

Appomattox River Water Authority



Financial Report Year Ended June 30, 2019



APPOMATTOX RIVER WATER AUTHORITY

S. Chesterfield, Virginia

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

- Board of Directors -

Douglas E. Smith, Chairman
City of Colonial Heights

W. Kevin Massengill, Vice Chairman
Dinwiddie County

George B. Hayes, Secretary-Treasurer
Chesterfield County

Dr. Joseph Casey, Member
Chesterfield County

Aretha Ferrell-Benavides, Member
City of Petersburg

Percy Ashcraft, Member
Prince George County

- Officials -

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

James C. Gordon, Assistant Executive Director

USBank, Trustee

McGuire Woods, Counsel

Table of Contents

	Page
Independent Auditors' Report	1-2
Management's Discussion and Analysis.....	3-10
 Financial Statements:	
Statement of Net Position	11-12
Statement of Revenues, Expenses and Changes in Net Position	13
Statement of Cash Flows	14
Notes to Financial Statements	15-49
 Required Supplementary Information:	
Schedule of Changes in Net Pension (Asset) Liability and Related Ratios	50
Schedule of Employer Contributions-Pension	51
Notes to Required Supplementary Information-Pension	52
Schedule of Changes in Total OPEB Liability (Asset) and Related Ratios - Health Insurance..	53
Notes to Required Supplementary Information - OPEB - Health Insurance	54
Schedule of Authority's Share of Net OPEB Liability - Group Life Insurance Program.....	55
Schedule of Employer Contributions - Group Life Insurance Program	56
Notes to Required Supplementary Information - Group Life Insurance Program	57-58
 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 <i>Government Auditing Standards</i>	59-60



ROBINSON, FARMER, COX ASSOCIATES, PLLC

Certified Public Accountants

Independent Auditors' Report

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

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities of Appomattox River Water Authority, as of and for the year ended June 30, 2019, 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, 2019, 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 13 to the financial statements, in 2019, the Authority adopted new accounting guidance, GASB Statement No. 88 *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements*. 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 3-10 and 50-58 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 2018 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated September 20, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2018, 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 November 8, 2019, on our consideration of Appomattox River Water Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Appomattox River Water Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Appomattox River Water Authority's internal control over financial reporting and compliance.


Charlottesville, Virginia
November 8, 2019

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

As management of Appomattox River Water Authority (the Authority), we offer readers of our financial statements this narrative overview and analysis of the financial activities of the Authority for the fiscal year ending June 30, 2019.

Overview of the Financial Statements

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

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

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

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

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

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

Financial Highlights

- The assets and deferred outflows of resources of the Authority exceeded its liabilities and deferred inflows of resources at the close of the most recent fiscal year by \$44,880,861 (net position). Of this amount \$4,243,713 is reported as unrestricted net position.
- The Authority's total net position increased by \$1,319,508.
- The Authority's total long-term obligations (including premium amortization, compensated absences, OPEB liability and net pension liability) decreased by \$1,467,946 during the current fiscal year. Details of the change in long-term obligations 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 \$44,880,861 at the close of the most recent fiscal year.

By far the largest portion of the Authority's net position (73 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	
	2019	2018
Current and other assets	\$ 22,692,801	\$ 26,814,240
Capital assets	<u>46,597,268</u>	<u>41,637,425</u>
Total assets	<u>\$ 69,290,069</u>	<u>\$ 68,451,665</u>
Deferred charge on refunding	\$ 571,536	\$ 615,706
OPEB related items	14,106	7,729
Pension related items	<u>63,920</u>	<u>129,913</u>
Total deferred outflows	<u>\$ 649,562</u>	<u>\$ 753,348</u>
Long-term liabilities	\$ 23,474,716	\$ 24,942,662
Other liabilities	<u>1,319,905</u>	<u>448,456</u>
Total liabilities	<u>\$ 24,794,621</u>	<u>\$ 25,391,118</u>
OPEB related items	\$ 39,927	\$ 19,106
Pension related items	<u>224,222</u>	<u>233,436</u>
Total deferred inflows	<u>\$ 264,149</u>	<u>\$ 252,542</u>
Net investment in capital assets	\$ 32,931,425	\$ 30,867,099
Restricted	7,705,723	7,551,919
Unrestricted	<u>4,243,713</u>	<u>5,142,335</u>
Total net position	<u>\$ 44,880,861</u>	<u>\$ 43,561,353</u>

Financial Analysis (continued)

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

	Change in Net Position	
	2019	2018
Revenues:		
Operating revenues	\$ 10,945,916	\$ 10,026,237
Gain (loss) on disposal of capital assets	(344,194)	-
Investment income	428,250	187,046
Litigation proceeds	141,773	-
Total revenues	<u>\$ 11,171,745</u>	<u>\$ 10,213,283</u>
Expenses:		
Operating expenses (excluding depreciation)	\$ 6,534,979	\$ 6,582,446
Depreciation expense	2,566,718	2,591,571
Interest expense	750,540	631,172
Total expenses	<u>\$ 9,852,237</u>	<u>\$ 9,805,189</u>
Increase (decrease) in net position	\$ 1,319,508	\$ 408,094
Net position-July 1	<u>43,561,353</u>	<u>43,153,259</u>
Net position-June 30	<u><u>\$ 44,880,861</u></u>	<u><u>\$ 43,561,353</u></u>

The Authority's net position increased by \$1,319,508 during the current year. Operating revenues increased by \$919,679, reflecting an increase in consumption and increase in the base rate, while operating expenses (excluding depreciation) decreased by \$47,467 over fiscal year 2018 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, 2019 amounts to \$46,597,268 (net of accumulated depreciation). Investment in capital assets increased by approximately 11.91% during the year. Below is a comparison of the items that make up capital assets as of June 30, 2019 with that of June 30, 2018.

	2019	2018
Land and land rights	\$ 1,044,167	\$ 1,090,685
Water systems	85,562,249	85,625,821
Equipment	1,238,359	1,176,668
Hydro costs incurred	34,873	34,873
Accumulated depreciation	(49,328,684)	(47,093,704)
Construction in progress	8,046,304	803,082
Total capital assets	<u><u>\$ 46,597,268</u></u>	<u><u>\$ 41,637,425</u></u>

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

Capital Asset and Debt Administration (continued)

Long-Term Debt - At the end of the current fiscal year, the Authority had \$22,452,000 in bonds outstanding versus \$23,822,000 in the prior year. 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 the notes to the financial statements.

Review of Operations

Operating Revenues. Operating Revenues increased by \$919,679 from 2018 or 9.17%, generally can be attributed to an increase in both consumption and budgeted base rates.

Operating Expenses. Operating Expenses (excluding depreciation) decreased by \$47,467 from 2018 by 0.7% mainly due to the OPEB Health and Net Pension adjustments, decreased expense for financial consulting, increased expenses due to potable water contract, electricity, and chemical costs.

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 received the "Excellence in Waterworks Operations Performance" award from the Virginia Department of Health awarded for 2018.
- The Authority received the American Water Works Association Partnership of Safe Water 20 Year Directors Award. The Partnership for Safe Water's award-winning utilities demonstrates an outstanding commitment to delivering superior quality drinking water to customers.



