Allegheny County
Sanitary Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended December 31, 2017 and 2016
with Independent Auditor's Report

MaherDuessel

Pursuing the profession while promoting the public good©
www.md-cpas.com

ALLEGHENY COUNTY SANITARY AUTHORITY

YEARS ENDED DECEMBER 31, 2017 AND 2016

TABLE OF CONTENTS

Independent Auditor's Report

Board of Directors
Allegheny County
Sanitary Authority

We have audited the accompanying financial statements of Allegheny County Sanitary Authority (Authority), as of and for the years ended December 31, 2017 and 2016, and the related notes to the 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.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of December 31, 2017 and 2016, and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the pension plans' schedules, and other post-employment benefits information on pages i through xiv, pages 32 through 34, and pages 35 through 36, respectively, 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.

Other Information

Our audits were conducted for the purpose of forming an opinion on the basic financial statements as a whole. The schedules of investments and other assets are presented for purposes of additional analysis and are not a required part of the financial statements.

The schedules of investments and other assets are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Maher Duessel

Pittsburgh, Pennsylvania
March 20, 2018

MANAGEMENT’S DISCUSSION AND ANALYSIS

AUDIT ASSURANCE

The unmodified (i.e., clean) opinion of our independent auditors, Maher Duessel, Certified Public Accountants, is included in this report. You will note that the Allegheny County Sanitary Authority (Authority) has included for 2017 this Management’s Discussion and Analysis section, which is in compliance with Statement No. 34 of the Governmental Accounting Standards Board.

FINANCIAL HIGHLIGHTS

Allegheny County (County) is located in Southwestern Pennsylvania and encompasses approximately 730 square miles of land. Founded in 1788, the County is the second most populated county in Pennsylvania with over 1.2 million residents. Roughly 25% of the County's residents live within the City of Pittsburgh. The Allegheny and Monongahela Rivers flow through the County to form the Ohio River in downtown Pittsburgh.

Economy

The County is the location of six Fortune 500 corporate headquarters. The County's 2017 Fortune 500 companies include: U.S. Steel (279), PNC Financial Services Group (166), PPG Industries (183), Kraft Heinz (106), Wesco International, Inc. (373) and Dick's Sporting Goods (340). The County has experienced substantial growth in areas such as technology, tourism, and health care. The County is also a strong supporter of its manufacturing industries and has traditionally been one of the major industrial centers of the world with its access to major fields of coal and shipping access to 8,000 miles of navigable rivers. The Port of Pittsburgh is the second largest inland port in the nation. There is annual benefit to the region of over $800 million dollars for the shipping and receiving of over 32 million tons of cargo.

The County has undergone an economic transformation spanning more than three decades with a shift from the manufacturing industry to the service and trade industries. Specifically, the new focus industries have been healthcare and life sciences, advanced manufacturing, energy, information and communications technology, and financial and business services. This shift is attributed to the continuing diversification of the employment base.

The region’s health services sector employs nearly 140,000 people and is a robust network that is cultivating lifesaving technologies, regenerative medicine, and pharmaceuticals. The University of Pittsburgh Medical Center is a multi-billion-dollar global healthcare enterprise and is the region’s top employer, with more than 43,000 employees. Bayer HealthCare, UnitedHealthcare, Allegheny Health Network, and Pittsburgh Mercy Health Systems are also part of this sector.

Nearly 1,500 technology firms including Google, Ansys, and Ariba have a presence within the County and employ some 26,000 people. A tech-savvy talent pipeline flowing from many area colleges and universities, and a robust network of organizations supporting financial innovation, are helping the region's knowledge-based economy to thrive.

According to the Pittsburgh Regional Alliance, Pittsburgh is the third largest advanced technology research and development center in the country. The Pittsburgh Technology Council has identified information technology, biomedical technology, environmental technology, and advanced manufacturing as the region's primary high-tech industries.

Global financial institutions with headquarters or major business units within the County include PNC Financial Services Group, The Bank of New York Mellon, Citizens Bank, Dollar Bank, Federated Investors, First Commonwealth Bank, Huntington National Bank, S&T Bank, TriState Capital, and First Niagara. Two global law firms, K&L Gates and Reed Smith, are based in the City of Pittsburgh, as is Buchanan, Ingersoll & Rooney and Jones Day – Pittsburgh as well as major insurance companies, including Highmark, UnitedHealthcare, and Cigna. Pittsburgh is also a branch office for the Cleveland District of the Federal Reserve System.

Adding to the County's diverse labor and business climate, some of the most prestigious health, educational, and cultural institutions in the country are located here. The County's colleges and universities include Carnegie Mellon University, Carlow College, Chatham College, Community College of Allegheny County, Duquesne University, La Roche College, Point Park University, Robert Morris University, the Art Institute of Pittsburgh, and the University of Pittsburgh. The County is also home to more than fifteen junior and technical colleges.

In 2017, non-manufacturing industries accounted for over 90% of the Pittsburgh metropolitan statistical area (MSA) employment base. The loss of once dominant, heavy water-use manufacturing such as steel and food processing has had a negative impact on the Authority's residential users. Decline in regional manufacturing over the years has shifted a significant portion of the Authority's cost burden to residential users, who have declined as well over the past decade. This decline in consumption base, combined with outside regulatory emphasis on reducing overflows, will have a dramatic impact on rates for years to come.

- Billed flow for 2017 of 21,213,863 tgal (thousands of gallons) decreased by 176,761 tgal.

- In 2017, the Authority treated 73,509,000 tgal, of which 21,213,863 tgal was billed. Stated differently, the Authority billed for 28.86% of the water it treated. During 2016, the Authority treated 71,289,400 tgal, for which it billed 21,390,624 tgal, or 30.00% of what was treated was actually billed to customers. The difference between what is treated vs. that which is billed is attributed to direct inflow of storm water from combined sewer communities served and groundwater infiltration into the system from old and deteriorating sewer lines throughout the service area.

- The Authority maintained compliance with all debt covenants required by the governing Trust Indentures.

- Debt Service Coverage, when allowing for available revenue funds on hand at the beginning of the year was 3.25, which greatly exceeded the 1.10 Trust Requirements. In addition, stand-alone coverage without consideration to beginning balances was 1.85, which exceeded the required 1.00 Trust Requirement. Improved coverage ratios achieved in 2017 were the direct result of the 11% rate increase implemented effective January 1, 2017.

- On November 16, 2017, the Board of Directors adopted a multi-year rate structure increasing customer service charges 7.5 percent in 2018, 7 percent for 2019, 7 percent for 2020, and 7 percent for 2021.

REQUIRED FINANCIAL STATEMENTS

The financial statements of the Authority report information about the Authority's use of accounting methods that are similar to those used by private sector companies. These statements offer short-term and long-term financial information about its activities.

The balance sheet includes all of the Authority's assets and liabilities and provides information about the nature and amounts of investments in resources (assets) and obligations to Authority creditors (liabilities). It also provides the basis for computing rate of return, evaluating the capital structure of the Authority, and assessing the liquidity and financial flexibility of the Authority.

