

VRS 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. Employees are eligible for VRS Plan 1 if their membership date is before July 1, 2010, and they were vested as of January 1, 2013.

Eligible members

Employees are in VRS Plan 1 if their membership date is before July 1, 2010, and they were vested as of January 1, 2013.

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.

The Hybrid Retirement Plan's effective date for eligible VRS Plan 1 members who opted in was July 1, 2014.

If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.

Members who were eligible for an optional retirement plan (ORP) and had prior service under VRS Plan 1 were not eligible to elect the Hybrid Retirement Plan and remain as VRS Plan 1 or ORP.

Retirement contributions

Members contribute up to 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. Some school divisions and political subdivisions elected to phase in the required 5% member contribution; all employees will be paying the full 5% by July 1, 2016. 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. Beginning July 1, 2012, the Authority opted for employees to pay the entire 5% member contribution.

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.

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.

Members are always 100% vested in the contributions that they make.

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.

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.

Average final compensation

A member's average final compensation is the average of the 36 consecutive months of highest compensation as a covered employee.

Service retirement multiplier

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 1.7%. The retirement multiplier for sheriffs and regional jail superintendents is 1.85%. The retirement multiplier of eligible political subdivision hazardous duty employees other than sheriffs and regional jail superintendents is 1.7% or 1.85% as elected by the employer.

Normal retirement age

Age 65 with credit of 5 years of service.

Earliest unreduced retirement eligibility

Members who are not in hazardous duty positions are eligible for an unreduced retirement benefit at age 65 with at least five years (60 months) of creditable service or at age 50 with at least 30 years of creditable service.

Hazardous duty members are eligible for an unreduced retirement benefit at age 60 with at least five years of creditable service or age 50 with at least 25 years of creditable service.

Earliest reduced retirement eligibility

Members who are not in hazardous duty positions may retire with a reduced benefit as early as age 55 with at least five years (60 months) of creditable service or age 50 with at least 10 years of creditable service.

Hazardous duty members are eligible for a reduced retirement benefit at age 50 with at least five years of creditable service.

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%.

Eligibility:

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.

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.

Exceptions to COLA effective dates

The COLA is effective July 1 following one full calendar year (January 1 to December 31) under any of the following circumstances:

- 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.

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.

Most state employees are covered under the Virginia Sickness and Disability Program (VSDP), and are not eligible for disability retirement.

VSDP members are subject to a one-year waiting period before becoming eligible for non-work related disability benefits.

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. When buying service, members must purchase their most recent period of service first. Members also may be eligible to purchase periods of leave without pay.

VRS PLAN 2:

About VRS Plan 2

VRS 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. Employees are eligible for VRS 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.

Eligible members

Employees are in VRS 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.

Hybrid opt-in election

VRS 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.

The Hybrid Retirement Plan's effective date for eligible VRS Plan 2 members who opted in was July 1, 2014.

If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.

Members who were eligible for an optional retirement plan (ORP) and have prior service under VRS Plan 2 were not eligible to elect the Hybrid Retirement Plan and remain as VRS Plan 2 or ORP.

Retirement contributions

Same as VRS Plan 1.

Creditable service

Same as VRS Plan 1.

Vesting

Same as VRS Plan 1.

Calculating the benefit

See definition under VRS Plan 1.

Average final compensation

A member's average final compensation is the average of their 60 consecutive months of highest compensation as a covered employee.

Service retirement multiplier

Same as Plan1 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.

Normal retirement age

Normal Social Security retirement age. Political subdivisions hazardous duty employees: same as Plan 1.

Earliest unreduced retirement eligibility

Members are eligible for an unreduced retirement benefit when they reach normal Social Security retirement age and have at least five years (60 months) of creditable service or when their age and service equal 90.

Earliest reduced retirement eligibility

Members may retire with a reduced benefit as early as age 60 with at least five years (60 months) of creditable service.

