South Central Wastewater Authority

Financial Statements
Year Ended June 30, 2019

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Financial Statements
Year Ended June 30, 2019

SOUTH CENTRAL WASTEWATER AUTHORITY

Petersburg, Virginia

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

- Board of Directors -

Douglas E. Smith, Chairman
City of Colonial Heights

Aretha Ferrell-Benavides, Vice-Chairman
City of Petersburg

George B. Hayes, P.E., Secretary-Treasurer
Chesterfield County

Dr. Joseph P. Casey, Member
Chesterfield County

Percy C. Ashcraft, Member
Prince George County

Robert B. Wilson, Member
Dinwiddie County Water Authority

- Officials -

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

James C. Gordon, Assistant Executive Director

McGuire Woods, Counsel

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Independent Auditors' Report

To the Honorable Members of
South Central Wastewater Authority
Petersburg, Virginia

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities of South Central Wastewater Authority, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the 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 South Central Wastewater 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 14 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 3-9 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 South Central Wastewater 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 South Central Wastewater Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is 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 South Central Wastewater 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 South Central Wastewater Authority's internal control over financial reporting and compliance.

Robinson, Farmer, Cox Associates

Charlottesville, Virginia
November 8, 2019

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

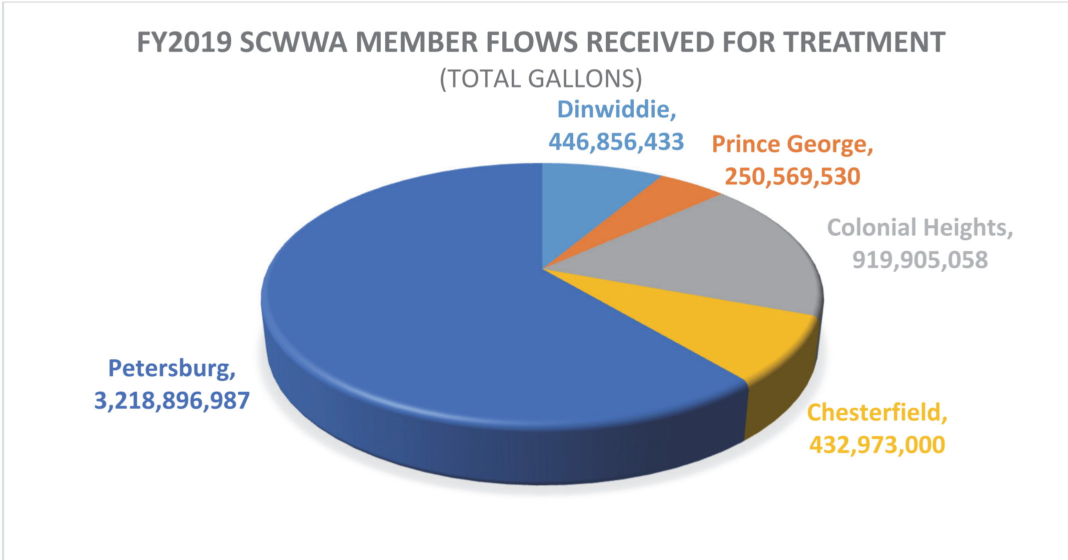
The statement of revenues, expenses and changes in net position presents information showing how the Authority's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing 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.

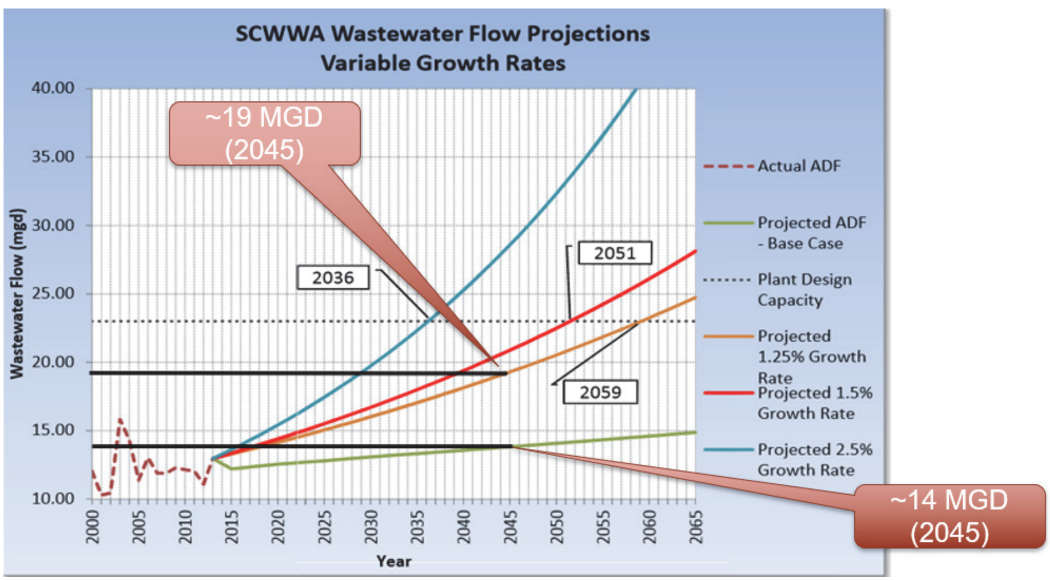
Notes to financial statements. The notes provide additional information that is essential to a full understanding of the data provided in the financial statements. Refer to the table of contents for the notes to the financial statements. Required supplementary information presents the Authority's progress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

Summary of South Central Wastewater Authority Operations

The South Central Wastewater Authority (SCWWA) staff includes thirty-five (35) full-time employees and contributes to the salaries of the Executive Director, Assistant Executive Director, Office/Business Manager, Maintenance Manager, Chief of Maintenance, and Painter/Carpenter who are shared employees with the Appomattox River Water Authority. The Authority operates a 23 million gallon per day (mgd) wastewater treatment plant located on Pocahontas Island in the City of Petersburg. The Authority treats flows from the Cities of Colonial Heights and Petersburg as well as portions of Chesterfield, Dinwiddie, and Prince George counties. Wastewater from the cities is pumped directly to the Authority through five (5) pumping stations. Wastewater from the counties is conveyed through the collection systems of the cities by conveyance agreements executed in 1996. South Central Wastewater Authority does not own or operate any of the collections systems.