All of the current year's revenue and expenses are accounted for in the statement of revenues, expenses, and changes in net position. This statement measures the success of the Authority's operations over the past year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees. As required under the Authority's Trust Indenture, the Consulting Engineer, Chester Engineers, has reviewed the rate structure and agrees that a 7.5 percent rate increase in 2018 is necessary to meet requirements of the Trust Indenture and financial obligations imposed under the federal consent decree rate model structure.

The final required financial statement is the statement of cash flows. The primary purpose of this statement is to provide information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities, and the change in cash during the reporting period.

The notes to financial statements provide required disclosures and other information that are essential to a full understanding of material data provided in the statements. The notes present information about the Authority's accounting policies, significant account balances and activities, material risks, obligations, commitments, contingencies, and subsequent events, if any.

SUMMARY OF ORGANIZATION AND BUSINESS

The Authority was incorporated in May 1945 under the Commonwealth of Pennsylvania Municipality Authorities Act of 1945. Plant operations began on April 30, 1959. The Authority serves as the exclusive agency for the collection, transportation, and treatment of wastewater for the City of Pittsburgh and 82 neighboring municipalities. The Authority charges users for processing of wastewater at a flat rate per thousand gallons. Additional charges are levied for septage (solid waste removed from septic tanks), and industrial waste discharges into the system.

In addition to the main treatment site located on the City of Pittsburgh's Northside, the Authority operates and maintains over 85 miles of interceptor sewers, and seven pumping or ejector stations throughout the service area. The Authority's service area covers over 310 square miles and includes portions of Washington and Westmoreland Counties in addition to the County.

The Authority's Articles of Incorporation (Articles), as amended, provide that the Authority's Board shall consist of seven members serving staggered five-year terms. Pursuant to the Articles, three members of the Board are appointed by the County, three are appointed by the City of Pittsburgh, and one is jointly appointed by the County and the City of Pittsburgh. The day-to-day operation of the Authority is the responsibility of the Executive Director, who is appointed by the Board to carry out its policies.

FINANCIAL ANALYSIS

The following comparative condensed financial statements and other selected information provides key financial data and indicators for management, monitoring, and planning.

Condensed Statement of Net Position (Balance Sheet)
(In Millions of Dollars)

	2017	**2016**	$ Change	% Change
Current assets	$183.10	$147.84	$35.26	23.85%
Restricted/designated assets	100.30	123.87	-23.57	-19.03%
Prepaid bond costs	6.47	7.17	-0.70	-9.76%
Plant and equipment, net	608.60	595.37	13.23	2.22%
Capital fees receivable	0.00	0.04	-0.04	-100.00%
Net pension asset	0.00	0.00	0.00	0.00%
Total Assets	898.47	874.29	24.18	2.77%
Deferred Outflows of Resources	29.32	28.71	0.61	2.12%
Current liabilities	43.40	42.69	0.71	1.66%
Long-term liabilities	618.90	642.68	-23.78	-3.70%
Total Liabilities	662.30	685.37	-23.07	-3.37%
Deferred Inflow of Resources	2.94	4.10	-1.16	-28.29%
Net Position	$262.55	$213.53	$49.02	22.96%

Condensed Statements of Net Position (Balance Sheet)
(In Millions of Dollars)

	2016	**2015**	$ Change	% Change
Current assets	$147.84	$127.49	$20.35	15.96%
Restricted/designated assets	123.87	140.67	-16.80	-11.94%
Prepaid bond costs	7.17	8.13	-0.96	-11.81%
Plant and equipment, net	595.37	586.25	9.12	1.56%
Capital fees receivable	0.04	0.08	-0.04	-50.00%
Net pension asset	0.00	4.70	-4.70	-100.00%
Total Assets	874.29	867.32	6.97	0.80%
Deferred Outflows of Resources	28.71	16.52	12.19	73.79%
Current liabilities	42.69	39.85	2.84	7.13%
Long-term liabilities	642.68	660.27	-17.59	-2.66%
Total Liabilities	685.37	700.12	-14.75	-2.11%
Deferred Inflows of Resources	4.10	5.42	-1.32	-24.35%
Net Position	$213.53	$178.30	$35.23	19.76%

Condensed Statements of Revenues, Expenses, and Changes in Net Position
(In Millions of Dollars)

	2017	**2016**	**$ Change**	**% Change**
Operating revenues	$170.18	$151.39	$18.79	12.41%
Non-operating revenue	1.10	0.31	0.79	254.84%
Total revenues	171.28	151.70	19.58	12.91%
Operating expenses	74.40	70.59	3.81	5.40%
Non-operating expenses	25.43	24.60	0.83	3.37%
Depreciation	22.43	21.27	1.16	5.45%
Total expenses	122.26	116.46	5.80	4.98%
Net income (loss)	49.02	35.24	13.78	-39.10%
Net Position, Beginning of Year	213.53	178.29	35.24	19.77%
Net Position, End of Year	$262.55	$213.53	$49.02	22.96%

Condensed Statements of Revenues, Expenses, and Changes in Net Position (In Millions of Dollars)

	2016	2015	$ Change	% Change
Operating revenues	$151.39	$142.83	$8.56	5.99%
Non-operating revenue	0.31	2.42	-2.11	-87.19%
Total revenues	151.70	145.25	6.45	4.44%
Operating expenses	70.59	63.56	7.03	11.06%
Non-operating expenses	24.60	26.62	-2.02	-7.59%
Depreciation	21.27	20.13	1.14	5.66%
Total expenses	116.46	110.31	6.15	5.58%
Net income (loss)	35.24	34.94	0.30	0.86%
Net Position, Beginning of Year	178.29	143.35	34.94	24.37%
Net Position, End of Year	$213.53	$178.29	$35.24	19.77%

OTHER SELECTED INFORMATION

Selected Data:	**2017**	**2016**	**Difference**	**%Change**
Authorized employees	483	464	19	4.09%
Actual employees at year-end	407	394	13	3.30%
Wastewater treated (billons of gallons)	73,509	71,289	2,220	3.11%
Wastewater billed (billions of gallons)	21,214	21,390	-176	-0.82%
Percentage of billed/treated wastewater	28.86%	30.00%	-1.14%	-3.80%
Rates:				
Charge per 1,000 gallons of water consumption	$6.91	$6.23	$0.68	10.91%
Account service charge per bill rendered	$14.51	$13.07	$1.44	11.02%
Average customer bill:*				
Per year	$389.72	$351.32	38.40	10.93%
Per quarter	97.43	87.83	9.60	10.93%
Per month	32.48	29.28	3.20	10.93%