Authority Highlights (continued)

Water Supply Plan

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

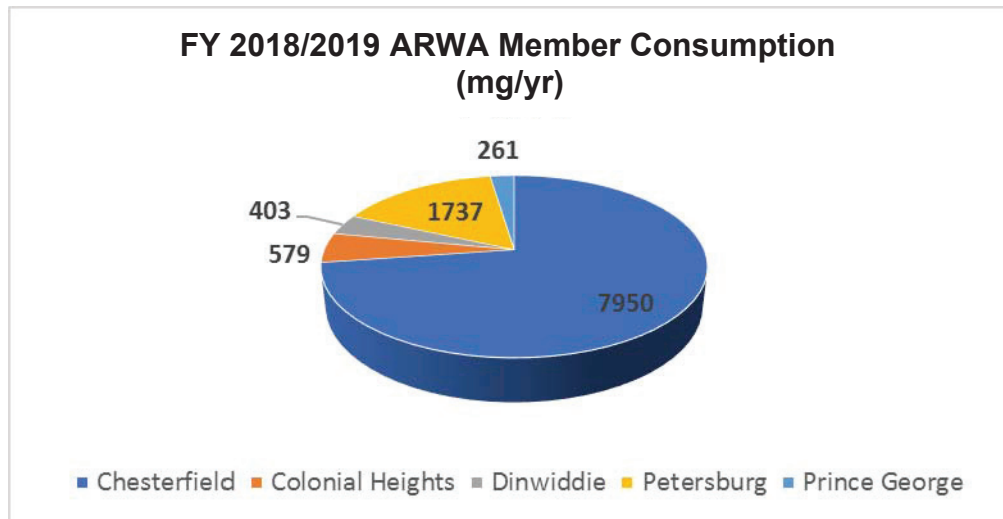
Water Supply Alternatives

- Based on extensive water resource modeling completed by the Authority in 2013, along with additional annual model runs, it appears that the previous demand projections in the Commonwealth's State Water Resource Plan (reflecting data taken from ARWA's Regional Water Supply Plan) have not developed as projected. Using updated inflows, withdrawals and returns for the years 2015-2019, our Water Resource modeler, HydroLogics, continue to annually run their model and provide predictions based on Member expected demands. Actual 2018/2019 demands that ARWA experienced from our members were utilized in the 2019 model prediction analysis.
- The past modeling results using the ARWA Member provided annual average demands projections indicated that the performance metric goal (Preserves 60-day supply) developed by ARWA could be met through an annual average demand of forty-two million gallons per day, with the modeling results indicating that the reservoir could meet water supply performance metric goals for at least the next ten years. Using the 2015 Member provided 2020, 2030, and 2040 projections to calculate the 2025 average daily demands of 39.8 mgd, all system performance metrics are met except the boating recreation drawdown greater than two feet. In fact, for the Member projected 2030 average daily demands of 44.4 mgd, again all system performance metrics are expected to be met except boating recreation drawdown greater than two feet.
- Based on very recent events related to two Authority's members (Chesterfield County and Prince George County), it is very likely that the need for the Authority to continue to identify and confirm a preferred alternative water supply would be lessened or not needed. On April 2, 2019, Prince George County submitted a Joint Permit Application requesting up to eight million gallons withdrawal of raw water from the Appomattox River in a tidal section of the river well below the South Central Wastewater Authority's discharge. Additionally, Chesterfield County had moved forward and requested DEQ convene a Pre-Application Panel to discuss a proposed new intake and pump station on the Appomattox River that could withdraw up to forty million gallon per day. If these actions are approved, they would have a major impact in reducing long term water supply needs for the ARWA since Chesterfield County holds 69.31 percent of ARWA plant allocation and Prince George has 2.86 percent of ARWA plant allocation. If both Counties are successful in their plans for new water supplies, their ability to withdraw raw water from a tidal river segment could greatly mitigate potential drought impacts on ARWA demands.
- The Authority will continue to monitor both of these members activities related to their potential new water supply and we are committed to moving into action seeking a future additional supply of raw water if these members are unsuccessful with their new raw water supply.

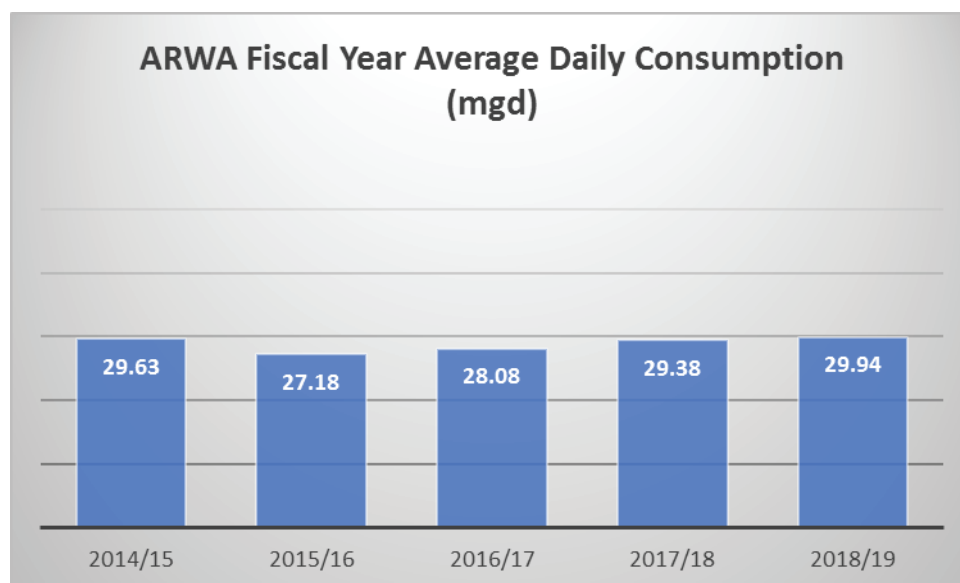
Authority Highlights (continued)

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

	<u>2018/2019</u>	<u>2017/2018</u>
Total annual flow (billion gallons)	10.930	10.724
Average daily flow (mgd)	29.94	29.38



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. During the 2018/2019 fiscal year, the Authority did not issue any formal permit related water conservation restrictions.



Projects/Studies Completed in 2018/2019

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 2018/2019:

1. Completion of the Annually Required Facility Maintenance Inspection by our Trust Engineer;
2. On-going upgrade replacement project related to the facility's vintage SCADA equipment;



3. Pipe gallery access safety upgrades were completed this year;
4. Working with our consultant geotechnical engineer and DEQ, the Authority completed the VPDES required Groundwater Quality Monitoring Plan;
5. Construction continues with the contracted In-Plant Improvement Project. This project includes the replacement of vintage pumps and upgrading associated electrical systems to increase water production reliability.



Projects/Studies Completed in 2018/2019 (continued)



6. Several facility electrical and network improvements have been completed by staff in conjunction with the In-Plant Project.
7. Design and bidding of the In-Plant Improvements Project Phase II has been completed. Board approval on the Phase II In-Plant project occurred at the November 2019 Board Meeting.
8. Engineering proposals for work related to the American Water Infrastructure Act were received and the project was awarded. Work has begun and the evaluation is expected to be completed by the end of the 2019 calendar year.
9. A two-year contract was awarded for the development of the Chesdin Reservoir Hydrilla Management Plan. The initial hydrilla impact assessment began during the summer of 2019.

Economic Conditions

The Authority continues to operate under sound effective management with total net position increasing during fiscal year 2019. Overall, finances for the Authority for fiscal year 2018-2019 as viewed by management, including the Board of Directors, are considered sound.