Hazardous duty members are eligible for a reduced retirement benefit at age 50 with at least five years of creditable service.

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%.

Eligibility

Same as VRS Plan 1
Exceptions to COLA Effective Dates:
Same as VRS Plan 1

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.

Most state employees are covered under the Virginia Sickness and Disability Program (VSDP), and are not eligible for disability retirement.

VSDP members are subject to a one-year waiting period before becoming eligible for non-work related disability benefits.

Purchase of prior service

Same as VRS Plan 1.

HYBRID RETIREMENT PLAN

About the hybrid retirement plan

The Hybrid Retirement Plan combines the features of a defined benefit plan and a defined contribution plan. Most members hired on or after January 1, 2014 are in this plan, as well as VRS Plan 1 and VRS Plan 2 members who were eligible and opted into the plan during a special election window. (See “Eligible Members”)

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.

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.

Eligible members

Employees are in the Hybrid Retirement Plan if their membership date is on or after January 1, 2014. This includes:

- State employees*
- School division employees
- Political subdivision employees*
- Judges appointed or elected to an original term on or after January 1, 2014

    Members in VRS Plan 1 or VRS 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.

Non-eligible members

Some employees are not eligible to participate in the Hybrid Retirement Plan. They include:

- • Members of the State Police Officers' Retirement System (SPORS)
- • Members of the Virginia Law Officers' Retirement System (VaLORS)
- • Political subdivision employees who are covered by enhanced benefits for hazardous duty employees

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 VRS Plan 1 or VRS Plan 2, they are not eligible to elect the Hybrid Retirement Plan and must select VRS Plan 1 or VRS Plan 2 (as applicable) or ORP.

Creditable service

Defined benefit component

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

Defined contributions component

Under the defined contribution component, creditable service is used to determine vesting for the employer contribution portion of the plan.

Vesting

Defined benefit component

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. VRS Plan 1 or VRS 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.

Defined contributions component

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.

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.

Members are always 100% vested in the contributions that they make.

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:

- 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.

Distribution is not required by law until age 70½.

Calculating the benefit

Defined benefit component

See definition under VRS Plan 1

Defined contribution component

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.

Average final compensation

Same as VRS Plan 2. It is used in the retirement formula for the defined benefit component of the plan.

Service retirement multiplier

The retirement multiplier is 1.0%.

For members that opted into the Hybrid Retirement Plan from VRS Plan 1 or VRS Plan 2, the applicable multipliers for those plans will be used to calculate the retirement benefit for service credited in those plans.

Normal retirement age

Defined benefit component

Same as VRS Plan 2.

Defined contribution component

Members are eligible to receive distributions upon leaving employment, subject to restrictions.

Earliest unreduced retirement eligibility

Defined benefit component

Members are eligible for an unreduced retirement benefit when they reach normal Social Security retirement age and have at least five years (60 months) of creditable service or when their age and service equal 90.

Defined contribution component

Members are eligible to receive distributions upon leaving employment, subject to restrictions.

Earliest reduced retirement eligibility

Defined benefit component

Members may retire with a reduced benefit as early as age 60 with at least five years (60 months) of creditable service.

Defined contribution component

Members are eligible to receive distributions upon leaving employment, subject to restrictions.

Cost-of-living adjustment (COLA) in retirement

Cost of living adjustment (COLA) in retirement

Defined benefit component

Same as VRS Plan 2.

Defined contribution component

Not applicable.

Eligibility

Same as VRS Plan 1 and VRS Plan 2.

Exceptions to COLA effective dates

Same as VRS Plan 1 and VRS Plan 2.

Disability coverage

Eligible political subdivision and school division (including VRS Plan 1 and VRS Plan2 opt-ins) participate in the Virginia Local Disability Program (VLDP) unless their local governing body provides and employer-paid comparable program for its members.