The treated effluent from the SCWWA wastewater treatment facility discharges to the Appomattox River, a tributary of the James River, a major watershed of the Chesapeake Bay. FY2019 was extremely wet which impacted flows, but analyzing the actual recorded flow data since 2008, shows flows have not trended in parallel with the projections, but rather has trended downwards. With the actual flow data, it is likely that the anticipated flow in 2045 will be approximately 14 MGD.



Financial Highlights

-- The assets and deferred outflows of resources of the Authority exceeded its liabilities at the close of the most recent fiscal year by $30,124,508 (net position). Of this amount, $12,562,041 is reported as unrestricted net position.

-- The Authority's total net position increased by $514,899.

-- The Authority's total long-term obligations which includes net OPEB obligations, net pension liability and compensated absences decreased by $78,662 during the current fiscal year. The Authority's investment in capital assets decreased during the year by $1,197,599 after recording depreciation expense of $1,128,870. Details of these items can be found under the heading "*Capital Asset and Debt Administration*".

-- Total revenues decreased by $472,911. Total expenses increased by $1,846,437.

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 $30,124,508 at the close of the most recent fiscal year.

By far the largest portion of the Authority's net position (58 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.

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

	Net Position	
	2019	**2018**
Current and other assets	$ 13,905,677	$ 12,016,129
Capital assets	17,562,467	18,760,066
Total assets	$ 31,468,144	$ 30,776,195
Deferred outflows - pension related items	$ 104,540	$ 119,474
Deferred outflows - OPEB related items	20,958	9,059
Total deferred outflows	$ 125,498	$ 128,533
Long-term liabilities	$ 516,234	$ 594,896
Other liabilities	724,494	375,777
Total liabilities	$ 1,240,728	$ 970,673
Deferred inflows - pension related items	$ 155,335	$ 303,934
Deferred inflows - OPEB related items	73,071	20,512
Total deferred inflows	$ 228,406	$ 324,446
Investment in capital assets	$ 17,562,467	$ 18,760,066
Unrestricted	12,562,041	10,849,543
Total net position	$ 30,124,508	$ 29,609,609

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	$ 8,704,387	$ 8,102,789
Gain (loss) on disposal of capital assets	(10,606)	-
Other nonoperating revenue	22,591	1,115,083
Investment income	36,361	7,772
Total revenues	$ 8,752,733	$ 9,225,644
Expenses:		
Operating expenses (excluding depreciation)	$ 5,223,408	$ 5,154,821
Depreciation expense	1,128,870	1,012,043
Abandoned project costs	1,885,556	-
Other	-	224,533
Total expenses	$ 8,237,834	$ 6,391,397
Increase (decrease) in net position	$ 514,899	$ 2,834,247
Net position-July 1	29,609,609	26,775,362
Net position-June 30	$ 30,124,508	$ 29,609,609

The Authority's net position increased by $514,899 during the current year. Key elements of the changes in revenues and expenses 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 $17,562,467 (net of accumulated depreciation). Investment in capital assets decreased by approximately 6.38% during the year. Below is a comparison of the items that make up capital assets as of June 30, 2019 vs. June 30, 2018.

	2019	2018
Land	$ 92,968	$ 92,968
Sewer system plant	34,919,518	33,609,033
Plant machinery	7,027,662	7,920,877
Equipment and vehicles	2,527,576	3,037,357
Accumulated depreciation	(27,836,397)	(28,490,891)
Construction in progress	831,140	2,590,722
Total capital assets	$ 17,562,467	$ 18,760,066

More detailed information on the Authority’s capital assets is presented in Note 4 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's long-term debt included net OPEB obligation, net pension liability and compensated absences. Total long-term debt decreased by $78,662 including a decrease in OPEB obligations and compensated absences. The net pension liability decreased by $23,549.

The Authority implemented GASB Statement No. 88 which clarifies which liabilities governments include when disclosing information related to debt.

More detailed information on the Authority's long-term obligations is presented in the notes to the financial statements.

Review of Operations

As previously mentioned, total revenues decreased whereas operating revenues increased by $601,598 resulting from a budgeted increase in revenue received from localities. Operating expenses (excluding depreciation) increased $68,587 over fiscal year 2018 totals, mainly due to increased costs in hospitalization insurance, contractual services such as engineering, renewals of software programs, electricity, sludge disposal. Decreases were mainly due to reduced repair and maintenance costs.

Authority Highlights

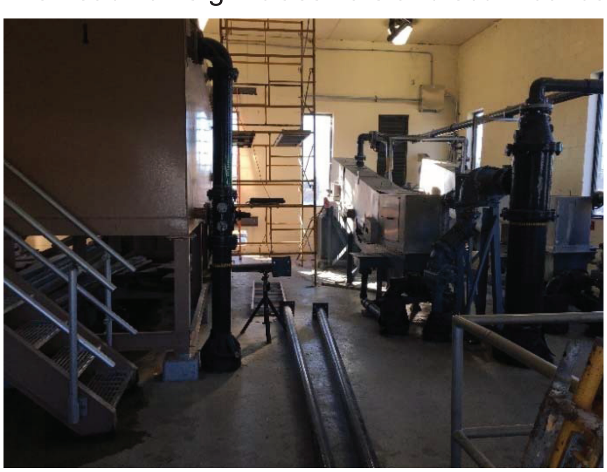
- The treatment facility discharge effluent quality met all VPDES permit limits during the fiscal year and no significant problems were encountered with operating the plant.