Contacting the Authority

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

- Financial Statements -

APPOMATTOX RIVER WATER AUTHORITY

Statement of Net Position

June 30, 2019

(With Comparative Totals for the Prior Year)

	<u>2019</u>	<u>2018</u>
Assets		
Current Assets		
Cash and cash equivalents	\$ 2,498,973	\$ 2,828,300
Accrued interest receivable	15,164	12,599
Accounts receivable - water service	2,870,570	2,705,648
Inventory	264,923	160,010
Other receivables	11,537	13,527
Prepaid expenses	-	88,466
Total Current Assets	<u>\$ 5,661,167</u>	<u>\$ 5,808,550</u>
Noncurrent Assets		
Restricted Assets:		
Cash and cash equivalents	<u>\$ 16,752,344</u>	<u>\$ 20,887,364</u>
Total Restricted Assets	<u>\$ 16,752,344</u>	<u>\$ 20,887,364</u>
Capital Assets:		
Land and land rights	\$ 1,044,167	\$ 1,090,685
Water system	85,562,249	85,625,821
Equipment	1,238,359	1,176,668
Hydro costs incurred	34,873	34,873
Accumulated depreciation	<u>(49,328,684)</u>	<u>(47,093,704)</u>
Sub-total net capital assets	\$ 38,550,964	\$ 40,834,343
Construction in progress	<u>8,046,304</u>	<u>803,082</u>
Total net capital assets	<u>\$ 46,597,268</u>	<u>\$ 41,637,425</u>
Net pension asset	<u>\$ 279,290</u>	<u>\$ 118,326</u>
Total Noncurrent Assets	<u>\$ 63,628,902</u>	<u>\$ 62,643,115</u>
Total Assets	<u>\$ 69,290,069</u>	<u>\$ 68,451,665</u>
Deferred Outflows of Resources		
Deferred charge on refunding	\$ 571,536	\$ 615,706
OPEB related items	14,106	7,729
Pension related items	<u>63,920</u>	<u>129,913</u>
Total Deferred Outflows of Resources	<u>\$ 649,562</u>	<u>\$ 753,348</u>

APPOMATTOX RIVER WATER AUTHORITY

Statement of Net Position

June 30, 2019 (continued)

(With Comparative Totals for the Prior Year)

	2019	2018
Liabilities		
Current Liabilities Payable from Current Assets		
Accounts payable	\$ 308,484	\$ 242,502
Total Current Liabilities Payable from Current Assets	\$ 308,484	\$ 242,502
Current Liabilities Payable from Restricted Assets		
Accounts payable	\$ 562,564	\$ 7,200
Retainage payable	261,600	-
Accrued interest payable	187,257	198,754
Bonds payable - current portion	1,416,000	1,370,000
Total Current Liabilities Payable from Restricted Assets	\$ 2,427,421	\$ 1,575,954
Total Current Liabilities	\$ 2,735,905	\$ 1,818,456
Noncurrent Liabilities		
Bonds payable - net of current portion	\$ 21,682,568	\$ 23,152,723
Net OPEB liabilities	195,443	226,038
Compensated absences	180,705	193,901
Total Noncurrent Liabilities	\$ 22,058,716	\$ 23,572,662
Total Liabilities	\$ 24,794,621	\$ 25,391,118
Deferred Inflow of Resources		
OPEB related items	\$ 39,927	\$ 19,106
Pension related items	224,222	233,436
Total Deferred Inflows of Resources	\$ 264,149	\$ 252,542
Net Position		
Net investment in capital assets	\$ 32,931,425	\$ 30,867,099
Restricted for debt service and bond covenants	7,705,723	7,551,919
Unrestricted	4,243,713	5,142,335
Total Net Position	\$ 44,880,861	\$ 43,561,353

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

APPOMATTOX RIVER WATER AUTHORITY

Statement of Revenues, Expenses and Changes in Net Position Year Ended June 30, 2019 (With Comparative Totals for the Prior Year)

	<u>2019</u>	<u>2018</u>
Operating Revenues		
Water service	\$ 10,855,487	\$ 9,999,042
Other	<u>90,429</u>	<u>27,195</u>
Total Operating Revenues	<u>\$ 10,945,916</u>	<u>\$ 10,026,237</u>
Operating Expenses		
Operating and maintenance		
Salaries	\$ 1,668,602	\$ 1,601,561
Employee benefits	537,355	581,701
Contractual services	878,784	1,079,610
Materials, supplies and other costs	2,462,439	2,379,191
Other charges	987,799	940,383
Depreciation	<u>2,566,718</u>	<u>2,591,571</u>
Total Operating Expenses	<u>\$ 9,101,697</u>	<u>\$ 9,174,017</u>
Net Operating Income (Loss)	<u>\$ 1,844,219</u>	<u>\$ 852,220</u>
Nonoperating Revenues (Expenses)		
Income from investments	\$ 428,250	\$ 187,046
Litigation proceeds	141,773	-
Gain (loss) of disposal of capital assets	(344,194)	-
Interest on bonds	<u>(750,540)</u>	<u>(631,172)</u>
Total Nonoperating Revenues (Expenses)	<u>\$ (524,711)</u>	<u>\$ (444,126)</u>
Change in net position	\$ 1,319,508	\$ 408,094
Net position, beginning of year	<u>43,561,353</u>	<u>43,153,259</u>
Net position, end of year	<u><u>\$ 44,880,861</u></u>	<u><u>\$ 43,561,353</u></u>

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

APPOMATTOX RIVER WATER AUTHORITY

Statement of Cash Flows Year Ended June 30, 2019 (With Comparative Totals for the Prior Year)

	<u>2019</u>	<u>2018</u>
Cash flows from operating activities:		
Receipts from customers and users	\$ 10,782,984	\$ 10,150,795
Payments to suppliers and vendors	(4,279,487)	(4,238,820)
Payments to and on behalf of employees	<u>(2,339,489)</u>	<u>(2,188,105)</u>
Net cash provided by (used for) operating activities	\$ <u>4,164,008</u>	\$ <u>3,723,870</u>
Cash flows from noncapital financing activities:		
Litigation proceeds	\$ <u>141,773</u>	\$ <u>-</u>
Net cash provided by (used for) investing activities	\$ <u>141,773</u>	\$ <u>-</u>
Cash flows from capital and related financing activities:		
Acquisition of utility plant in service	\$ (7,053,791)	\$ (1,196,472)
Principal paid on bonds	(1,370,000)	(598,000)
Interest paid on bonds	(772,022)	(562,776)
Proceeds from indebtedness	<u>-</u>	<u>13,500,000</u>
Net cash provided by (used for) capital and related financing activities	\$ <u>(9,195,813)</u>	\$ <u>11,142,752</u>
Cash flows from investing activities:		
Interest received	\$ <u>425,685</u>	\$ <u>178,856</u>
Net cash provided by (used for) investing activities	\$ <u>425,685</u>	\$ <u>178,856</u>
Net increase (decrease) in cash and cash equivalents	\$ <u>(4,464,347)</u>	\$ <u>15,045,478</u>
Cash and cash equivalents at beginning of year (including \$20,887,364 and \$5,474,116 in restricted accounts)	\$ <u>23,715,664</u>	\$ <u>8,670,186</u>
Cash and cash equivalents at end of year (including \$16,752,344 and \$20,887,364 in restricted accounts)	\$ <u><u>19,251,317</u></u>	\$ <u><u>23,715,664</u></u>
Reconciliation of operating income (loss) to net cash provided by (used for) operating activities:		
Operating income (loss)	\$ 1,844,219	\$ 852,220
Adjustments to reconcile operating income (loss) to net cash provided by (used for) operating activities:		
Depreciation	2,566,718	2,591,571
Changes in operating assets and liabilities:		
(Increase) decrease in receivables	(162,932)	124,558
(Increase) decrease in inventories	(104,913)	(28,540)
(Increase) decrease in prepaid expenses	88,466	(3,705)
Increase (decrease) in operating accounts payable	65,982	192,609
Increase (decrease) in compensated absences	(13,196)	23,289
(Increase) decrease in pension deferred outflow of resources	65,993	213,880
(Increase) decrease in OPEB deferred outflow of resources	(6,377)	271
Increase (decrease) in pension deferred inflow of resources	(9,214)	212,614
Increase (decrease) in OPEB deferred inflow of resources	20,821	19,106
(Increase) decrease in net pension asset	(160,964)	(118,326)
Increase (decrease) in net pension liability	-	(326,043)
Increase (decrease) in net OPEB liabilities	<u>(30,595)</u>	<u>(29,634)</u>
Net cash provided by (used for) operating activities	\$ <u><u>4,164,008</u></u>	\$ <u><u>3,723,870</u></u>

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019

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

Nature of Entity:

The 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 purpose of the Authority is to provide a supply of safe, reliable drinking water for the members of the Authority.