State employees (including VRS Plan 1 and VRS Plan2 opt-ins) participating in the Hybrid Retirement Plan are covered under the Virginia Sickness and Disability Program (VSDP), and are not eligible for disability retirement.

Hybrid members (including VRS Plan 1 and VRS Plan 2 opt-ins) covered under VSDP or VLDP are subject to a one-year waiting period before becoming eligible for non-work related disability benefits.

Purchase of prior service

Defined benefit component

Same as VRS Plan 1 with the following exceptions:

- Hybrid Retirement Plan members are ineligible for ported service
- The cost for purchasing refunded service is the higher of 4% of creditable compensation or average final compensation
- Plan members have one year from their date of hire or return from leave to purchase all but refunded prior service at approximate normal cost. After the one-year period, the rate for most categories of service will change to actuarial cost

Defined contribution component

Not applicable.

Employees covered by benefit terms

As of the June 30, 2014, actuarial valuation, the following employees were covered by the benefit terms of the pension plan:

	Number
Inactive members or their beneficiaries currently receiving benefits	18
Inactive members:	
Vested	3
Non-vested	18
Active elsewhere in VRS	10
Total inactive members	31
Active members	33
Total	82

Contributions

Plan members are required by Title 51.1 of the Code of Virginia (1950), as amended, to contribute 5% of their compensation toward retirement. All or part of the 5% member contribution may be 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% member contribution. This could be phased in over a period 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. In addition, the Authority is required to contribute the remaining amounts necessary to fund its participation in the VRS using the actuarial basis specified by the Code of Virginia and approved by the VRS Board of Trustees. The Authority's contribution rate for the fiscal year ended June 30, 2016 was 8.84% of annual covered payroll.

Net pension liability

The Authority's net pension liability was measured as of June 30, 2015. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation performed as of June 30, 2014, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2015.

Actuarial assumptions

The total pension liability for General Employees in the Authority's Retirement Plan was based on an actuarial valuation as of June 30, 2014, 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, 2015.

Inflation	2.5%
Salary increases, including inflation	3.5% - 5.35%
Investment rate of return	7.0%, net of pension plan 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 pension liabilities.

Mortality rates: 14% of deaths are assumed to be service related

Largest 10 – Non-LEOS:

Pre-Retirement:

RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with males set forward 4 years and females were set back 2 years.

Post-Retirement:

RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with males set forward 1 year.

Post-Disablement:

RP-2000 Disability Life Mortality Table Projected to 2020 with males set back 3 years and no provision for future mortality improvement

All Others (Non 10 Largest) – Non-LEOS:

Pre-Retirement:

RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with males set forward 4 years and females were set back 2 years.

Post-Retirement:

RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with males set forward 1 year.

Post-Disablement:

RP-2000 Disability Life Mortality Table Projected to 2020 with males set back 3 years and no provision for future mortality improvement

The actuarial assumptions used in the June 30, 2015 valuation were based on the results of an actuarial experience study for the period from July 1, 2008 through June 30, 2014. Changes to the actuarial assumptions as a result of the experience study are as follows:

Largest 10 – Non-LEOS:

- - Update mortality table
- - Decrease in rates of service retirement
- - Decrease in rates of disability retirement
- - Reduce rates of salary increase by 0.25% per year

All Others (Non 10 Largest) – Non-LEOS:

- - Update mortality table
- - Decrease in rates of service retirement
- - Decrease in rates of disability retirement
- - Reduce rates of salary increase by 0.25% per year

Long-term expected rate of return

The long-term expected rate of return on pension 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 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:

Asset Class (Strategy)	Target Allocation	Arithmetic Long-Term Expected Rate of Return	Weighted Average Long-Term Expected Rate of Return
U.S. Equity	19.50%	6.46%	1.26%
Developed Non U.S. Equity	16.50%	6.28%	1.04%
Emerging Market Equity	6.00%	10.00%	0.60%
Fixed Income	15.00%	0.09%	0.01%
Emerging Debt	3.00%	3.51%	0.11%
Rate Sensitive Credit	4.50%	3.51%	0.16%
Non Rate Sensitive Credit	4.50%	5.00%	0.23%
Convertibles	3.00%	4.81%	0.14%
Public Real Estate	2.25%	6.12%	0.14%
Private Real Estate	12.75%	7.10%	0.91%
Private Equity	12.00%	10.41%	1.25%
Cash	1.00%	(1.50%)	(0.02%)
Total	100.00%		5.83%
	Inflation		2.50%
*Expected arithmetic nominal return			8.33%

*Using stochastic projection results provides an expected range of real rates of return over various time horizons. Looking at one year results produces an expected real return of 8.33% but also has a high standard deviation, which means there is high volatility. Over larger time horizons, the volatility declines significantly and provides a median return of 7.44%, 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, 2018, the rate contributed by the employer for the Political Subdivision 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, 2018 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.

Changes in net pension liability (asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) – (b)
Balances at June 30, 2015	$ 3,742,577	$ 3,170,606	$ 571,971
Changes for the year:			
Service cost	171,384	-	171,384
Interest	257,015	-	257,015
Difference between expected and actual results	(116,926)	-	(116,926)
Contributions – employer	-	134,611	(134,611)
Contributions – employee	-	76,008	(76,008)
Net investment income	-	148,134	(148,134)
Benefit payments, including refunds of employee contributions	(141,873)	(141,873)	-
Administrative expense	-	(1,930)	1,930
Other changes	-	(31)	(31)
Net changes	169,600	214,919	(45,319)
Balances at June 30, 2016	$ 3,912,177	$ 3,385,525	$ 526,652

Sensitivity of the net pension liability to changes in the discount rate

The following represents the net pension liability calculated using the stated discount rate, as well as what the net position liability would be if it were calculated using a stated discount rate that is one-percentage-point lower or one-percentage-point higher than the current rate:

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Plan's Net Pension Liability (Asset)	$ 1,040,837	$ 526,652	$ 100,440

Pension expense and deferred outflows of resources and deferred inflows of resources related to pensions

For the year ending June 30, 2016, the Authority recognized pension expense of $93,783. At June 30, 2016, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred of Outflows of Resources	Deferred Inflows of Resources
Employer contributions made subsequent to the measurement date	$ 136,390	$ -
Differences between expected and actual experience	-	82,127
Net difference between projected and actual earnings on plan investments	-	83,149
	$ 136,390	$ 165,276

Amounts reported as deferred inflows of resources related to pensions as of June 30, 2016, will be recognized in pension expense as follows:

2017	$	(67,591)
2018		(67,591)
2019		(45,323)
2020		15,229
Total	$	(165,276)

8. Other Post-Employment Benefits Plan

The Authority implemented GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions (GASB 45), for the fiscal year ended June 30, 2016. This implementation required the Commission to report an actuarially determined liability for the present value of projected future other than postemployment benefits (OPEB) for retired and active employees on the financial statements.

Plan description

General employees can purchase health insurance at published rates if they retire under the VRS general employees plan. Reduced retirement under the VRS plan is at the earlier of age 50 with 10 years of service or age 55 with 5 years of service. If hired after July 1, 2010 and do not have 5 years of vested service by January 1, 2013 then the earlier retirement age is the earlier of age 60 with 5 years of service or 90 combined age and service points for other employees.

Funding policy

These benefits are financed on a pay-as-you-go basis.

Annual OPEB cost and net OPEB obligation

The Authority's annual other post-employment benefit (OPEB) cost (expense) is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement 45.

The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize the unfunded actuarial liabilities (or funding excess) over a period not exceed thirty years. The following table shows the components of the Authority's annual OPEB cost for the year, the amount actually contributed to the plan, and changes in the Authority's net OPEB obligation.