- The average flow for fiscal year 2019 was 3.573 mgd more than for fiscal year 2018. Rainfall measured at the treatment plant for fiscal year 2019 was 57.31 inches compared to 49.76 inches in fiscal year 2018. Fiscal year 2019 was extremely wet based on precipitation measured at the treatment plant's rain gauge with the maximum facility flow occurring on February 23, 2019.

	2019	2018
Total Annual Flow (mg)	5,658	4,288
Minimum Day (mgd)	8.948 (Jul. 2018)	7.942 (Aug. 2017)
Maximum Day (mgd)	38.259 (Feb. 2019)	43.060 (May 2018)
Annual Average Day (mgd)	15.501	11.748

- Authority staff developed and implemented private exchange contracts with Chesterfield County to secure Total Nitrogen credit needed to meet permit through 2024.

- Work related to Wastewater Improvement Projects Phase II was completed. This included the replacement of the headworks grit classifiers and scum concentrators and rehab/regrouting of secondary clarifier 1 floor.

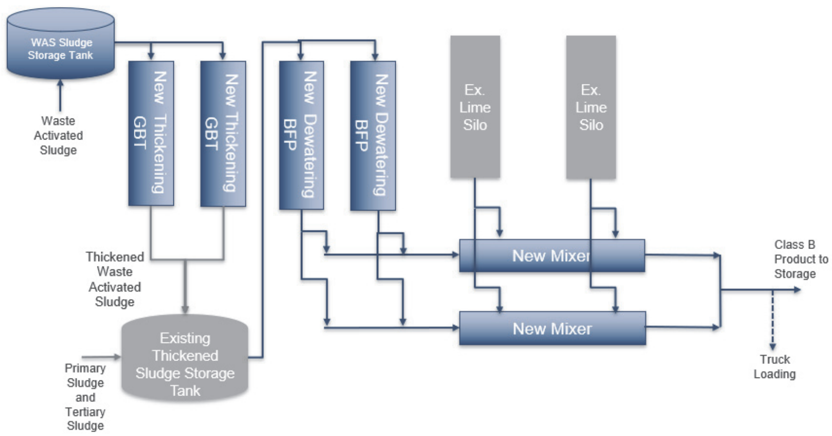


Authority Highlights: (Continued)

- A 5,000 square foot warehouse with an office for the inventory clerk, cage, and racks was completed and in now being used to maintain inventory in a centralized location.

- Engineering consultant Hazen and Sawyer completed an evaluation of Local Limits for the Authorities Industrial Pretreatment Program.

- The Solids Handling Facility was evaluated by the Authority Trust Engineers (Hazen and Sawyer and WW Associates). A report was completed and will be used in the development of the Nutrient Upgrade Preliminary Engineering Report.



- The SCWWA valve on the 24” line from Petersburg’s Main Pump Station was replaced after it failed to close during a repair of Petersburg line.

Nutrients

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

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

Authority Highlights: (Continued)

Nutrients: (Continued)

The Commonwealth of Virginia posted its final Chesapeake Bay TMDL Phase III Watershed Implementation Plan (WIP) in August 2019. One initiative of the plan is to achieve additional nutrient reductions from significant municipal treatment facilities that have not yet upgraded to achieve 4 mg/L of Total Nitrogen (TN) and 0.3 mg/L of Total Phosphorus (TP). Another part of the plan is to include a secondary “floating” Waste Load Allocation (WLA) for significant municipal facilities. The floating WLA will be based on the flow treated by the facility each year instead of the flow capacity of the facility. The WLA based on the facility flow capacity with remain as a “primary” WLA but the facility will be required to meet the lesser of the primary or the floating allocation. These changes can have impacts on the availability of nutrient credits.

Wet Weather Infiltration & Inflow (I&I)

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

Biosolids Handling

South Central Wastewater Authority utilizes land application for disposal of generated biosolids. Revised Virginia biosolids regulations were approved by the Virginia State Water Control Board in September 2011 and while not all aspects of the regulatory changes were favorable, the regulations do not constitute any significant additional regulatory burden for South Central’s biosolids land application program. The Authority advertised for Biosolids Disposal Services in 2018 and resulted in a 3 year contract with Nutri-Blend Inc. Due to significant precipitation in late 2018 and early 2019, land availability for land application was limited. To manage biosolids during this time, some biosolids were sent to landfill when land application was not available. The Authority presently has an agreement with the Hopewell Regional Wastewater Facility (HRWWF) for back-up incineration of SCWWA biosolids at the HRWWF should the need arise.

Economic Conditions

The Authority continues to operate under sound management current working capital and positive cash flows from operations and an outside revenue stream. Overall finances for the Authority for fiscal year 2018 as viewed by management, including the Board of Directors, is considered sound.