In March 1959, the Cities of Petersburg, Hopewell and Colonial Heights and the Counties of Chesterfield, Dinwiddie and Prince George joined to discuss the concept of a regional water treatment facility. In April the six municipalities recommended an authority be created. Hopewell then declined to participate further. A June 15, 1959 meeting finalized the idea of obtaining a charter for an authority. The Authority was incorporated on November 21, 1960. In March of 1962 the Appomattox River Water Authority was created by an act of the General Assembly. By 1964, service contracts with the five member localities were signed. The major points of the final contracts were:

1. Cities and Counties would –
 - a. Buy all the water from ARWA – Chesterfield in southern portion of county and other counties where it was practical
 - b. Acknowledged service contracts would be used to secure bonds
 - c. Pay bills promptly each month
2. ARWA would –
 - a. Issue \$8.5 million in bonds
 - b. Build water treatment plant (16mgd) on the north side of the dam, build a water pumping station, build a concrete dam (spillway at 158' msl), purchase 5,872 acres of land (to 164' msl contour), build 30" water line to Ettrick where water would be distributed, meter water to localities, build access road to dam from both sides,
 - c. Treat water to state standards,
 - d. Set budget and charges for water each year
 - e. Have a uniform rate for all localities
 - f. Bill localities quarterly for water used

Between 1966 and 1967 construction began on the dam. The construction contract was awarded in February 1966 except for the 30" transmission water line. The bids came in under budget, so additional facilities and water transmission lines were included and the plant was increased from 16 mgd to 22 mgd. The Authority purchased some 60 tracts of land for the treatment plant, reservoir, dam, and transmission lines. The completed dam is 1455' long, with an 840' ungated spillway and a maximum height of 54'. Water went over the Brasfield Dam approximately at midnight Tuesday, December 14, 1967. Plant and pipeline construction were going on simultaneously. The Appomattox River Water Authority started treating water in January 1968.

In 1978, the Authority first recognized that the plant treatment capacity of 22 mgd was close to being exceeded in the summer months and an expansion of the facilities was needed. A study was completed in 1981 and called for increased plant capacity from 22 to 34 or 46 mgd (as funds would allow). Also, increased raw and finished water pumping capacity and additional finished water clearwell storage was recommended. At this time, it was decided to move to a two-tiered rate structure. The Base Rate would consist of the prior debt and annual operating and maintenance cost, while the Expansion Rate would include the new bond debt with each locality's allocated debt based on expansion plant capacity. At this time the original plant and expansion were allocated to the five members. Between 1983 and 1984 the plant was expanded to 46 mgd, a new water line was extended through Colonial Heights to supply water to Prince George and Colonial Heights, and a new 5.5 mg clearwell was constructed.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

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

Nature of Entity: (continued)

In 1999, an expansion study was performed and the recommendation was to increase the capacity of the treatment plant from 46 mgd to 96 mgd. The plans included new raw and finished water pumping facilities, additional flocculation and sedimentation basins, additional filters, upgrading old filters, and an additional 5.5 mg clearwell. Construction began in 2003 and the expansion was completed in mid-2006. Plant allocations were recalculated to include the 2003 Expansion.

	1968		1985		2003		Totals	
	22 mgd	%	24 mgd	%	50 mgd	%	96 mgd	%
Chesterfield	9.1	41.36	15.44	64.33	42	84	66.54	69.31
Colonial Heights	3	13.64	0.71	2.96	0.5	1	4.21	4.39
Dinwiddie	1	4.55	0.48	2	5	10	6.48	6.75
Petersburg	8.9	40.45	7.12	29.67	0	0	16.02	16.69
Prince George	0	0	0.25	1.04	2.5	5	2.75	2.86
%		100		100		100		100
mgd	22		24		50		96	

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.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

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

Summary of Significant Accounting Policies:

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.

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
- Required Supplementary Information
 - Schedule of Changes in Net Pension (Asset) Liability and Related Ratios
 - Schedule of Employer Contributions–Pension
 - Notes to Required Supplementary Information–Pension
 - Schedule of Changes in Total OPEB Liability (Asset) and Related Ratios - Health Insurance
 - Notes to Required Supplementary Information - OPEB - Health Insurance
 - Schedule of Authority's Share of Net OPEB Liability Group Life Insurance Program
 - Schedule of Employer Contributions Group Life Insurance Program
 - Notes to Required Supplementary Information Group Life Insurance Program

B. 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.

C. 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.

D. Capital Assets:

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

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

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

D. Capital Assets: (Continued)

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:

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

F. Investments:

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

G. Premiums/Discount on Bonds Held for Investment:

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

H. Budgets:

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

I. Unamortized Deferred Charge on Refunding:

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

J. Use of Estimates:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

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

K. Net Position:

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

L. Net Position Flow Assumption:

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

M. Deferred Outflows/Inflows of Resources:

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

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

N. Restricted Assets:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

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

O. Inventories:

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

P. Prepaid Expenses:

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

Q. Pensions:

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

R. Other Postemployment Benefits (OPEB)

Group Life Insurance

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

NOTE 2 - DEPOSITS AND INVESTMENTS:

Deposits:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 2 - DEPOSITS AND INVESTMENTS: (continued)

Investments:

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

The Authority has not implemented a formal investment policy.

Credit Risk of Debt Securities:

The Authority's rated debt investments as of June 30, 2019 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	
<u>Rated Debt Investments</u>	<u>Fair Quality Ratings</u>
	<u>AAAm</u>
Money market fund - U.S. Treasury Securities	\$ <u>17,750,102</u>
Total	\$ <u><u>17,750,102</u></u>

Interest Rate Risk:

Investment Maturities (in years)		
	<u>Fair Value</u>	<u>Less Than 1 Year</u>
Money market fund - U.S. Treasury Securities	\$ <u>17,750,102</u>	\$ <u>17,750,102</u>
	\$ <u><u>17,750,102</u></u>	\$ <u><u>17,750,102</u></u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 3 - CAPITAL ASSETS:

A summary of the Authority's capital assets and the changes therein for the year ended June 30, 2019, follows:

	Beginning Balance	Increases	Decreases	Ending Balance
Capital assets not being depreciated:				
Land and land rights	\$ 1,090,685	\$ -	\$ 46,518	\$ 1,044,167
Construction in progress	803,082	7,583,884	340,662	8,046,304
Total capital assets not being depreciated	<u>\$ 1,893,767</u>	<u>\$ 7,583,884</u>	<u>\$ 387,180</u>	<u>\$ 9,090,471</u>
Other capital assets, being depreciated:				
Water system	\$ 85,625,821	\$ 434,082	\$ 497,654	\$ 85,562,249
Equipment	1,176,668	193,451	131,760	1,238,359
Hydro costs incurred	34,873	-	-	34,873
Total other capital assets being depreciated	<u>\$ 86,837,362</u>	<u>\$ 627,533</u>	<u>\$ 629,414</u>	<u>\$ 86,835,481</u>
Accumulated depreciation:				
Water system	\$ (46,256,622)	\$ (2,473,753)	\$ (199,978)	\$ (48,530,397)
Equipment	(802,906)	(92,268)	(131,760)	(763,414)
Hydro costs incurred	(34,176)	(697)	-	(34,873)
Total accumulated depreciation	<u>\$ (47,093,704)</u>	<u>\$ (2,566,718)</u>	<u>\$ (331,738)</u>	<u>\$ (49,328,684)</u>
Other capital assets being depreciated, net	<u>\$ 39,743,658</u>	<u>\$ (1,939,185)</u>	<u>\$ 297,676</u>	<u>\$ 37,506,797</u>
Capital assets, net	<u>\$ 41,637,425</u>	<u>\$ 5,644,699</u>	<u>\$ 684,856</u>	<u>\$ 46,597,268</u>

Depreciation expense for the fiscal year totaled \$2,566,718.