Annual required contribution	$	18,100
Interest on net OPEB obligation		1,900
Adjustment to annual required contribution		(2,500)
Annual OPEB cost (expense)		17,500
Contributions made		(13,000)
Increase in net OPEB obligation		4,500
Net OPEB obligation, beginning of year		55,200
Net OPEB obligation, end of year	$	59,700

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

For the fiscal year ended June 30, 2016, the annual OPEB cost was $17,500, the percentage of annual OPEB cost contributed to the plan was 74.30% and the net OPEB liability was $59,700. The net OPEB liability at June 30, 2016 of $59,700 is included in the accompanying statement of net assets.

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded (Unfunded) Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL as % Payroll
July 1, 2015	$ -	$ 176,000	$ 176,000	0.00%	$ 1,637,239	10.75%
July 1, 2014	$ -	$ 172,000	$ 172,000	0.00%	$ 1,589,883	11.07%
July 1, 2013	$ -	$ 166,800	$ 166,800	0.00%	$ 1,522,352	10.96%

Actuarial methods and assumptions

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan member to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

In the July 1, 2013 actuarial valuation, the projected unit credit actuarial cost method was used. The actuarial assumptions included a 3.50% investment rate of return (net of administrative expenses), which is expected long-term investment returns on the employer's own investments calculated, and an annual healthcare cost trend rate of 7.5% initially, gradually decreasing over time. By 2030 the rate of increase is 5.70%, and by 2050 5.0 percent. The rates include a 2.5% inflation assumption. The UAAL is being amortized as a level percentage of projected payroll on a closed basis over thirty years.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, so actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

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.

10. Nutrient Credit Purchases and Sales of Excess Nutrient Credits

During the current year, the Authority was required to purchase nutrient credits in order to remain in compliance with environmental regulations. The total cost of these credits in the current year was $564,874 and these credits will be required to be purchased in future years to continue to meet environmental regulations until the Authority completes the nutrient upgrade project (see Note 11) to reduce the levels of nitrogen and phosphorus. The SCWWA Board committed to purchase credits from the Virginia Nutrient Credit Exchange Association or from the counties of Chesterfield and Henrico through calendar year 2017.

During the current year, the Authority was able to sell excess nutrient credits through the Virginia Nutrient Credit Exchange Association. The total sale price of these credits in the current year was $390,865.

11. Commitments

The Authority is still in the initial stages of an approximately $55,000,000 (in 2010 dollars – year in which estimate was established) plant improvement to reduce nitrogen and phosphorus in the effluent, as required by the Chesapeake Bay restoration standards. This improvement will be primarily financed by obtaining grant funding and through the issuance of bonds. The bonds will be repaid by the member localities based on their share of the plant capacity. The Board originally deferred this upgrade for at least 10 years due to the cost of debt service versus nutrient credits. However, regulatory drivers may require it to be done in 2017.

12. Contingency

The Authority relies on its member localities' dues for operating income as well as certain reserves. The City of Petersburg is the Authority's largest member locality as it has historically accounted for over 50% of total wastewater flow. During the year ended June 30, 2016, Petersburg accounted for 57.85% of the Authority's wastewater flow. The City of Petersburg has faced significant financial difficulties in recent years, including an operating deficit of $57,998,939 for 2015 (most recently audited fiscal year). As of June 30, 2016, Petersburg was behind on their payments to the Authority by two months, totaling $367,681. Also, Petersburg was delinquent by up to six months during 2016 and has continued to fall behind on payments subsequent to year-end. Petersburg's inability to pay its member dues would have a significant effect on the Authority's earnings and ability to fund operations without using reserve funds.