* Based on 12,000 gallons per quarter

Selected Data:	2016	2015	Difference	% Change
Authorized employees	464	431	33	7.66%
Actual employees at year-end	394	373	21	5.63%
Wastewater treated (billons of gallons)	71,289	70,035	1,254	1.79%
Wastewater billed (billions of gallons)	21,390	21,981	-591	-2.69%
Percentage of billed /treated wastewater	30.00%	31.39%	-1.38%	-4.40%
Rates:				
Charge per 1,000 gallons of water consumption	$6.23	$5.61	$0.62	11.05%
Account service charge per bill rendered	$13.07	$11.78	$1.29	10.95%
Average customer bill:*				
Per year	$351.32	$316.40	34.92	11.04%
Per quarter	87.83	79.10	8.73	11.04%
Per month	29.28	26.37	2.91	11.04%

* Based on 12,000 gallons per quarter

GENERAL TRENDS AND SIGNIFICANT EVENTS

The Authority entered into a Consent Decree with the United States Environmental Protection Agency (U.S. EPA), Pennsylvania Department of Environmental Protection (DEP), and the Allegheny County Health Department on January 23, 2008. The Consent Decree requires reduction of Combined Sewer Overflows and elimination of Sanitary Sewer Overflows by September 30, 2026. The Final Wet Weather Control Plan (WWCP) was submitted for regulatory review and approval on January 23, 2013. The overall cost of the WCCP of $3.6 billion resulted in end user rates exceeding a regional residential indicator of 2%. The Authority therefore also submitted an affordable Interim Wet Weather Plan (IWWP), which has been the focus of negotiations with the agencies over the past three years.

Appendix Z to the Consent Decree summarizes those negotiations which the Authority believes will be acceptable to the agencies. Below is a summary of Appendix Z:

Summary of Appendix Z

The Authority will complete an Interim Wet Weather Plan (IWWP) by December 31, 2036. Because many uncertainties remain regarding the most optimal mix of the Authority and municipal green and grey infrastructure control measures, an adaptive management framework is necessary to provide for expeditious and affordable program implementation. This framework will provide opportunities to evaluate and integrate green infrastructure and other flow management practices, while prioritizing the regionalization of inter-municipal trunk sewers and key grey infrastructure projects where most cost-effective.

Because the identification of specific flow management project commitments requires on-going coordination with customer municipalities, the IWWP is premised on a phased implementation framework that supports early implementation of green projects, demonstration of effectiveness, and the substitution or reduction of grey infrastructure where flow management measures can be shown to provide equivalent system-wide overflow reduction performance. Accordingly, the framework includes adaptive management milestones where new information can be used to propose modifications to the projects and implementation schedules identified herein.

The IWWP is divided into three phases designed to support the adaptive management framework.

Phase 1 projects include highly effective treatment plant expansion projects, preliminary planning projects that will inform adaptive Phase 2 and 3 projects, and existing infrastructure inspection and rehabilitation. Additional detail is as follows:

- **Regional Flow Optimization Strategy and Preliminary Planning.**
  The Authority will work jointly with its customer municipalities to assess the effectiveness of green infrastructure, stream inflow removal, inflow/infiltration reduction, and existing system asset management through preliminary planning and demonstration projects. The resulting regional flow optimization strategy will identify flow management measures to be adaptively incorporated into Phases 2 and 3 and establish the basis of design for Phase 2 and Phase 3 tunnel projects, including any appropriate downsizing. The preliminary basis of design report will include refined tunnel and consolidation sewer construction schedules.

- **Woods Run Wastewater Treatment Plant Expansion.**
  This series of projects will expand the wet weather treatment capacity to a minimum of 480 mgd.

- **Existing Infrastructure Inspection/Rehabilitation.**
  The Authority will continue its operation and maintenance practices for existing infrastructure, including establishing re-inspection and priority rehabilitation schedules.

Phase 2 projects include high priority conveyance and treatment system improvements that are dependent on Phase 1 preliminary planning to proceed. Depending on the findings of Phase I, these projects include:

- A wet weather pumping station,
- Expanded primary treatment,
- The Ohio River tunnel segment, including crossings to the existing Chartiers Creek and Saw Mill Run interceptor systems, and
- Cost-effective optimization of the Authority's existing tunnel network.

Phase 3 projects represent adaptive projects that may be influenced and modified based on the outcome of Phase 1 and Phase 2 evaluations and demonstration projects.

The IWWP currently includes an estimated $1.8 billion (in 2010 dollars) in identified Authority projects. It is expected that the Regional Flow Optimization Strategy, the regionalization of Intermunicipal Trunk Sewers and Associated Facilities, Municipal Source Reduction Studies, and Municipal Source Reduction Agreements will identify additional Authority and municipal projects. The established adaptive management framework includes provisions for revising the IWWP to incorporate these enhancements. However, the Authority will remain committed to close coordination with its customer municipalities in updating regional financial capability analyses so that proposed IWWP revisions do not result in a regional residential indicator greater than 2%.

Clean Water Assistance Program

Recognizing that increasing rates will have a negative impact on our service area's most vulnerable ratepayers, the Authority implemented a customer assistance program in 2017. Qualified homeowners who meet family income limits set by the federal government will receive approximately the first 4,000 gallons of quarterly consumption free. In 2017, this resulted in approximately 800 Authority customers receiving an annual credit of $120. The program is being administered by the nationally recognized Dollar Energy Fund. The Authority expects participation in the program to grow as rates continue to increase in order to fund compliance with the Consent Decree.

FINANCIAL CONDITION

Gross operating revenues increased by almost $18.8 million as a direct result of an 11% increase in customer rates. The 11% increase was the fourth of a four-year rate increase program implemented in 2014. Excess revenues generated have been used for self-funding of capital assets and assisting our member municipalities in funding source control and green infrastructure projects under the Authorities GROW program. Operating expenditures increased by $3.8 million, largely based on the increased staffing levels in order to implement the federal Consent Decree as well as wage inflation and healthcare cost pressure.

The Authority achieved a debt service coverage ratio of 325 percent with consideration of amounts in the Revenue Fund at the beginning of the year in excess of one-fourth of the Current Operating Expenses. Debt service coverage without consideration of beginning Revenue Balances was 185 percent. Coverage achieved in 2017 should put the Authority in position for a rating upgrade. The relative strength the of prior year's coverage resulted in affirmation of the Standard & Poor's A/Stable bond rating on the Authority's existing and 2016 Bond Series. Moody's also affirmed its A1 rating and assigned a stable outlook to the existing debt.

RESULTS OF OPERATIONS

Operating Revenue:

As noted above, implementation of an 11% rate increase effective January 1, 2017 resulted in an $18.8 million increase in gross revenues. Billed water consumption decreased slightly by 176,000 tgal from that of the previous year. Consumption has been relatively stable over the past four years after decades of losses in heavy water-use manufacturing and consumer product efficiencies.