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, 2019:

	Balance July 1, 2018	Issuances	Retirements	Balance June 30, 2019	Due Within One Year
Direct borrowings and direct placements					
Revenue and revenue refunding bonds	\$ 23,822,000	\$ -	\$ (1,370,000)	\$ 22,452,000	\$ 1,416,000
Add (less) amounts:					
For issuance premiums	700,723	-	(54,155)	646,568	-
Total direct borrowings and direct placements	<u>\$ 24,522,723</u>	<u>\$ -</u>	<u>\$ (1,424,155)</u>	<u>\$ 23,098,568</u>	<u>\$ 1,416,000</u>
Net OPEB liability - group life insurance	<u>\$ 119,000</u>	<u>\$ 19,000</u>	<u>\$ (20,000)</u>	<u>\$ 118,000</u>	<u>\$ -</u>
Net OPEB liability - health insurance	<u>\$ 107,038</u>	<u>\$ 10,799</u>	<u>\$ (40,394)</u>	<u>\$ 77,443</u>	<u>\$ -</u>
Compensated absences	<u>\$ 193,901</u>	<u>\$ -</u>	<u>\$ (13,196)</u>	<u>\$ 180,705</u>	<u>\$ -</u>
Totals	<u>\$ 24,942,662</u>	<u>\$ 29,799</u>	<u>\$ (1,497,745)</u>	<u>\$ 23,474,716</u>	<u>\$ 1,416,000</u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 4 - LONG-TERM OBLIGATIONS: (continued)**B. Annual Amortization of Long-Term Obligations:**

The annual requirements to amortize all long-term obligations outstanding at June 30, 2019 are as follows:

Year Ended June 30,	Direct Borrowings and Direct Placements	
	Revenue and	
	Revenue Refunding Bonds	
	Principal	Interest
2020	\$ 1,416,000	\$ 725,174
2021	1,468,000	676,480
2022	1,516,000	625,886
2023	1,565,000	573,516
2024	1,619,000	520,610
2025	1,673,000	467,053
2026	1,730,000	410,841
2027	1,796,000	351,732
2028	1,848,000	290,453
2029	1,605,000	231,872
2030	1,659,000	175,886
2031	1,715,000	117,816
2032	1,775,000	57,546
2033	1,067,000	13,423
Total	\$ <u>22,452,000</u>	\$ <u>5,238,288</u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 4 - LONG-TERM OBLIGATIONS: (continued)

C. Details of Long-Term Obligations:

	<u>Total Amount</u>	<u>Amount Due Within One Year</u>
Revenue Bonds		
Direct Borrowings and Direct Placements:		
On December 21, 2017, the Authority issued \$13,500,000 of Water Revenue Bonds bearing interest at 2.516% payable semiannually through October 2032. Principal payments commence October 2018, payable annually, through October 2032.	\$ 12,750,000	\$ 769,000
On November 23, 2010, the Authority issued \$9,750,000 of Water Revenue Refunding Bonds, Series 2010 to provide funds to defease \$9,910,000 of Water Revenue Refunding Bonds, Series 2002. The bonds were issued at a premium of \$1,095,893. The Authority advance refunded the 2002 Series bonds to reduce its total debt service payments by \$664,976 and to obtain an economic gain (difference between the present values of the debt service payments on the old and new debt) of \$346,778. The defeased bonds were called and retired on May 1, 2012. Bond issue costs in the amount of \$152,595 are associated with these bonds. The bonds bear interest, payable semiannually, at rates of between 3.362% - 5.1%. Principal is payable annually on October 1, 2012 through 2031.	7,330,000	415,000
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.	2,372,000	232,000
Bond issuance premiums	<u>646,568</u>	<u>-</u>
Total Revenue Bonds	\$ <u>23,098,568</u>	\$ <u>1,416,000</u>
Net OEB liability - health insurance	\$ <u>77,443</u>	\$ <u>-</u>
Net OPEB liability - group life insurance	\$ <u>118,000</u>	\$ <u>-</u>
Compensated absences	\$ <u>180,705</u>	\$ <u>-</u>
Total long-term obligations	<u>\$ 23,474,716</u>	<u>\$ 1,416,000</u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 4 - LONG-TERM OBLIGATIONS: (continued)

D. Pledge of Revenues and Funds: (Continued)

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

NOTE 5 - PENSION PLAN:

Plan Description

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

Benefit Structures

The System administers three different benefit structures for covered employees – Plan 1, Plan 2 and Hybrid. Each of these benefit structures has different eligibility criteria, as detailed below.

- a. Employees hired before July 1, 2010, vested as of January 1, 2013, and have not taken a refund, are covered under Plan 1, a defined benefit plan. Non-hazardous duty employees are eligible for an unreduced retirement benefit beginning at age 65 with at least 5 years of creditable service or age 50 with at least 30 years of creditable service. Non-hazardous duty employees may retire with a reduced benefit as early as age 55 with at least 5 years of creditable service or age 50 with at least 10 years of creditable service.
- b. Employees hired 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 are covered under Plan 2, a defined benefit plan. Non-hazardous duty employees are eligible for an unreduced benefit beginning at their normal social security retirement age with at least 5 years of creditable service or when the sum of their age and service equals 90. Non-hazardous duty employees may retire with a reduced benefit as early as age 60 with at least 5 years of creditable service.
- c. Non-hazardous duty employees hired on or after January 1, 2014 are covered by the Hybrid Plan combining the features of a defined benefit plan and a defined contribution plan. Plan 1 and Plan 2 members also had the option of opting into this plan during the election window held January 1 – April 30, 2014 with an effective date of July 1, 2014. Employees covered by this plan are eligible for an unreduced benefit beginning at their normal social security retirement age with at least 5 years of creditable service, or when the sum of their age and service equal 90. Employees may retire with a reduced benefit as early as age 60 with at least 5 years of creditable service. For the defined contribution component, members are eligible to receive distributions upon leaving employment, subject to restrictions.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 5 - PENSION PLAN: (continued)

Average Final Compensation and Service Retirement Multiplier

The VRS defined benefit is a lifetime monthly benefit based on a retirement multiplier as a percentage of the employee's average final compensation multiplied by the employee's total creditable service. Under Plan 1, average final compensation is the average of the employee's 36 consecutive months of highest compensation and the multiplier is 1.7% for non-hazardous duty employees, 1.85% for sheriffs and regional jail superintendents. Under Plan 2, average final compensation is the average of the employee's 60 consecutive months of highest compensation and the retirement multiplier is 1.65% for non-hazardous duty employees, 1.85% for sheriffs and regional jail superintendents. Under the Hybrid Plan, average final compensation is the average of the employee's 60 consecutive months of highest compensation and the multiplier 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.

Cost-of-Living Adjustment (COLA) in Retirement and Death and Disability Benefits

Retirees with an unreduced benefit or with a reduced benefit with at least 20 years of creditable service are eligible for an annual COLA beginning July 1 after one full calendar year from the retirement date. Retirees with a reduced benefit and who have less than 20 years of creditable service are eligible for an annual COLA beginning on July 1 after one calendar year following the unreduced retirement eligibility date. Under Plan 1, the COLA cannot exceed 5.00%. Under Plan 2 and the Hybrid Plan, the COLA cannot exceed 3.00%. The VRS also provides death and disability benefits. Title 51.1 of the Code of Virginia, as amended, assigns the authority to establish and amend benefit provisions to the General Assembly of Virginia.