Contacting the Authority

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

- Financial Statements -

SOUTH CENTRAL WASTEWATER AUTHORITY

Statement of Net Position
June 30, 2019
(With Comparative Totals for the Prior Year)

		2019		2018
Assets				
Current Assets				
Cash and cash equivalents	$	5,614,066	$	6,309,418
Cash and cash equivalents - Board designated		7,426,934		4,895,457
Accounts receivable		62,214		146,920
Inventory		753,246		664,334
Prepaid expenses		49,217		-
Total Current Assets	$	13,905,677	$	12,016,129
Noncurrent Assets				
Capital Assets:				
Land and land rights	$	92,968	$	92,968
Sewer system		34,919,518		33,609,033
Plant machinery		7,027,662		7,920,877
Equipment and vehicles		2,527,576		3,037,357
Accumulated depreciation		(27,836,397)		(28,490,891)
Sub-total net capital assets	$	16,731,327	$	16,169,344
Construction in progress		831,140		2,590,722
Total net capital assets	$	17,562,467	$	18,760,066
Total Noncurrent Assets	$	17,562,467	$	18,760,066
Total Assets	$	31,468,144	$	30,776,195
Deferred Outflows of Resources				
Pension related items	$	104,540	$	119,474
OPEB related items		20,958		9,059
Total Deferred Outflows of Resources	$	125,498	$	128,533

SOUTH CENTRAL WASTEWATER AUTHORITY

Statement of Net Position
June 30, 2019 (continued)
(With Comparative Totals for the Prior Year)

		2019		2018
Liabilities				
Current Liabilities				
Accounts payable and other accrued expenses	$	137,673	$	375,777
Refunds due to member localities		586,821		-
Total Current Liabilities	$	724,494	$	375,777
Noncurrent Liabilities				
Net OPEB liabilities	$	215,101	$	266,609
Net pension liability		81,482		105,031
Compensated absences		219,651		223,256
Total Noncurrent Liabilities	$	516,234	$	594,896
Total Liabilities	$	1,240,728	$	970,673
Deferred Inflow of Resources				
Pension related items	$	155,335	$	303,934
OPEB related items		73,071		20,512
Total Deferred Inflows of Resources	$	228,406	$	324,446
Net Position				
Investment in capital assets	$	17,562,467	$	18,760,066
Unrestricted		12,562,041		10,849,543
Total Net Position	$	30,124,508	$	29,609,609

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

SOUTH CENTRAL WASTEWATER AUTHORITY

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

	2019	2018
Operating Revenues		
Charges for services	$ 7,612,279	$ 7,084,300
Septage and miscellaneous	1,092,108	1,018,489
Total Operating Revenues	$ 8,704,387	$ 8,102,789
Operating Expenses		
Operating and maintenance:		
Salaries	$ 1,825,302	$ 1,854,165
Employee benefits	624,441	563,363
Contractual services	379,388	225,495
Chemicals	567,251	510,259
Materials and supplies	374,607	559,093
Sludge disposal	385,682	269,375
Other charges	600,573	562,996
Nutrient credit purchases	466,164	610,075
Depreciation	1,128,870	1,012,043
Total Operating Expenses	$ 6,352,278	$ 6,166,864
Net Operating Income (Loss)	$ 2,352,109	$ 1,935,925
Nonoperating Revenues (Expenses)		
Contributions from member localities:		
Equipment repair and replacement	$ -	$ 429,215
Operations and maintenance reserves	-	685,868
Interest income	36,361	7,772
Litigation proceeds	21,561	-
Other revenue (expense)	1,030	(224,294)
Abandoned project costs	(1,885,556)	-
Loss on disposal of equipment	(10,606)	(239)
Total Nonoperating Revenues (Expenses)	$ (1,837,210)	$ 898,322
Change in net position	$ 514,899	$ 2,834,247
Net position, beginning of year	29,609,609	26,775,362
Net position, end of year	$ 30,124,508	$ 29,609,609

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

SOUTH CENTRAL WASTEWATER AUTHORITY

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

	2019	2018
Cash flows from operating activities:		
Receipts from customers and users	$ 9,375,914	$ 8,028,143
Payments to suppliers and vendors	(3,117,482)	(2,681,386)
Payments to and on behalf of employees	(2,621,410)	(2,596,123)
Net cash provided by (used for) operating activities	$ 3,637,022	$ 2,750,634
Cash flows from capital and related financing activities:		
Intergovernmental revenue - equipment replacement	$ -	$ 429,215
Acquisition of plant and equipment	(1,859,849)	(1,438,548)
Proceeds from sale of equipment	-	25
Net cash provided by (used for) capital and related financing activities	$ (1,859,849)	$ (1,009,308)
Cash flows from noncapital financing activities:		
Intergovernmental revenue - operation and maintenance reserves	$ -	$ 685,868
Litigation proceeds	21,561	
Other revenue (expense)	1,030	(224,294)
Net cash provided by (used for) noncapital financing activities	$ 22,591	$ 461,574
Cash flows from investing activities:		
Interest received	$ 36,361	$ 7,772
Net cash provided by (used for) investing activities	$ 36,361	$ 7,772
Net increase (decrease) in cash and cash equivalents	$ 1,836,125	$ 2,210,672
Cash and cash equivalents at beginning of year	$ 11,204,875	$ 8,994,203
Cash and cash equivalents at end of year	$ 13,041,000	$ 11,204,875
Reconciliation of operating income (loss) to net cash provided by (used for) operating activities:		
Operating income (loss)	$ 2,352,109	$ 1,935,925
Adjustments to reconcile operating income (loss) to net cash provided by (used for) operating activities:		
Depreciation	1,128,870	1,012,043
Changes in operating assets and liabilities:		
(Increase) decrease in receivables	84,706	652,809
(Increase) decrease in inventories	(88,912)	(8,253)
(Increase) decrease in prepaid expenses	(49,217)	-
Increase (decrease) in operating accounts payable and accrued expenses	(205,688)	64,160
Increase (decrease) in refunds due member localities	586,821	(727,455)
Increase (decrease) in compensated absences	(3,605)	7,077
(Increase) decrease in net pension liability	(23,549)	(390,264)
(Increase) decrease in pension deferred outflow of resources	14,934	85,984
(Increase) decrease in OPEB deferred outflow of resources	(11,899)	(1,059)
Increase (decrease) in pension deferred inflow of resources	(148,599)	111,933
Increase (decrease) in OPEB deferred inflow of resources	52,559	20,512
Increase (decrease) in OPEB liabilities	(51,508)	(12,778)
Net cash provided by (used for) operating activities	$ 3,637,022	$ 2,750,634