All of the Authority's operating revenue was derived from customer billing for sewage treatment service, the Authority receives no subsidies. The Authority, the City of Pittsburgh, and 82 other municipalities in and around Allegheny County have entered into agreements ("Standard Municipal Agreements") under which the Authority is designated (within its service area) the exclusive agent of the respective municipality to furnish sewage treatment and disposal service. Each municipality contracting with the Authority is given two options with respect to billing, "Direct" or "Lump-sum." With the Direct method of billing, accounts not paid within 60 days become the responsibility of the community; thus, the Authority insures no bad debt. Under the Direct method, the Authority bills and collects for its services directly from the individual customer. Under the Lump-sum method, consumption for the entire community is compiled and billed to the municipality, which in turn bills its own residents. All but three municipalities utilize this method of billing in order to attach fees for local sewer infrastructure maintenance. Under both scenarios, the Authority is guaranteed full payment for services.

Operating Expenses:

Operating expenses in 2017 of $74.4 million were $3.8 million higher than 2016 operating expenses of $70.6 million. Increases in operating costs were primarily the result of increased wage and healthcare funding costs, support provided to the 3 Rivers Wet Weather Program, staffing increases and public relations, outreach costs associated with the implementation of the federal Consent Decree and the introduction of the Clean Water Assistance Fund.

Depreciation and Non-Operating Expenses:

Over the past decade, the Authority has placed into service over $338 million in capital projects. Depreciation expense increased by $1.2 million as plant expansion projects and improvements replace facilities that have been in service for almost 60 years.

Non-operating Revenues:

Interest Earnings on the Authority's Revenue and non-restricted capital facilities funds increased over by over $1 million as interest rates improved on money market and treasury holdings.

Litigation Contingency:

As noted above, the Authority has finalized an agreement with U.S. EPA, Pennsylvania DEP, and the Allegheny County Health Department (Agencies) regarding wet weather overloads in the sanitary sewer system. The agreement called for the payment of civil penalties in the amount of $400,000 to each of the three noted agencies. As of January 8, 2009, all of the above-noted agencies have been paid.

Additional penalties may be incurred if the Authority fails to meet specific project deadlines as detailed in the agreement.

Debt:

At year-end, the Authority had $621.7 million in long- and short-term debt.

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

FINAL COMMENTS

The Authority has substantially completed negotiations and is in the process of finalizing language to be included in the Consent Decree with the USEPA, Pennsylvania Department of Environmental Protection, and the Allegheny County Health Department early in 2018. Much has been accomplished in discussion with the agencies over the past two years, including recognition that Sewer Regionalization, implementation of a Flow Reduction Program, and the use of adaptive management to analyze the benefits of substituting grey for green infrastructure projects would have a positive impact not only on the cost, but quality of life in the region as well. Economies of scale resulting from the potential transfer of over 200 miles of intermunicipal trunk lines and implementation of a flow control program which assists our municipal members in implementing green solutions in order to keep extraneous water out of the system has the potential to save millions of rate payer dollars while creating sustainable green jobs.

You have the opportunity to become an informed participant in this program. Become familiar with the Consent Decree by reviewing it on-line at *www.alcosan.org* or by contacting our Public Relations Department for a copy.

CONTACTING THE AUTHORITY'S FINANCIAL MANAGER

This financial report is designed to provide our citizens, customers, and creditors with a general overview of the Authority's finances and to demonstrate the Authority's accountability for the money it receives. If you have any questions about this report or need additional financial information, contact the Allegheny County Sanitary Authority's Director of Finance and Administration, 3300 Preble Avenue, Pittsburgh, PA 15233.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2017 AND 2016

Assets and Deferred Outflows of Resources

	2017	2016
Assets:		
Current assets:		
Cash and cash equivalents	$ 119,248,255	$ 91,684,772
Accounts receivable:		
Billed sewer revenue	17,185,654	14,582,462
Unbilled sewer revenue	40,232,780	35,405,033
Other	4,635	40,361
Other current assets	6,432,263	6,129,723
Total current assets	183,103,587	147,842,351
Restricted/designated assets:		
Cash and cash equivalents	100,289,509	92,275,291
Investments	-	31,442,508
Accrued interest receivable	-	156,762
Total restricted/designated assets	100,289,509	123,874,561
Prepaid bond costs	6,472,479	7,165,980
Nondepreciable capital assets:		
Land	5,344,896	5,344,896
Construction in progress	38,371,565	30,816,357
Total nondepreciable capital assets	43,716,461	36,161,253
Depreciable capital assets - at cost, net of accumulated depreciation	564,883,734	559,206,163
Total	608,600,195	595,367,416
Capital fees receivable	-	40,000
Total Assets	898,465,770	874,290,308
Deferred Outflows of Resources:		
Related to pensions	21,247,515	19,454,240
Refunding adjustment	8,074,203	9,259,327
Total Deferred Outflows of Resources	29,321,718	28,713,567
Total Assets and Deferred Outflows of Resources	$ 927,787,488	$ 903,003,875

Liabilities, Deferred Inflows of Resources, and Net Position

	2017	2016
Liabilities:		
Current liabilities:		
Accounts payable	$ 7,167,120	$ 8,192,941
Accrued liabilities:		
Compensated absences	4,689,828	4,543,017
Salaries and wages	1,441,024	1,315,045
Accrued interest on bonds	2,260,535	2,007,614
Reserve for litigation	2,371,900	2,371,900
Pretreatment advance payments	71,600	53,300
Current maturities of sewer revenue bonds	25,395,000	24,205,000
Total current liabilities	43,397,007	42,688,817
Long-term liabilities:		
Other post-employment benefits	6,199,726	5,173,881
Net pension liability	16,421,705	10,265,284
Sewer revenue bonds - less current maturities	547,335,000	572,730,000
Unamortized bond premium	48,952,220	54,514,841
Net long-term debt	596,287,220	627,244,841
Total long-term liabilities	618,908,651	642,684,006
Total Liabilities	662,305,658	685,372,823
Deferred Inflows of Resources:		
Related to pensions	2,935,957	4,102,436
Net Position:		
Net investment in capital assets	95,281,689	77,051,463
Unrestricted	167,264,184	136,477,153
Total Net Position	262,545,873	213,528,616
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 927,787,488	$ 903,003,875

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

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2017 AND 2016

	2017	2016
Operating Revenues	$ 170,182,173	$ 151,390,618
Operating Expenses:		
Treatment	44,821,531	44,955,562
Intercepting sewer systems	7,100,846	5,896,400
Upper Allegheny system	487,512	451,733
Administrative and engineering	13,772,696	12,366,247
Billing and collecting	4,439,250	3,348,876
Management information systems	3,778,272	3,571,943
Total operating expenses before depreciation	74,400,107	70,590,761
Operating Income Before Depreciation	95,782,066	80,799,857
Depreciation	22,426,718	21,271,326
Operating Income	73,355,348	59,528,531
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	1,096,517	310,794
Interest expense on bonds, net of amounts capitalized	(21,544,440)	(23,172,637)
Amortization of prepaid bond costs	(693,501)	(1,306,549)
Change in value of pension related items	(3,196,667)	(123,155)
Total non-operating revenues (expenses)	(24,338,091)	(24,291,547)
Change in Net Position	49,017,257	35,236,984
Net Position:		
Beginning of year	213,528,616	178,291,632
End of year	$ 262,545,873	$ 213,528,616