Employees Covered by Benefit Terms

As of the June 30, 2017 actuarial valuation, the following employees were covered by the benefit terms of the pension plan:

	<u>Number</u>
Inactive members or their beneficiaries currently receiving benefits	17
Inactive members:	
Vested inactive members	3
Non-vested inactive members	3
Long-term disability (LTD)	0
Inactive members active elsewhere in VRS	6
Total inactive members	12
Active members	26
Total covered employees	55

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
 June 30, 2019 (continued)

NOTE 5 - PENSION PLAN: (continued)

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.

The Authority’s contractually required employer contribution rate for the year ended June 30, 2019 was 4.92% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017.

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 \$63,920 and \$74,997 for the years ended June 30, 2019 and June 30, 2018, respectively.

Net Pension Liability (Asset)

The net pension liability (asset) is calculated separately for each employer and represents that particular employer’s total pension liability determined in accordance with GASB Statement No. 68, less that employer’s fiduciary net position. For the Authority, the net pension liability (asset) was measured as of June 30, 2018. The total pension liability used to calculate the net pension liability (asset) was determined by an actuarial valuation performed as of June 30, 2017 rolled forward to the measurement date of June 30, 2018.

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, 2017, 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, 2018.

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.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 5 - PENSION PLAN: (continued)

Actuarial Assumptions – General Employees (Continued)

Mortality rates:

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

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

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

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Largest 10 – Non-Hazardous Duty:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 5 - PENSION PLAN: (continued)

Actuarial Assumptions – General Employees (Continued)

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

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

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
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	15.00%	9.53%	1.43%
Total	<u>100.00%</u>		<u>4.80%</u>
		Inflation	<u>2.50%</u>
		*Expected arithmetic nominal return	<u>7.30%</u>

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

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. Consistent with the phased-in funding provided by the General Assembly for state and teacher employer contributions; the Authority was also provided with an opportunity to use an alternative employer contribution rate. For the year ended June 30, 2018, the alternate rate was the employer contribution rate used in FY 2012 or 90% of the actuarially determined employer contribution rate from the June 30, 2015 actuarial valuations, whichever was greater. From July 1, 2018 on, participating employers are assumed to continue 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, 2017	\$ 5,597,255	\$ 5,715,581	\$ (118,326)
Changes for the year:			
Service cost	\$ 133,770	\$ -	\$ 133,770
Interest	382,392	-	382,392
Differences between expected and actual experience	(114,977)	-	(114,977)
Contributions - employer	-	74,997	(74,997)
Contributions - employee	-	70,080	(70,080)
Net investment income	-	421,113	(421,113)
Benefit payments, including refunds of employee contributions	(269,025)	(269,025)	-
Administrative expenses	-	(3,668)	3,668
Other changes	-	(373)	373
Net changes	\$ 132,160	\$ 293,124	\$ (160,964)
Balances at June 30, 2018	\$ 5,729,415	\$ 6,008,705	\$ (279,290)

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

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)	\$ 345,823	\$ (279,290)	\$ (806,183)

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

For the year ended June 30, 2019, the Authority recognized pension expense of (40,265). At June 30, 2019, 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	\$ -	\$ 90,011
Change of assumptions	-	83,159
Net difference between projected and actual earnings on pension plan investments	-	51,052
Employer contributions subsequent to the measurement date	63,920	-
Total	\$ 63,920	\$ 224,222

\$63,920 reported as deferred outflows of resources related to pensions resulting from the Authority's contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability (Asset) in the fiscal year ending June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense in future reporting periods as follows:

Year ended June 30	
2020	\$ (70,936)
2021	(74,050)
2022	(74,134)
2023	(5,102)
2024	-
Thereafter	-

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 5 - PENSION PLAN: (continued)

Pension Plan Data

Information about the VRS Political Subdivision Retirement Plan is also available in the separately issued VRS 2018 Comprehensive Annual Financial Report (CAFR). A copy of the 2018 VRS CAFR may be downloaded from the VRS website at <http://www.varetire.org/Pdf/Publications/2018-annual-report.pdf>, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA 23218-2500.

NOTE 6 - COMPENSATED ABSENCES:

Accumulated unpaid vacation, vested sick leave and other compensatory leave amounts are accrued when incurred. At June 30, 2019 and 2018 liabilities were as follows:

	<u>2019</u>	<u>2018</u>
Accumulated and compensatory leave	\$ <u>180,705</u>	\$ <u>193,901</u>

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

NOTE 7 - RISK MANAGEMENT:

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

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS:

Health Insurance:

Plan Description

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

Benefits Provided

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

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

Plan Membership

At June 30, 2018 (measurement date), the following employees were covered by the benefit terms:

Total active employees with coverage	63
Total retirees with coverage	<u>18</u>
Total	<u><u>81</u></u>

Contributions

The Authority does not pre-fund benefits; therefore, no assets are accumulated in a trust fund. The current funding policy is to pay benefits directly from general assets on a pay-as-you-go basis. The funding requirements are established and may be amended by the Authority. The amount paid by the Authority for OPEB during the year ended June 30, 2018 was \$9,648.

Total OPEB Liability

The Authority's total OPEB liability was measured as of June 30, 2018.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Health Insurance: (continued)

Actuarial Assumptions

The total OPEB liability in the July 1, 2019 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	2.50% per year as of June 30, 2018
Salary Increases	3.5% -5.35% including inflation
Discount Rate	3.58% for accounting and funding disclosures as of June 30, 2017
	3.62% for accounting and funding disclosures as of June 30, 2018

Discount Rate

The discount rate used to determine the liabilities under GASB 75 is based on an index rate for 20-year tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher. This rate was 3.58% as of June 30, 2017 and 3.62% as of June 30, 2018.

Changes in Total OPEB Liability

		<u>Total OPEB Liability</u>
Balances at June 30, 2018	\$	107,038
Changes for the year:		
Service cost		7,039
Interest		3,760
Changes in benefit terms		-
Difference between expected and actual experience		(29,964)
Changes in assumptions		(782)
Contributions - employer		-
Net investment income		-
Benefit payments		(9,648)
Net changes		(29,595)
Balances at June 30, 2019	\$	<u>77,443</u>

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

The following amounts present the total OPEB liability of the Authority, as well as what the total OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (2.62%) or one percentage point higher (4.62%) than the current discount rate:

	<u>1% Decrease (2.62%)</u>	<u>Current Discount Rate (3.62%)</u>	<u>1% Increase (4.62%)</u>
\$	82,044	\$ 77,443	\$ 73,088

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Health Insurance: (continued)

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

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

	1% Decrease (3.20%)	Healthcare Cost Trend Rates (4.20%)	1% Increase (5.20%)
	<u> </u>	<u> </u>	<u> </u>
\$	71,636	\$ 77,443	\$ 84,255

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

For the year ended June 30, 2018, the Authority recognized OPEB expense in the amount of \$3,874. At June 30, 2018, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
	<u> </u>	<u> </u>
Differences between expected and actual experience	\$ -	\$ 23,971
Changes in assumptions	-	2,956
Total	<u>\$ -</u>	<u>\$ 26,927</u>

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

Year Ended June 30	
	<u> </u>
2020	\$ (6,925)
2021	(6,925)
2022	(6,927)
2023	(6,150)
2024	-
Thereafter	-

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance:

Plan Description

The Group Life Insurance (GLI) Program was established pursuant to §51.1-500 et seq. of the Code of Virginia, as amended, and which provides the authority under which benefit terms are established or may be amended. All full-time, salaried permanent employees of the state agencies, teachers, and employees of participating political subdivisions are automatically covered by the VRS Group Life Insurance Program upon employment. This is a cost-sharing multiple-employer plan administered by the Virginia Retirement System (the System), along with pensions and other OPEB plans, for public employer groups in the Commonwealth of Virginia.