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

NOTE 1 – ORGANIZATION AND NATURE OF BUSINESS:

The Wastewater Treatment Plant was originally constructed in the mid-1950s as a primary treatment facility with a rated capacity of 14 mgd. The treatment plant was owned and operated by the City of Petersburg with flows originating from the Cities of Petersburg and Colonial Heights and the Counties of Chesterfield, Dinwiddie, and Prince George. The treated effluent from the SCWWA Wastewater Treatment Plant discharges to the Appomattox River, a tributary of the James River, which is a major watershed of the Chesapeake Bay. In the 1970s the plant was expanded to include secondary treatment and was rerated to 15 mgd. In May of 1987, due to difficulties consistently meeting its discharge permit, the Commonwealth of Virginia State Water Control Board issued a Consent Decree. The Consent Decree outlined a Scope of Work that included examinations of the system.

- Phase 1 Evaluation
    - Treatment plant's capability to comply with the current National Pollutant Discharge Elimination System (NPDES)
    - Capital improvements to or changes in operating procedures of the treatment plant and repairs to the tributary sewage systems which may be necessary to meet the present NPDES permit limits
- Phase 2 Evaluation
    - Capability of the treatment plant to comply with anticipated future NPDES permit limitations
    - Capability of the treatment plant in meeting future community wastewater treatment needs
    - Capital improvements to or changes in operating procedures of the treatment plant which may be necessary to comply with anticipated future NPDES permit limitations or future community wastewater treatment needs

In January 1987, Wiley and Wilson was contracted to perform the evaluations outlined in the Consent Decree. Wiley and Wilson provided a Phase 1 report in June 1987 outlining facility improvements that were necessary to meet the current NPDES permit limits. The Phase 2 study report was completed in May 1988 and outline additional improvements including expansion from 15 mgd to 20 mgd. In July 1988 Wiley and Wilson was contracted to provide design of facilities outline in the Phase 1 and 2 reports. A construction contract for Priority One improvements, needed to meet NPDES permit limits, was awarded in February 1990. Construction included a new laboratory building, new final clarifier, new sludge dewatering facilities, dechlorination facility, odor control systems, new pumps and grinders, and rehabilitation to some of the current systems. The Authority was required to have this project substantially complete by February 1992.

Engineering proposals for Priority Two work, related to future needs and expansion of the treatment plant, were solicited in March 1991. In May 1991, the Authority selected Hazen and Sawyer Engineers, Inc. as engineering consultants for this work. Priority Two work included construction of degritting and primary settling tanks, new aeration tanks and raise current tankage, new chlorine contact tanks, and removal of the outdated heat treatment system, and replacement with belt thickeners/ belt dewatering with lime stabilization for solids. On July 2, 1996 the Cities of Petersburg (52.5%) and Colonial Heights (20%) and the Counties of Chesterfield (10%), Dinwiddie (10%), and Prince George (7.5%) formed the South Central Wastewater Authority. The South Central Wastewater Authority (SCWWA) took over ownership and operation of the existing City of Petersburg Wastewater Treatment Plant.

NOTE 1 – ORGANIZATION AND NATURE OF BUSINESS: (CONTINUED)

Since 1996, the SCWWA has owned and operated the wastewater treatment facility. In 1999, the facility was rerated from 20 mgd to 23 mgd with a peak flow of 52.6 mgd. The treatment facility is a conventional secondary wastewater treatment plant with enhanced biological phosphorus removal and provides preliminary, primary, and secondary treatment for biological oxygen demand removal. Solids handling facilities include primary sludge and scum handling, return and waste activated sludge pumping, waste activated sludge gravity belt thickening, combined primary/secondary liquid sludge storage, belt filter press mechanical dewatering, alkaline (lime) biosolids Class B stabilization, and covered biosolids storage. Ancillary facilities include septage receiving, filtrate and plant drain pump stations, and odor control.

In 2006, the SCWWA joined the Virginia Nutrient Credit Exchange Association (The Nutrient Exchange). The Nutrient Exchange was formed to coordinate and facilitate nutrient credit trading among its members to help improve water quality efficiently and cost-effectively. Through The Nutrient Exchange, the SCWWA has maintained regulatory nutrient wasteload compliance.

In 2009, the SCWWA intended to upgrade the facility to remove excess Total Nitrogen and Total Phosphorus to meet the Chesapeake Bay 2010 Total Maximum Daily Load (TMDL). The Authority contracted with O'Brien and Gere Engineers Inc. (OBG) to evaluate and design upgrades to the treatment facility to achieve the nutrient wasteload allocations for 23-MGD average daily flow (evaluating what additional hydraulic improvements may be necessary to meet the TMDL) and update and renovate other facilities where identified by the Authority. OBG completed the design in 2009 and in 2011 CH2M Hill was contracted to Value Engineer the design. In 2012, the SCWWA Board of Directors decided to delay the construction of the Nutrient Upgrade.

In response to Virginia's 2025 WIP III goals, the SCWWA staff and two board members met with the Virginia Secretary of Natural Resources and the Director of the Virginia Department of Environmental Quality to discuss options for funding a nutrient upgrade project. Following this meeting the SCWWA contracted with consultant engineers Hazen and Sawyer to develop a Preliminary Engineering Report (PER) and assist in the Water Quality Improvement Fund (WQIF) grant application.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

A. Financial Reporting Entity

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

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

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (CONTINUED)

B. Basis of Accounting

South Central Wastewater 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.

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.