13. Related Party Transactions

During 2014, the Authority entered into an agreement for the partial reimbursement of salaries with Appomattox River Water Authority (ARWA), which shares a common Board of Directors with the Authority. There are certain employees that split their time equally between the Authority and ARWA and, as such, each party is liable for half of the related payroll expense. At June 30, 2016, amounts included in accounts receivable from ARWA is $66,446 for the reimbursement of these expenses. The Authority's total reimbursement for these expenses during the year was $96,904. At June 30, 2016, amounts included in accounts payable owed to ARWA is $103,374 for the reimbursement of these expenses. The Authority's total portion of the expense during the year was $128,104.

In addition, ARWA shares a health insurance policy with the Authority. All invoices are paid to the insurance provider by the Authority and they then bill ARWA for their portion of the expenditure. At June 30, 2016, there were no amounts included in accounts receivable for the reimbursement of these insurance expenses.

During 2013, the Authority entered into an agreement with Chesterfield County (the "County"), a member locality, to begin purchasing nitrogen and phosphorus credits from the County to remain in compliance with environmental regulations as discussed in Note 10. This agreement was set to begin for compliance year 2015 and for each year thereafter through and including compliance year 2016. During 2014, the Authority executed an agreement with the County to further extend this agreement for compliance years 2017 and 2018. Subsequent to June 30, 2016, the Authority again extended this agreement through compliance year 2019.

During 2014, the Authority entered into an agreement with Henrico County (the "County"), a non-member locality, to begin purchasing nitrogen and phosphorus credits from the County to remain in compliance with environmental regulations as discussed in Note 10. This agreement was set to begin for compliance year 2015 and for each year thereafter through and including compliance year 2016.

14. Commitments

The Authority enters into contracts throughout the year in order to complete various projects. As of June 30, 2016, the Authority had three outstanding contracts totaling $1,671,126 related to electrical upgrades and waste water treatment plant upgrades. As of June 30, 2016, the Authority has incurred expenses of $817,578 related to these contracts, with a remaining amount of $853,548 to be completed in 2017.

South Central Wastewater Authority

Compliance Report

June 30, 2016

DHG
DIXON HUGHES GOODMAN LLP

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

Board of Directors
South Central Wastewater Authority
Petersburg, Virginia

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards issued by the Comptroller General of the United States, the financial statements of the business-type activities of South Central Wastewater Authority as of and for the year ended June 30, 2016 and the related notes to the financial statements, which collectively comprise the South Central Wastewater Authority's basic financial statements, and have issued our report thereon dated November 9, 2016.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements we considered South Central Wastewater 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 South Central Wastewater Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the entity'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 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 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 and therefore, material weaknesses or significant deficiencies may exist that were not identified. 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. We did identify a deficiency in internal control, described in the accompanying schedule of findings and responses that we consider to be a significant deficiency (see IC 16-01 on page 32).

Compliance and Other Matters

As part of obtaining reasonable assurance about whether South Central Wastewater Authority's financial statements are free of 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.

South Central Wastewater Authority's Response to the Finding
The Authority's response to the finding identified in our audit is described in the accompanying schedule of findings and responses. The Authority's response was not subjected to auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

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 result 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.

Dixon Hughes Goodman LLP

Chester, Virginia
November 9, 2016

Schedule of Findings and Responses - Financial Statements

Finding No. IC 16-01

Comment	Management relies on the auditors to prepare financial statements compliant with Generally Accepted Accounting Principles (GAAP) and the Governmental Accounting Standards Board (GASB) and related disclosures.
Condition and Criteria	Auditors assist in the preparation of GAAP and GASB compliant financial statements and footnotes. These financial statements are reviewed and approved by management; however, auditors feel that this review would only detect material misstatements, and that a misstatement that is more than inconsequential may not be prevented or detected.
Effect	Financial statements and related disclosures may be misstated by an amount that is more than inconsequential.
Cause	Due to the small size of the Authority, there is a limited accounting staff, which does not allow for the hiring of an accountant with the background needed to prepare GAAP and GASB compliant financial statements and related disclosures.
Recommendation	Management will meet regularly with the auditors to keep up to date on changes in GAAP and GASB and continue to review the draft GAAP and GASB compliant financial statements and related disclosures prior to issuance.
View of Management and Planned Corrective Action	Recommendations made by auditors will be implemented.