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

The specific information for GLI OPEB, including eligibility, coverage and benefits is described below:

Eligible Employees

The GLI Program was established July 1, 1960, for state employees, teachers, and employees of political subdivisions that elect the program. Basic GLI coverage is automatic upon employment. Coverage ends for employees who leave their position before retirement eligibility or who take a refund of their accumulated retirement member contributions and accrued interest.

Benefit Amounts

The GLI Program is a defined benefit plan with several components. The natural death benefit is equal to the employee's covered compensation rounded to the next highest thousand and then doubled. The accidental death benefit is double the natural death benefit. In addition to basic natural and accidental death benefits, the program provides additional benefits provided under specific circumstances that include the following: accidental dismemberment benefit, safety belt benefit, repatriation benefit, felonious assault benefit, and accelerated death benefit option. The benefit amounts are subject to a reduction factor. The benefit amount reduces by 25% on January 1 following one calendar year of separation. The benefit amount reduces by an additional 25% on each subsequent January 1 until it reaches 25% of its original value. For covered members with at least 30 years of creditable service, the minimum benefit payable was set at \$8,000 by statute. This amount is increased annually based on the VRS Plan 2 cost-of-living adjustment and was increased to \$8,279 effective July 1, 2018.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Contributions

The contribution requirements for the Group Life Insurance Program are governed by §51.1-506 and §51.1-508 of the Code of Virginia, as amended, but may be impacted as a result of funding provided to state agencies and school divisions by the Virginia General Assembly. The total rate for the Group Life Insurance Program was 1.31% of covered employee compensation. This was allocated into an employee and an employer component using a 60/40 split. The employee component was 0.79% (1.31% x 60%) and the employer component was 0.52% (1.31% x 40%). Employers may elect to pay all or part of the employee contribution; however, the employer must pay all of the employer contribution. Each employer's contractually required employer contribution rate for the year ended June 30, 2019 was 0.52% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017. The actuarially determined rate, when combined with employee contributions, was expected to finance the costs of benefits payable during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the Group Life Insurance Program from the entity were \$8,106 and \$7,729 for the years ended June 30, 2019 and June 30, 2018, respectively.

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

At June 30, 2019, the entity reported a liability of \$118,000 for its proportionate share of the Net GLI OPEB Liability. The Net GLI OPEB Liability was measured as of June 30, 2018 and the total GLI OPEB liability used to calculate the Net GLI OPEB Liability was determined by an actuarial valuation as of that date. The covered employer's proportion of the Net GLI OPEB Liability was based on the covered employer's actuarially determined employer contributions to the Group Life Insurance Program for the year ended June 30, 2018 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2018, the participating employer's proportion was .00776% as compared to .00793% at June 30, 2017.

For the year ended June 30, 2019, the participating employer recognized GLI OPEB expense of (\$3,000). Since there was a change in proportionate share between measurement dates, a portion of the GLI OPEB expense was related to deferred amounts from changes in proportion.

At June 30, 2019, the employer reported deferred outflows of resources and deferred inflows of resources related to the GLI OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 6,000	\$ 2,000
Net difference between projected and actual earnings on GLI OPEB program investments	-	4,000
Change in assumptions	-	5,000
Changes in proportion	-	2,000
Employer contributions subsequent to the measurement date	8,106	-
Total	<u>\$ 14,106</u>	<u>\$ 13,000</u>

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

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

\$8,106 reported as deferred outflows of resources related to the GLI OPEB resulting from the employer's contributions subsequent to the measurement date will be recognized as a reduction of the Net GLI OPEB Liability in the fiscal year ending June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the GLI OPEB will be recognized in the GLI OPEB expense in future reporting periods as follows:

<u>Year Ended June 30</u>		
2020	\$	3,000
2021		3,000
2022		1,000
2023		-
2014		-
Thereafter		-

Actuarial Assumptions

The total GLI OPEB liability was based on an actuarial valuation as of June 30, 2017, 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, 2018.

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

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – General State Employees

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

Mortality Rates – Teachers

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – Teachers: (continued)

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

Mortality Rates – SPORS Employees

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – VaLORS Employees

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

Mortality Rates – JRS Employees

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

Mortality Rates – JRS Employees: (continued)

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

Mortality Rates – Largest Ten Locality Employers – General Employees

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

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

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

Mortality Rates – Largest Ten Locality Employers – Hazardous Duty Employees

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

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

Pre-Retirement:

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

Post-Retirement:

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

Post-Disablement:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Actuarial Assumptions: (continued)

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

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

NET GLI OPEB Liability

The net OPEB liability (NOL) for the Group Life Insurance Program represents the program's total OPEB liability determined in accordance with GASB Statement No. 74, less the associated fiduciary net position. As of June 30, 2018, NOL amounts for the Group Life Insurance Program is as follows (amounts expressed in thousands):

		Group Life Insurance OPEB Program
		<hr/>
Total GLI OPEB Liability	\$	3,113,508
Plan Fiduciary Net Position		1,594,773
Employers' Net GLI OPEB Liability (Asset)	\$	<hr/> <hr/> 1,518,735
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability		51.22%

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

Long-Term Expected Rate of Return

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

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

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

Discount Rate

The discount rate used to measure the total GLI OPEB liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made per the VRS guidance and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2018, the rate contributed by the entity for the GLI OPEB will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2018 on, employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the GLI OPEB's fiduciary net position was projected to be available to make all projected future benefit payments of eligible employees. Therefore, the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total GLI OPEB liability.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 8 - OTHER POSTEMPLOYMENT BENEFITS: (continued)

Group Life Insurance: (continued)

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

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

	Rate		
	1% Decrease	Current Discount	1% Increase
	(6.00%)	(7.00%)	(8.00%)
Authority's proportionate share of the Group Life Insurance Program			
Net OPEB Liability	\$ 154,000	\$ 118,000	\$ 88,000

Group Life Insurance Program Fiduciary Net Position

Detailed information about the Group Life Insurance Program's Fiduciary Net Position is available in the separately issued VRS 2018 Comprehensive Annual Financial Report (CAFR). A copy of the 2017 VRS CAFR may be downloaded from the VRS website at <http://www.varetire.org/Pdf/Publications/2018-annual-report.pdf>, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

NOTE 9 - DEFERRED COMPENSATION PLAN:

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

NOTE 10 - RELATED PARTY TRANSACTIONS:

The Authority is governed by a common Board of Directors with the South Central Wastewater Authority ("SCWWA"). The Authority has an agreement with SCWWA to share several key positions utilized by both the Authority and SCWWA. Accordingly the two Authorities share personnel costs necessary to fund the positions. During the current fiscal year the Authority received reimbursement in the amount of \$234,356 from SCWWA for reimbursement of salary and benefits paid to Authority employees that allocate time and duties with SCWWA. Similarly, the Authority pays a reimbursement to SCWWA for salary and benefits for SCWWA employees that allocate time and duties with the Authority. The Authority reported expenses of \$194,637 as reimbursement.

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 11 - FAIR VALUE MEASUREMENTS:

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

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

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

Fair Value Measurements at Reporting Date Using			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Total June 30, 2019			
U.S. Treasury & Agency Money Market Funds	\$ 17,750,102	\$ -	\$ -
Total investments measured at fair value	\$ 17,750,102	\$ -	\$ -

NOTE 12 - UPCOMING PRONOUNCEMENTS:

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Financial Statements
June 30, 2019 (continued)

NOTE 12 - UPCOMING PRONOUNCEMENTS: (continued)

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

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

NOTE 13 - ADOPTION OF ACCOUNTING PRINCIPLES:

The Authority implemented the financial reporting provisions of Governmental Accounting Standards Board Statement No. 88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements* during the fiscal year ended June 30, 2019. This Statement clarifies which liabilities governments should include when disclosing information related to debt. It also requires that additional essential information related to debt be disclosed in notes to financial statements. No restatement was required as a result of this implementation.