C. Basic Financial Statements

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

D. Cash and Cash Equivalents

Cash and cash equivalents include amounts in demand deposits as well as short-term investments, stated at cost which approximates fair value, with original maturity dates within three months of the dates acquired by the Authority.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (CONTINUED)

E. 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.

F. Inventories

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

G. Capital Assets

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

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

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

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

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

H. Compensated Absences

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

I. Use of Estimates

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

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (CONTINUED)

J. 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.

K. 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 one item that qualifies for reporting in this category. It 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.

L. Prepaid Expenses

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

M. 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 the benefit terms. Investments are reported at fair value.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES: (CONTINUED)

N. 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.

O. 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.

P. Financial Statement Presentation

Certain amounts in the financial statements of the prior fiscal year have been reclassified to conform to the current financial statement presentation.

NOTE 3 – 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.

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.

NOTE 3 – DEPOSITS AND INVESTMENTS:

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

Rated Debt Investments		Fair Quality Ratings
		AAAm
Local Government Investment Pool	$	5,443,009
Total	$	5,443,009

Interest Rate Risk:

Investment Maturities (in years)

		Fair Value		Less Than 1 Year
Local Government Investment Pool	$	5,443,009	$	5,443,009
	$	5,443,009	$	5,443,009

External Investment Pool

The value of the positions in the external investment pool (Local Government Investment Pool) is the same as the value of the pool shares. As LGIP is not SEC registered, regulatory oversight of the pool rests with the Virginia State Treasury. LGIP is amortized cost basis portfolios under the provisions of GASB Statement No. 79. There are no withdrawal limitations or restrictions imposed on participants.

Concentration of credit risk

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

NOTE 4 – CAPITAL ASSETS:

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

	Beginning Balance	Increases	Decreases	Ending Balance
Capital assets not being depreciated:				
Land and land rights	$ 92,968	$ -	$ -	$ 92,968
Construction in progress	2,590,722	1,608,631	3,368,213	831,140
Total capital assets not being depreciated	$ 2,683,690	$ 1,608,631	$ 3,368,213	$ 924,108
Other capital assets, being depreciated:				
Sewer system	$ 33,609,033	$ 1,482,656	$ 172,171	$ 34,919,518
Plant machinery	7,920,877	218,803	1,112,018	7,027,662
Equipment and vehicles	3,037,357	-	509,781	2,527,576
Total other capital assets being depreciated	$ 44,567,267	$ 1,701,459	$ 1,793,970	$ 44,474,756
Accumulated depreciation:				
Sewer system	$ (19,749,034)	$ (756,289)	$ (163,870)	$ (20,341,453)
Plant machinery	(6,248,793)	(237,883)	(1,091,337)	(5,395,339)
Equipment and vehicles	(2,493,064)	(134,698)	(528,157)	(2,099,605)
Total accumulated depreciation	$ (28,490,891)	$ (1,128,870)	$ (1,783,364)	$ (27,836,397)
Other capital assets being depreciated, net	$ 16,076,376	$ 572,589	$ 10,606	$ 16,638,359
Capital assets, net	$ 18,760,066	$ 2,181,220	$ 3,378,819	$ 17,562,467

Depreciation expense for the fiscal year totaled $1,128,870.

NOTE 5 – LONG-TERM OBLIGATIONS:

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
Net OPEB liability - group life insurance	$ 134,609	$ 16,075	$ (74,583)	$ 76,101	$ -
Net OPEB liability - health insurance	$ 132,000	$ 25,000	$ (18,000)	$ 139,000	$ -
Compensated absences	$ 223,256	$ -	$ (3,605)	$ 219,651	$ -
Net pension liability (asset)	$ 105,031	$ 480,979	$ (504,528)	81,482	$ -
Totals	$ 594,896	$ 522,054	$ (600,716)	$ 516,234	$ -

NOTE 6 – 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. Hazardous duty employees (law enforcement officers, firefighters, and sheriffs) are eligible for an unreduced benefit beginning at age 60 with at least 5 years of creditable service or age 50 with at least 25 years of creditable service. Hazardous duty employees may retire with a reduced benefit as early as age 50 with at least 5 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.

NOTE 6 – 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 Hyrbrid 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:

	Number
Inactive members or their beneficiaries currently receiving benefits	16
Inactive members:	
Vested inactive members	4
Non-vested inactive members	13
Long-term disability (LTD)	0
Inactive members active elsewhere in VRS	10
Total inactive members	27
Active members	34
Total covered employees	77

NOTE 6 – 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 5.49% 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 $89,435 and $119,474 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 (asset) 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 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 expenses, including inflation*

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

NOTE 6 – PENSION PLAN: (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.

NOTE 6 – PENSION PLAN: (CONTINUED)

Actuarial Assumptions – General 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:

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%

NOTE 6 – PENSION PLAN: (CONTINUED)

Long-Term Expected Rate of Return

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

Asset Class (Strategy)	Target Allocation	Arithmetic Long-term Expected Rate of Return	Weighted Average Long-term Expected Rate of Return
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	100.00%		4.80%
		Inflation	2.50%
		*Expected arithmetic nominal return	7.30%

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

Discount Rate

The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that System member contributions will be made per the VRS Statutes and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. 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.