South Central Wastewater Authority

Required Supplementary Information

June 30, 2016

South Central Wastewater Authority
Schedule of Changes in Net Pension Liability and Related Ratios
Year Ended June 30,

	2016	2015
Total pension liability		
Service cost	$ 171,384	164,219
Interest	257,015	238,485
Change in assumptions	(116,926)	-
Benefit payments	(141,873)	(134,116)
Net change in total pension liability	169,600	268,588
Total pension liability - beginning	3,742,577	3,473,989
Total pension liability - ending (a)	3,912,177	3,742,577
Plan fiduciary net position:		
Contributions - employer	134,611	136,218
Contributions - employee	76,008	73,798
Net investment income	148,134	429,411
Benefit payments	(141,873)	(134,116)
Administrative expenses	(1,930)	(2,224)
Other changes	(31)	22
Net change in plan fiduciary net position	214,919	503,109
Plan fiduciary net position - beginning	3,170,606	2,667,497
Plan fiduciary net position - ending (b)	3,385,525	3,170,606
Authority's net pension liability (asset) - ending (a) - (b)	$ 526,652	$ 571,971
Plan fiduciary net position as a percentage of the total pension liability	86.5%	84.7%
Covered payroll	1,660,130	1,738,361
Net pension liability as a percentage of covered payroll	31.7%	32.9%

*Covered payroll reprsents the total pensionable payroll for emplyees covered under the pension plan, in accordance with GASB 82

Note: Information in this schedule is presented for the year in which information is available. Information will be added each year until a full 10-year trend is presented.

South Central Wastewater Authority
Schedule of Contributions
Year Ended June 30,

	2016		2015		2014	
Actuarially determined contribution	$	136,390	$	134,611	$	136,218
Contributions in relation to the actuarially determined contribution		136,390		134,611		136,218
Contribution deficiency (excess)	$	-	$	-	$	-
Covered payroll	$	1,660,130	$	1,738,361	$	1,602,262
Contributions as a percentage covered payroll		8.2%		7.7%		8.5%

Notes to Schedule:

Actuarily determined contribution rates are based on the most recent valuation date, which was June 30, 2014. Methods and assumptions used to determine contribution

Actuarial cost method	Entry age normal
Amortization method	Level percent closed
Remaining amortization period	30 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	5-years for investment gains and losses
Investment rate of return*	7.00%
Projected salary increases*	3.50% - 5.35%
Cost-of-living adjustments	2.25% - 2.50%

*Includes inflation at 2.50%

*Covered payroll reprsents the total pensionable payroll for emplyees covered under the pension plan, in accordance with GASB 82

Note: Information in this schedule is presented for the year in which information is available. Information will be added each year until a full 10-year trend is presented.

Changes of benefit terms:

There have been no significant changes to the System benefit provisions since the prior actuarial valuation. A hybrid plan with changes to the defined benefit plan structure and a new defined contribution component were adopted in 2012. The hybrid plan applies to most new employees hired on or after January 1, 2014 and not covered by enhanced hazardous duty benefits. The liabilities reflect the hybrid plan since new members have joined the System since implementation. However, the impact on the liabilities as of the measurement date of June 30, 2016 are minimal.

Changes of assumptions:

The following changes in actuarial assumptions were made effective June 30, 2013 based on the most recent experience study of the System for the four-year period ending June 30, 2012:

Largest 10 - Non-LEOS:
- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

Largest 10 - LEOS:
- Update mortality table
- Decrease in male rates of disability

All Others (Non 10 Largest) - Non-LEOS:
- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

All Others (Non 10 Largest) - LEOS:
- Update mortality table
- Adjustments to rates of service retirement for females
- Increase in rates of withdrawal
- Decrease in male and female rates of disability