- Required Supplementary Information -

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Changes in Net Pension (Asset) Liability and Related Ratios For the Years Ended June 30, 2015 through June 30, 2019

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total pension liability					
Service cost	\$ 133,770	\$ 141,274	\$ 134,438	\$ 128,956	\$ 115,714
Interest	382,392	377,709	361,682	323,274	304,237
Differences between expected and actual experience	(114,977)	(8,307)	(28,955)	280,591	-
Changes of assumptions	-	(181,571)	-	-	-
Benefit payments, including refunds of employee contributions	(269,025)	(255,396)	(221,000)	(147,277)	(148,713)
Net change in total pension liability	\$ 132,160	\$ 73,709	\$ 246,165	\$ 585,544	\$ 271,238
Total pension liability - beginning	5,597,255	5,523,546	5,277,381	4,691,837	4,420,599
Total pension liability - ending (a)	<u>\$ 5,729,415</u>	<u>\$ 5,597,255</u>	<u>\$ 5,523,546</u>	<u>\$ 5,277,381</u>	<u>\$ 4,691,837</u>
Plan fiduciary net position					
Contributions - employer	\$ 74,997	\$ 77,470	\$ 90,504	\$ 84,275	\$ 84,546
Contributions - employee	70,080	70,147	71,510	66,467	62,807
Net investment income	421,113	630,091	90,092	227,824	674,742
Benefit payments, including refunds of employee contributions	(269,025)	(255,396)	(221,000)	(147,277)	(148,713)
Administrative expense	(3,668)	(3,675)	(3,223)	(3,066)	(3,607)
Other	(373)	(559)	(38)	(48)	35
Net change in plan fiduciary net position	\$ 293,124	\$ 518,078	\$ 27,845	\$ 228,175	\$ 669,810
Plan fiduciary net position - beginning	5,715,581	5,197,503	5,169,658	4,941,483	4,271,673
Plan fiduciary net position - ending (b)	<u>\$ 6,008,705</u>	<u>\$ 5,715,581</u>	<u>\$ 5,197,503</u>	<u>\$ 5,169,658</u>	<u>\$ 4,941,483</u>
Authority's net pension (asset) liability - ending (a) - (b)	\$ (279,290)	\$ (118,326)	\$ 326,043	\$ 107,723	\$ (249,646)
Plan fiduciary net position as a percentage of the total pension (asset) liability	104.87%	102.11%	94.10%	97.96%	105.32%
Covered payroll	\$ 1,475,042	\$ 1,462,461	\$ 1,467,991	\$ 1,339,006	\$ 1,256,141
Authority's net pension (asset) liability as a percentage of covered payroll	(19%)	(8%)	22%	8%	(20%)

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

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Employer Contributions - Pension For the Years Ended June 30, 2010 through June 30, 2019

Fiscal Year	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	Contributions as a % of Covered Payroll (5)
2010	\$ 3,592	\$ 3,592	\$ -	\$ 970,852	0.37%
2011	29,570	29,570	-	1,033,917	2.86%
2012	28,190	28,190	-	985,675	2.86%
2013	74,118	74,118	-	1,126,410	6.58%
2014	82,654	82,654	-	1,256,141	6.58%
2015	87,660	87,660	-	1,339,006	6.55%
2016	90,504	90,504	-	1,467,991	6.17%
2017	77,470	77,470	-	1,462,461	5.30%
2018	74,997	74,997	-	1,475,042	5.08%
2019	63,920	63,920	-	1,557,186	4.10%

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information - Pension For the Year Ended June 30, 2019

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

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

Largest 10 – Non-Hazardous Duty:

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

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

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

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Changes in Total OPEB Liability (Asset) and Related Ratios - Health Insurance For the Year Ended June 30, 2019

	<u>2019</u>	<u>2018</u>
Total OPEB liability		
Service cost	\$ 7,039	\$ 7,411
Interest	3,760	3,037
Changes in assumptions	(782)	(3,882)
Differences between expected and actual experience	(29,964)	-
Benefit payments	<u>(9,648)</u>	<u>(12,200)</u>
Net change in total OPEB liability	\$ <u>(29,595)</u>	\$ <u>(5,634)</u>
Total OPEB liability – beginning	<u>107,038</u>	<u>112,672</u>
Total OPEB liability – ending	<u><u>\$ 77,443</u></u>	<u><u>\$ 107,038</u></u>
 Covered-employee payroll	 \$ N/A	 \$ N/A
 Authority's total OPEB liability (asset) as a percentage of covered payroll	 N/A	 N/A

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information - OPEB - Health Insurance For the Year Ended June 30, 2019

Valuation Date: June 30, 2017

Measurement Date: June 30, 2018

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

Methods and assumptions used to determine OPEB liability:

Actuarial Cost Method	Entry Age Normal cost method
Discount Rate	3.58% as of June 30, 2017; 3.62% as of June 30, 2018
Inflation	2.50% per year as of June 30, 2018; 2.50% per year as of June 30, 2019
Healthcare Trend Rate	Healthcare trend rate of 4.20%. Rates are selected based on an economic model developed by a healthcare economist for the Society of Actuaries.
Salary Increase Rates	Salary increase rates of 3.5% - 5.35% including inflation
Demographic Assumptions	Assumed that 50% of employees with medical coverage would elect to retain the coverage at retirement.

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Authority's Share of Net OPEB Liability Group Life Insurance Program For the Year Ended June 30, 2019

Date	Employer's Proportion of of the Net GLI OPEB Liability (Asset)	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset)	Employer's Covered Payroll	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) as a Percentage of Covered Payroll (3)/(4)	Plan Fiduciary Net Position as a Percentage of Total GLI OPEB Liability
(1)	(2)	(3)	(4)	(5)	(6)
2018	0.00776% \$	118,000	\$ 1,475,042	8.00%	51.22%
2017	0.00793% \$	119,000	\$ 1,462,461	8.14%	48.86%

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

APPOMATTOX RIVER WATER AUTHORITY

Schedule of Employer Contributions
Group Life Insurance Program
For the Years Ended June 30, 2017 through June 30, 2019

Date	Contributions in Relation to			Contributions	
	Contractually Required Contribution (1)	Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	as a % of Covered Payroll (5)
2019	\$ 8,106	\$ 8,106	\$ -	\$ 1,557,186	1%
2018	7,729	7,729	-	1,475,042	1%
2017	7,608	7,608	-	1,462,461	1%

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information Group Life Insurance Program For the Year Ended June 30, 2019

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

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

General State Employees

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

Teachers

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

SPORS Employees

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

VaLORS Employees

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

APPOMATTOX RIVER WATER AUTHORITY

Notes to Required Supplementary Information
Group Life Insurance Program
For the Year Ended June 30, 2019 (Continued)

JRS Employees

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

Largest Ten Locality Employers - General Employees

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

Non-Largest Ten Locality Employers - General Employees

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

Largest Ten Locality Employers - Hazardous Duty Employees

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

Non-Largest Ten Locality Employers - Hazardous Duty Employees

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

- Compliance -

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

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

We have audited, in accordance with the auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the *Specifications for Audits of Authorities, Boards, and Commissions*, issued by the Auditor of Public Accounts of the Commonwealth of Virginia, the financial statements of the business-type activities of Appomattox River Water Authority as of and for the year ended June 30, 2019, 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 November 8, 2019.

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
November 8, 2019