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

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31, 2017 AND 2016

	2017	2016
Cash Flows From Operating Activities:		
Cash received from customers	$ 162,805,260	$ 150,097,588
Cash paid to suppliers	(23,067,826)	(22,449,071)
Cash paid to employees	(50,090,950)	(47,091,071)
Net cash provided by (used in) operating activities	89,646,484	80,557,446
Cash Flows From Capital and Related Financing Activities:		
Interest paid on bonds	(28,035,295)	(28,388,676)
Principal paid on bonds	(24,205,000)	(24,185,000)
Proceeds from debt issues	-	118,808,489
Payments to refund bonds	-	(117,955,774)
Prepaid bond costs	-	(1,261,604)
Acquisition and construction of capital assets	(34,984,453)	(26,906,499)
Net cash provided by (used in) capital and related financing activities	(87,224,748)	(79,889,064)
Cash Flows From Investing Activities:		
Proceeds from sale and maturities of investment securities	31,618,410	42,618,245
Interest earnings	1,537,555	1,458,048
Net cash provided by (used in) investing activities	33,155,965	44,076,293
Increase (Decrease) in Cash and Cash Equivalents	35,577,701	44,744,675
Cash and Cash Equivalents:		
Beginning of year, including $92,275,291 and $66,313,733, respectively, in restricted/designated accounts	183,960,063	139,215,388
End of year, including $100,289,509 and $92,275,291, respectively, in restricted/designated accounts	$ 219,537,764	$ 183,960,063
Noncash Capital and Related Financing Activities:		
Property, plant, and equipment additions reflected in accounts payable	$ 2,598,805	$ 3,869,862
Reconciliation of Operating Income to Net Cash Provided by (Used in) Operating Activities:		
Operating income	$ 73,355,348	$ 59,528,531
Adjustments to reconcile operating income to net cash provided by (used in) operating activities:		
Depreciation	22,426,718	21,271,326
Change in operating assets and liabilities:		
Accounts receivable	(7,395,213)	(1,282,130)
Other current assets	(302,540)	(289,377)
Accounts payable	245,236	(215,601)
Accrued liabilities	272,790	838,087
Other post-employment benefits	1,025,845	717,510
Pretreatment advance payments	18,300	(10,900)
Net adjustments	16,291,136	21,028,915
Net cash provided by (used in) operating activities	$ 89,646,484	$ 80,557,446

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

1. Organization

The Allegheny County Sanitary Authority (Authority) was incorporated in May 1945 under the Commonwealth of Pennsylvania Municipality Authorities Act of 1945. The Authority serves as the exclusive agency for the collection, transportation, and treatment of wastewater for the City of Pittsburgh and 82 neighboring municipalities. The Authority charges users for processing of wastewater at applicable rates. Additional charges are levied for septage (solid waste removed from septic tanks) and industrial waste discharges into the system.

In evaluating the Authority as a primary government in accordance with Governmental Accounting Standards Board guidance, management has addressed all potential component units. The criteria used by the Authority to evaluate possible inclusion of related entities within its reporting entity are financial accountability and the nature and significance of the relationship.

Upon review of the criteria above, the Authority determined that there were no potential component units that met the criteria for inclusion in the reporting entity.

The Authority operates as a stand-alone entity governed by a Board of Directors appointed by the City of Pittsburgh and County of Allegheny. Neither the City of Pittsburgh nor the County of Allegheny appoints a voting majority of the Authority’s Board of Directors. The Authority’s pension plans, the Management Employees Plan and Union Employees Plan (Plans), are excluded from the Authority’s financial statements because the Plans are governed by independent boards composed primarily of participants in the Plans, the Authority does not directly participate in the management of the Plans, and there are no current requirements to included fiduciary funds on standalone business type financials.

2. Summary of Significant Accounting Policies

Measurement Focus

The Authority uses "income determination" as its measurement focus. Accordingly, all assets and liabilities are included on the balance sheet and net position reflects the economic net worth of the Authority. The operating statement reflects the change in total economic net worth for the period, presented through revenues and expenses of the Authority.

Basis of Accounting

The financial statements of the Authority for the years ended December 31, 2017 and 2016 have been prepared on the accrual basis of accounting. Under the accrual basis of accounting, revenues are recognized when earned and expenses are recognized when incurred.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash and cash equivalents.

Investments

Investments are recorded at fair value at December 31, 2017 and 2016.

The Government categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

Accounts Receivable

Accounts receivable consist of amounts due from customers, lump-sum billings to municipalities (which in turn bill customers individually), and estimated unbilled services since the previous billing.

Under the terms of the respective servicing agreements, each local municipality is responsible for the payment to the Authority and subsequent collection of individual customer billings outstanding over 60 days. Accordingly, an allowance for doubtful accounts is currently not considered necessary by management.

Prepaid Bond Costs

Certain prepaid bond issue and surety bond costs are deferred and amortized over the life of the related outstanding bonds. The original amortization periods are as follows:

Description	Amortization Period
2010 Bonds	30 years
2011 Bonds	9 years
2013 Bonds	31 years
2015 Bonds	30 years
2016 Bonds	21 years

Refunding Adjustment

In accordance with GASB pronouncements, the excess of the reacquisition price over the net carrying amount of debt refunded with proceeds from Series 2016, Series 2015, Series 2011, and Series 2010 Bonds were recorded as refunding adjustments. The refunding adjustments are being amortized using the effective interest method over the originally scheduled life of the defeased issues, which extend to 2037, 2045, 2019, and 2040, respectively. The unamortized balances are reflected as deferred outflows of resources.

Capital Assets

Capital assets are recorded at cost which includes, when appropriate, interest cost incurred on qualifying assets during the construction period.

Depreciation of capital assets is provided for on the straight-line method based on the estimated useful lives of the various classes of assets. Maintenance and repairs are charged to expense as incurred. Estimated useful lives of major classes of assets are as follows:

Land improvements	40 years
Buildings and improvements	50 years
Utility plant in service	60 years
Machinery and equipment	3-20 years

The cost of the study for a potential capital project is capitalized in construction in progress. Upon commencement of the related capital project, the cost of the study is allocated to the project. Upon the Authority's final determination that a project is not viable, the cost of the study is expensed.

Deferred Outflows and Inflows of Resources

In addition to assets and liabilities, the statement of net position will sometimes report separate sections for deferred outflows and deferred inflows of resources. Deferred outflows of resources represent a consumption of net position that applies to a future period while deferred inflows of resources represents an acquisition of net position that applies to future periods.

Compensated Absences

Vested or accumulated vacation and sickness leave are recorded as a liability and expensed as the benefits accrue to employees.