NOTE 6 – PENSION PLAN: (CONTINUED)

Changes in Net Pension Liability (Asset)

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at June 30, 2017	$ 4,125,434	$ 4,020,403	$ 105,031
Changes for the year:			
Service cost	$ 172,960	$ -	$ 172,960
Interest	283,750	-	283,750
Changes in assumptions	-	-	-
Differences between expected and actual experience	21,506	-	21,506
Contributions - employer	-	119,474	(119,474)
Contributions - employee	-	85,013	(85,013)
Net investment income	-	300,041	(300,041)
Benefit payments, including refunds of employee contributions	(143,735)	(143,735)	-
Administrative expenses	-	(2,491)	2,491
Other changes	-	(272)	272
Net changes	$ 334,481	$ 358,030	$ (23,549)
Balances at June 30, 2018	$ 4,459,915	$ 4,378,433	$ 81,482

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Authority using the discount rate of 7.00%, as well as what the Authority's net pension 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		
	(6.00%)	(7.00%)	(8.00%)
South Central Wastewater Authority Net Pension Liability (Asset)	$ 668,850	$ 81,482	$ (405,830)

NOTE 6 – PENSION PLAN: (CONTINUED)

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 ($67,779). 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	$ 15,105	$ 71,871
Change of assumptions	-	43,774
Net difference between projected and actual earnings on pension plan investments	-	39,690
Employer contributions subsequent to the measurement date	89,435	-
Total	$ 104,540	$ 155,335

$89,435 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 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	$ (78,502)
2021	(19,864)
2022	(38,549)
2023	(3,315)
2024	-
Thereafter	-

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 7 – OTHER POSTEMPLOYMENT BENEFITS:

Health Insurance

A. Plan Description

In addition to the pension benefits described in Note 6, 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.

B. 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.

C. 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 without coverage	18
Total	81

Contributions

The Authority does not pre-fund benefits; therefore, no assets are accumulated in a trust fund. The current funding policy is to pay benefits directly from general assets on a pay-as-you-go basis. The funding requirements are established and may be amended by the Authority. The amount paid by the Authority for OPEB as the benefits came due during the year ended June 30, 2019 was $0.

Net/Total OPEB Liability

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

NOTE 7 – 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

		Total OPEB Liability
Balances at June 30, 2018	$	134,609
Changes for the year:		
Service cost		11,363
Interest		4,712
Difference between expected and actual experience		(73,299)
Changes in assumptions		(1,284)
Contributions - employer		-
Net investment income		-
Benefit payments		-
Net changes		(58,508)
Balances at June 30, 2019	$	76,101

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:

1% Decrease (2.62%)	Current Discount Rate (3.62%)	1% Increase (4.62%)
$ 82,675	$ 76,101	$ 69,887

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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 (2.62%)	Current Discount Rate (3.62%)	1% Increase (4.62%)
$ 82,675	$ 76,101	$ 69,887

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

For the year ended June 30, 2019, the Authority recognized OPEB expense in the amount of $3,949. At June 30, 2019, 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
Differences between expected and actual experience	-	54,974
Changes in assumptions	$ -	$ 5,097
Total	$ -	$ 60,071

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	
2020	$ (20,024)
2021	(20,024)
2022	(20,023)
2023	-
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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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 GLI 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 GLI benefit, members are also eligible to elect additional coverage for themselves as well as a spouse or dependent children through the Optional GLI 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 GLI 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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

Plan Description (Continued)

Contributions

The contribution requirements for the GLI 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 GLI 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 GLI Program from the entity were $8,958 and $9,059 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 GLI Program OPEB

At June 30, 2019, the entity reported a liability $139,000 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 GLI 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 0.00916% as compared 0.00880% at June 30, 2017.

For the year ended June 30, 2019, the participating employer recognized GLI OPEB expense of $2,000. 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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

GLI OPEB Liabilities, GLI OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to the GLI Program OPEB: (Continued)

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	$ 7,000	$ 2,000
Net difference between projected and actual earnings on GLI OPEB program investments	-	5,000
Change in assumptions	-	6,000
Changes in proportionate share	5,000	-
Employer contributions subsequent to the measurement date	8,958	-
Total	$ 20,958	$ 13,000

$8,958 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:

Year Ended June 30	
2020	$ (1,000)
2021	(1,000)
2022	(1,000)
2023	-
2024	2,000
Thereafter	-

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

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.

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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

Actuarial Assumptions: (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
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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – SPORS 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 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%

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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – VaLORS 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 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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – Largest Ten Locality Employers – General 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 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%

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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (CONTINUED)

Group Life Insurance: (Continued)

Actuarial Assumptions: (Continued)

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

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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 GLI Program represents the program's total OPEB liability determined in accordance with GASB Statement No. 74, less the associated fiduciary net position. As of the measurement date of June 30, 2018, NOL amounts for the GLI Program are as follows (amounts expressed in thousands):

		Group Life Insurance OPEB Program
Total GLI OPEB Liability	$	3,113,508
Plan Fiduciary Net Position		1,594,773
Employers' Net GLI OPEB Liability (Asset)	$	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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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:

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	100.00%		4.80%
		Inflation	2.50%
		*Expected arithmetic nominal return	7.30%

*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 ended 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 which was 100% of the actuarially determined contribution rate. From July 1, 2018 on, employers are assumed to continue 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.

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN: (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 following 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 (6.00%)	Current Discount (7.00%)	1% Increase (8.00%)
Authority's proportionate share of the Group Life Insurance Program Net OPEB Liability	$ 182,000	$ 139,000	$ 105,000

GLI Program Fiduciary Net Position

Detailed information about the GLI Program's Fiduciary Net Position is 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 8 – 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 9 – 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:

	2019	2018
Accumulated and compensatory leave	$ 219,651	$ 223,256

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

NOTE 10 – NUTRIENT CREDIT PURCHASES:

During the current year, the Authority was required to purchase nutrient credits in order to remain in compliance with environmental regulations. The total cost of the credits during fiscal year 2018 was $466,164. The Authority will be required to purchase credits in future years to comply with environmental regulations until the Authority completes the nutrient upgrade project to reduce the levels of nitrogen and phosphorus. The SCWWA Board committed to purchase credits from the Virginia Nutrient Credit Exchange Association and from Chesterfield County.