Pension Plans

Substantially all full-time employees of the Authority are enrolled in one of two single-employer defined benefit pension plans. For purposes of measuring the net pension liability, deferred outflows of resources related to pensions, and pension expense, information about the fiduciary net position of the pension plans, as well as additions to and deductions from the pension plan fiduciary net position have been determined using the economic resources measurement focus and accrual basis of accounting. Employer contributions are recognized when due and the employer has a legal requirement to provide the contributions. Investments are reported at fair value.

Post-retirement Benefits

The Authority provides certain health insurance benefits to retirees. The costs of these benefits are recognized in accordance with accounting principles generally accepted in the United States of America and are funded when paid.

Deferred Compensation Plan

The Authority offers its employees a deferred compensation plan (plan) created in accordance with Internal Revenue Code Section 457. The plan, available to all employees, permits them to defer a portion of their salaries until future years. Participation in the plan is optional. The deferred compensation is not available to the employee until termination, retirement, death, or unforeseeable emergency. At December 31, 2017 and 2016, all amounts of compensation deferred under the plan, all property and rights purchased with those amounts, and all income attributable to those amounts, are held in trust solely for the benefit of the participants. Investments are managed by the plan's trustee under several investment options selected by the participant. Under applicable GASB pronouncements, the plan is not required to be included in the Authority's financial statements.

Use of Estimates

The preparation of financial statements in conformity 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 and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Management makes significant estimates regarding the amount of unbilled accounts receivable, estimated useful lives of assets, depreciation, reserves for accrued litigation, actuarial valuations of the pension plans and other post employment benefits liabilities, and environmental contingencies.

Adopted Pronouncements

The requirements of the following GASB Statements were adopted for the financial statements:

GASB Statement No. 73, *"Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB 68, and Amendments to Certain Provisions of GASB Statements 67 and 68,"* establishes requirements for those pensions and pension plans that are not administered through a trust meeting specified criteria (those not covered by Statements No. 67 and 68) and also clarifies certain provisions of Statements No. 67 and 68. All applicable provisions were adopted with no significant impact to the financial statements.

GASB Statement No. 82, "*Pension Issues – An Amendment of GASB Statements No 67, No. 68, and No. 73)*," addresses issues regarding the presentation of payroll-related measures in required supplementary information, the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and the classification of payments made by employers to satisfy employee contribution requirements. The provisions of this statement have been adopted and incorporated into these financial statements.

Pending Pronouncements

GASB has issued statements that will become effective in future years including Statement Nos. 75 (OPEB Employer), 82 (Pensions), 83 (Asset Retirement Obligations), 84 (Fiduciary Activities), 85 (Omnibus 2017), 86 (Certain Debt Extinguishment Issues), and 87 (Leases). Management has not yet determined the impact of these statements on the financial statements.

3. Revenue Bonds

On October 1, 2010, the Authority issued $121,660,000 of Sewer Revenue Bonds Series of 2010, called the 2010 Bonds. The proceeds of the 2010 Bonds were used to provide funds for the financing of a portion of the Authority's capital budget for 2011 through 2013, current refunding of the 1997 bonds, current refunding of the 2000 bonds, payment of a PennVest loan, and funding capitalized interest.

The 2010 Bonds were issued at a bond premium of $5,113,802, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2010 Bonds bear interest at rates ranging from 1.50% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. Stated maturities for the 2005 Bonds are at various face amounts on December 1 of each year beginning December 1, 2010 through 2012 and June 1, 2013 through 2040. The 2010 Bonds, which have a final maturity date of June 1, 2040, are subject to redemption prior to maturity. At December 31, 2017 and 2016, the 2010 Bonds payable consisted of $105,630,000 and $105,830,000, respectively.

On October 1, 2011, the Authority issued $92,250,000 of Sewer Revenue Bonds Refunding Series of 2011, called the 2011 Bonds. The proceeds of the bonds were used to currently refund all of the Authority's outstanding Sewer Revenue Bonds Refunding Series of 2001.

The 2011 Bonds were issued at a premium of $12,066,763, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2011 Bonds bear interest at rates ranging from 1.50% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2011 Bonds, which have a final maturity date of December 1, 2019, are subject to redemption prior to maturity. At December 31, 2017 and 2016, the 2011 Bonds payable consisted of $44,910,000 and $65,755,000, respectively.

On December 19, 2013, the Authority issued $64,755,000 of Sewer Revenue Bonds Series of 2013, called the 2013 Bonds. The proceeds of the 2013 Bonds were used to provide additional funding for the Authority's capital projects in 2014 and 2015.

The 2013 Bonds were issued at a bond premium of $2,711,736, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2013 Bonds bear interest at rates ranging from 3.50% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2013 Bonds, which have a final maturity date of December 1, 2044, are subject to redemption prior to maturity. At December 31, 2017 and 2016, the 2013 Bonds payable was $64,755,000.

On September 3, 2015, the Authority issued $265,270,000 of Sewer Revenue Bonds Series of 2015, called the 2015 Bonds. The proceeds of the bonds were used to currently refund all of the Authority's outstanding Sewer Revenue Bonds Refunding Series of 2005 and to provide additional funding for the Authority's capital projects.

The 2015 Bonds were issued at a premium of $36,708,408, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2015 Bonds bear interest at rates ranging from 2.00% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2015 Bonds, which have a final maturity date of December 1, 2019, are subject to redemption prior to maturity. At December 31, 2017 and 2016, the 2015 Bonds payable consisted of $252,480,000 and $255,390,000, respectively.

On September 8, 2016, the Authority issued $106,205,000 of Sewer Revenue Bonds Refunding Series of 2016, called the 2016 Bonds. The proceeds of the bonds were used to advance refund all of the Authority's outstanding Sewer Revenue Bonds Refunding Series of 2007 and to provide additional funding for the Authority's capital projects. The 2007 Bonds were advance refunded during 2016, and an irrevocable trust was established to defease $112,845,000 of the 2007 Bonds. Neither the trust, nor the defeased obligation, are included on the Authority's statements of net position. The amount of defeased bonds outstanding at December 31, 2017 was $0. The amount of defeased 2007 Bonds outstanding at December 31, 2016 was $112,540,000.

The 2016 Bonds were issued at a premium of $13,012,378, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2016 Bonds bear interest at rates ranging from 0.90% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2016 Bonds, which have a final maturity date of December 1, 2037, are subject to redemption prior to maturity. At December 31, 2017 and 2016, the 2016 Bonds payable consisted of $104,955,000 and $105,205,000, respectively.

This refunding resulted in an economic gain to the Authority of approximately $24.3 million and a decrease to the debt service payments of approximately $33.1 million. In connection with the 2016 debt refunding, the Authority recorded deferred refunding adjustments of $2.7 million, which are being amortized as an adjustment to interest expense over the life of the bonds.

A summary of long-term debt is as follows for the years ended December 31, 2017 and 2016, respectively:

	Balance 1/1/2017	Accretions/ New Issue	Retired	Balance 12/31/2017	Unamortized Premium	Bonds Payable, net	Current Portion
1993 Series	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007 Series	-	-	-	-	-	-	-
2010 Series	105,830,000	-	(200,000)	105,630,000	3,538,227	109,168,227	215,000
2011 Series	65,755,000	-	(20,845,000)	44,910,000	1,298,769	46,208,769	21,900,000
2013 Series	64,755,000	-	-	64,755,000	2,195,204	66,950,204	-
2015 Series	255,390,000	-	(2,910,000)	252,480,000	29,886,337	282,366,337	3,030,000
2016 Series	105,205,000	-	(250,000)	104,955,000	12,033,683	116,988,683	250,000
Total	$ 596,935,000	$ -	$ (24,205,000)	$ 572,730,000	$ 48,952,220	$ 621,682,220	$ 25,395,000

	Balance 1/1/2016	Accretions/ New Issue	Retired	Balance 12/31/2016	Unamortized Premium	Bonds Payable, net	Current Portion
1993 Series	$ 15,341,251	$ -	$ (15,341,251)	$ -	$ -	$ -	$ -
2007 Series	112,845,000	-	(112,845,000)	-	-	-	-
2010 Series	106,030,000	-	(200,000)	105,830,000	3,755,600	109,585,600	200,000
2011 Series	69,485,000	-	(3,730,000)	65,755,000	2,683,868	68,438,868	20,845,000
2013 Series	64,755,000	-	-	64,755,000	2,325,972	67,080,972	-
2015 Series	258,490,000	-	(3,100,000)	255,390,000	32,920,745	288,310,745	2,910,000
2016 Series	-	106,205,000	(1,000,000)	105,205,000	12,828,656	118,033,656	250,000
Total	$ 626,946,251	$ 106,205,000	$ (136,216,251)	$ 596,935,000	$ 54,514,841	$ 651,449,841	$ 24,205,000

The 2010, 2011, 2013, 2015, and 2016 Bonds are collateralized by the net revenues of the Authority, by Surety Bonds, in lieu of cash, as required by the trustee and all amounts held in the Revenue Fund and all amounts held by the trustees.

Schedule of Required Debt Service

In accordance with the provisions of the Trust Indentures for the bonds payable, the Authority has established categories of accounts (current, special, and debt service) with certain assets, principally short-term investments, restricted for specific purposes. Each account category is further segregated into specific accounts referred to as funds. All revenues are required by the Trust Indentures to be deposited in a Revenue Fund. These Trust Indentures also require that rates be sufficient to pay current expenses of the Authority, 110% of the debt service requirements for the current fiscal year, and all amounts owed to the Bond Issuer under the terms of the Financial Guaranty Agreement.

Current expenses are defined, generally, as the costs of operating and maintaining the sewer system as determined under accounting principles generally accepted in the United States of America, except for depreciation and interest expense.

Funds created as a result of the governing Trust Indentures and by Board of Directors' resolutions are summarized as follows:

	2017	2016
Current account:		
Revenue Fund	$ 119,248,255	$ 91,684,772
Special accounts:		
Capital Facilities Fund	$ 56,241,232	$ 45,811,262
Construction Fund - 2013	710	2,574,272
Construction Fund - 2015	44,040,820	75,469,125
Capital Interest Fund	-	-
	$ 100,282,762	$ 123,854,659
Debt service accounts:		
Debt Service Fund	$ 6,747	$ 19,902

Maturities of all outstanding bonds of the Authority, in the aggregate, are as follows:

	Principal	Interest	Total Debt Service
2018	$ 25,395,000	$ 26,852,928	$ 52,247,928
2019	26,630,000	25,614,087	52,244,087
2020	27,635,000	24,613,237	52,248,237
2021	28,975,000	23,279,212	52,254,212
2022	30,415,000	21,835,687	52,250,687
2023-2027	137,055,000	86,418,551	223,473,551
2028-2032	90,370,000	58,892,897	149,262,897
2033-2037	95,295,000	39,698,417	134,993,417
2038-2042	83,165,000	17,434,225	100,599,225
2043-2047	27,795,000	2,528,188	30,323,188
Total	$ 572,730,000	$ 327,167,429	$ 899,897,429

The total debt service schedule in Note 13 represents the total debt service requirements (principal, interest, and sinking fund requirements) of the Authority's bond issuances, by issue and in the aggregate.

4. Interest Cost

Interest cost, including amortization of refunding adjustments, bond discounts/premiums, and prepaid bond costs, for the years ended December 31, 2017 and 2016 were as follows:

	2017	2016
1992 Bonds	$ -	$ 258,844
1993 Bonds	-	832,448
2007 Bonds	-	3,702,528
2010 Bonds	5,147,415	5,152,300
2011 Bonds	2,305,676	2,671,961
2013 Bonds	3,149,935	3,149,935
2015 Bonds	10,001,838	10,079,038
2016 Bonds	3,999,355	843,401
	24,604,219	26,690,455
Bond surety	-	588,532
	$ 24,604,219	$ 27,278,987

Interest earned on funds restricted for the purpose of construction of assets or payments of debt service and the interest cost of the related tax-exempt borrowings are deferred and allocated to the cost of capital assets. The Authority used tax-exempt interest earnings to offset capitalized interest costs of $2.4 million and $2.8 million for the years ended December 31, 2017 and 2016, respectively.

5. Deposits and Investments with Financial Institutions

The investment and deposit policy of the Authority funds is governed by the Trust Indentures and the Municipal Authority Act. In accordance with these regulations, the Authority is authorized to invest in obligations of the U.S. Treasury, agencies and instrumentalities; certificates of deposits, time deposits or deposits in savings accounts, fully insured or collateralized; commercial paper of the highest rating; bonds or notes issued by the Commonwealth of Pennsylvania, political subdivision, or related school district; repurchase agreements; money market mutual funds; and investment agreements with any bank or insurance company. Throughout the years ended December 31, 2017 and 2016, the Authority invested in authorized investments that consisted of U.S. government obligations, short-term commercial paper, money market mutual funds, an external investment pool, and guaranteed investment contracts. There were no deposit or investment transactions during 2017 and 2016 that were in violation of either state statutes or the policies of the Authority. The Authority does not have a formal investment policy which addresses custodial credit risk, interest rate risk, credit risk, or concentration of credit risk. The Authority can withdraw funds from the external investment pools without limitations or fees.

GASB requires disclosures related to the following deposit and investment risks: credit risk (including custodial credit risk and concentrations of credit risk), interest rate risk, and foreign currency risk. The following is a description of the Authority's deposit and investment risks:

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. As of December 31, 2017, $27,291,816 of the Authority's bank balance of $27,686,261 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution's name. These deposits have carrying amounts of $27,474,658 as of December 31, 2017. As of December 31, 2016, $45,651,059 of the Authority's bank balance of $46,043,973 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution's name. These deposits have carrying amounts of $45,563,952 as of December 31, 2016.

Included in cash and cash equivalents on the statements of net position are short-term investments in money markets and PA INVEST.