NOTE 11 – RELATED PARTY TRANSACTIONS:

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

During 2013, the Authority entered into an agreement with Chesterfield County (the "County"), a member locality, to begin purchasing nitrogen and phosphorus credits from the County to remain in compliance with environmental regulations as disclosed in Note 10. The agreement was to commence with compliance year 2015 and for each year thereafter through and including compliance year 2018. During 2018, the Authority executed an agreement with the County to further extend this agreement for compliance years 2019 and 2020.

NOTE 12 – RISK MANAGEMENT:

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

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

NOTE 13 – 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.

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

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

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

NOTE 14 – 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 -

SOUTH CENTRAL WASTEWATER AUTHORITY

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

	2018	2017	2016	2015	2014
Total pension liability					
Service cost	$ 172,960	$ 162,869	$ 172,484	$ 171,384	$ 164,219
Interest	283,750	276,711	269,159	257,015	238,485
Changes of benefit terms	-	-	-	-	-
Differences between expected and actual experience	21,506	(91,312)	(199,473)	(116,926)	-
Changes of assumptions	-	(108,626)	-	-	-
Benefit payments, including refunds of employee contributions	(143,735)	(134,457)	(134,098)	(141,873)	(134,116)
Net change in total pension liability	$ 334,481	$ 105,185	$ 108,072	$ 169,600	$ 268,588
Total pension liability - beginning	4,125,434	4,020,249	3,912,177	3,742,577	3,473,989
Total pension liability - ending (a)	$ 4,459,915	$ 4,125,434	$ 4,020,249	$ 3,912,177	$ 3,742,577
Plan fiduciary net position					
Contributions - employer	$ 119,474	$ 116,205	$ 136,390	$ 134,611	$ 136,218
Contributions - employee	85,013	80,016	76,911	76,008	73,798
Net investment income	300,041	436,493	62,297	148,134	429,411
Benefit payments, including refunds of employee contributions	(143,735)	(134,457)	(134,098)	(141,873)	(134,116)
Administrative expense	(2,491)	(2,415)	(2,045)	(1,930)	(2,224)
Other	(272)	(393)	(26)	(31)	22
Net change in plan fiduciary net position	$ 358,030	$ 495,449	$ 139,429	$ 214,919	$ 503,109
Plan fiduciary net position - beginning	4,020,403	3,524,954	3,385,525	3,170,606	2,667,497
Plan fiduciary net position - ending (b)	$ 4,378,433	$ 4,020,403	$ 3,524,954	$ 3,385,525	$ 3,170,606
Authority's net pension (asset) liability - ending (a) - (b)	$ 81,482	$ 105,031	$ 495,295	$ 526,652	$ 571,971
Plan fiduciary net position as a percentage of the total pension (asset) liability	98.17%	97.45%	87.68%	86.54%	84.72%
Covered payroll	$ 1,742,066	$ 1,623,382	$ 1,548,944	$ 1,525,607	$ 1,478,344
Authority's net pension (asset) liability as a percentage of covered payroll	5%	6%	32%	35%	39%

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.

SOUTH CENTRAL WASTEWATER 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	$ 89,943	$ 89,943	$ -	$ 1,352,533	6.65%
2011	100,996	100,996	-	1,381,616	7.31%
2012	101,125	101,125	-	1,383,382	7.31%
2013	135,056	135,056	-	1,464,815	9.22%
2014	136,303	136,303	-	1,478,344	9.22%
2015	136,218	136,218	-	1,525,607	8.93%
2016	136,390	136,390	-	1,548,944	8.81%
2017	113,903	113,903	-	1,623,382	7.02%
2018	119,474	119,474	-	1,742,066	6.86%
2019	89,435	89,435	-	1,722,725	5.19%

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%

SOUTH CENTRAL WASTEWATER AUTHORITY

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

	2019	2018
Total OPEB liability		
Service cost	$ 11,363	$ 12,090
Interest	4,712	3,622
Changes in assumptions	(1,284)	(6,890)
Differences between expected and actual experience	(73,299)	-
Benefit payments	-	(2,600)
Net change in total OPEB liability	$ (58,508)	$ 6,222
Total OPEB liability - beginning	134,609	128,387
Total OPEB liability - ending	$ 76,101	$ 134,609
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.

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

SOUTH CENTRAL WASTEWATER AUTHORITY

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

Date (1)	Employer's Proportion of the Net GLI OPEB Liability (Asset) (2)	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) (3)	Employer's Covered Payroll (4)	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) as a Percentage of Covered Payroll (3)/(4) (5)	Plan Fiduciary Net Position as a Percentage of Total GLI OPEB Liability (6)
2018	0.00916%	$ 139,000	$ 1,742,066	7.98%	51.22%
2017	0.00880%	132,000	1,623,382	8.13%	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.

SOUTH CENTRAL WASTEWATER AUTHORITY

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

Date	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	Contributions as a % of Covered Payroll (5)
2019	$ 8,958	$ 8,958	$ -	$ 1,722,725	1%
2018	9,059	9,059	-	1,742,066	1%
2017	8,442	8,442	-	1,623,382	1%

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.

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%

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 -

RFC
CPAs | Consultants

Robinson, Farmer, Cox Associates, PLLC
Certified Public Accountants

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
South Central Wastewater Authority
Petersburg, Virginia

We have audited, in accordance with the auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States; and the *Specifications for Audits of Authorities, Boards, and Commissions,* issued by the Auditor of Public Accounts of the Commonwealth of Virginia, the financial statements of the business-type activities of South Central Wastewater Authority as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise South Central Wastewater 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 South Central Wastewater Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of South Central Wastewater Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of South Central Wastewater 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 South Central Wastewater 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