At December 31, 2017, the Authority held the following investment balances:

	Carrying Value	Maturity in Years Less Than 1 Year
U.S. Government Agencies	$ -	$ -
Money Market Funds	189,965,317	189,965,317
PA INVEST	2,097,789	2,097,789
Total	$ 192,063,106	$ 192,063,106

At December 31, 2016, the Authority held the following investment balances:

	Carrying Value	Maturity in Years Less Than 1 Year
U.S. Government Agencies	$ 31,286,211	$ 31,286,211
Money Market Funds	136,474,951	136,474,951
PA INVEST	2,077,457	2,077,457
Total	$ 169,838,619	$ 169,838,619

The carrying value of the Authority's investments is the same as their fair value amount. Money markets are valued using quoted market prices (Level 1 inputs). The fair values of U.S. government agency securities are priced using the spread above the risk-free yield curve. As the yields for the risk-free yield curve and the spreads for these securities are observable market inputs, the fair values of U.S. government agency securities are included in the Level 2 fair value hierarchy.

The Authority's investments in the external investment pool (INVEST) is the same as the value of the pool shares and is reported at amortized cost which approximates market. All investments in an external investment pool that is not SEC registered are subject to oversight by the Commonwealth. The Authority can withdraw funds from INVEST without limitations or fees.

Interest Rate Risk – Interest rate risk is the risk that changes in interest rates will adversely affect the fair market value of the Authority's investments.

Credit Risk – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation. As of December 31, 2017, the Authority's investment in the state investment pool (INVEST) was rated AAA by Standard & Poor's. 100% of the Authority's investments in money market funds are rated AAA by Standard & Poor's, and Aaa by Moody's.

Concentration of Credit Risk – Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investments in a single issuer. As of December 31, 2017, the Authority did not have a high concentration of investments in any one issuer. However, as of December 31, 2016, the Authority held approximately 9.1% and 7.5% of the investments in Federal National Mortgage Association securities and Federal Home Loan Mortgage Corporation, respectively.

6. Capital Assets

A summary of capital assets is as follows:

	2017	2016
Nondepreciable assets:		
Land	$ 5,344,896	$ 5,344,896
Construction in progress	38,371,565	30,816,357
Total nondepreciable assets	43,716,461	36,161,253
Depreciable assets:		
Land improvements	4,805,250	4,805,250
Buildings and improvements	467,806,579	455,580,245
Utility plant in service	241,318,539	235,137,247
Machinery and equipment	334,048,304	324,446,350
Total depreciable assets	1,047,978,672	1,019,969,092
Less accumulated depreciation	483,094,938	460,762,929
Net depreciable assets	564,883,734	559,206,163
Total capital assets	$ 608,600,195	$ 595,367,416

The Authority has spent $38,371,565 and $30,816,357 for construction in progress as of December 31, 2017 and 2016, respectively, with estimated remaining total expansion costs of approximately $618,293,601 which are anticipated to occur over the next five years.

These expansion costs are primarily attributable to activities required by the Consent Decree further discussed in Note 10.

7. Pension Plans

General Information About the Pension Plans. The Authority has two single-employer defined benefit pension plans covering substantially all full-time employees: the Management Employees Plan (Management Plan) and the Union Employees Plan (Union Plan). The Union Plan is a contributory plan including all members of the utility workers' collective bargaining unit and the Management Plan is a contributory plan available to all Authority employees not participating in the Union Plan.

Under each of the plans, employees' eligibility for normal benefits begins at age 65, at which time the individual is entitled to an annual retirement benefit, payable monthly for life. For the Management Plan, this benefit is equal to 2.5% of the first $4,200 of average compensation for each year of Credited Service, plus 2.5% of 3-year compensation in excess of $4,200 for each year of Contributory Service (for participant contributing at the rate of 3% of compensation) and 2.0% of 5-year average compensation in excess of $4,200 for each year of Contributory Service (for participant contributing at the rate of 1.25% of compensation in excess of $4,200). If a participant transfers from the Union Plan, the normal retirement benefit is based on all years of employment with the Authority and is offset by the Union Plan benefit. In addition, the portion of the benefit for those contributing 1.25% of compensation in excess of $4,200 will be determined using 2.50% of 3-year average compensation in excess of $4,200 for any Union years of Contributory Service. For the Union Plan, this benefit is equal to 2.5% of the first $4,200 of average compensation for each year of credited service plus 2.5% of average compensation in excess of $4,200 for each year of Contributory Service. The benefit above is limited to 100% of average compensation. For both plans, in no event will a participant's benefit exceed the limits set forth in Section 415(b) of the Internal Revenue Code.

Early retirement is available to all participants who have reached the age of 55 and have at least 10 years of service. For the Management Plan, a participant who is contributing 3% of compensation may retire at age 60 with 10 years of service with no early retirement reduction. If such participant elects to retire prior to age 60, benefits will be reduced by one-half of 1% for each month prior to age 60 in which retirement occurs. For a participant who elected to contribute 1.25% of compensation in excess of $4,200, the monthly benefit will be reduced by one-half of 1% for each month prior to Normal Retirement Date (that is, prior to age 65). For the Union Plan, If the participant has attained age 60 with 25 years of

Credited Service and is actively employed immediately prior to retirement, the benefit is unreduced. Otherwise, the benefit is reduced actuarially if it commences prior to age 62 or by 5% per year if it commences between age 62 and Normal Retirement Date.

In both plans, for those retiring after age 65, the benefit is the greater of (1) the actuarial equivalent of the benefit that would have been payable at the Normal Retirement Date and (2) the benefit based on service and earnings as of the actual retirement date.

Employees Covered by Benefit Terms. As of the most recent actuarial valuations, the following employees were covered by the benefit terms:

	Management	Union	Total
Inactive plan members or beneficiaries currently receiving benefits	71	176	247
Inactive plan members entitled to but not yet receiving benefits	19	34	53
Active plan members	122	272	394
Total plan members	212	482	694

Contributions. Participants in the Management Plan contribute 3.0% and participants in the Union Plan contribute 1.25% of earnings to their respective plans. The Authority's contributions to the plans are based on actuarially determined rates.

Net Pension Liability (Asset). The Authority's net pension liability (asset) for 2016 and 2017 was measured as of December 31, 2015 and 2016, respectively. The total pension liability used to calculate the net pension liability (asset) was determined by actuarial valuations as of those respective measurement dates.

Actuarial Assumptions. The total pension liability in the December 31, 2016 and 2015 actuarial valuations were determined using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial cost method	Entry age normal
Actuarial assumptions:	
Investment rate of return	7.20%, reduced from 7.45% in 2015 valuation.
Underlying inflation rate	2.50%
Salary projection	4.50%

Management Plan - For healthy lives, mortality is in accordance with the RP-2000 Combined Mortality Table adjusted for white-collar employees with using separate rates for employees and annuitants, and with fully generational projected mortality improvement under Scale BB2D. For disabled lives, mortality is in accordance with the disabled mortality table specified in IRS Revenue Ruling 96-7 for disabilities occurring prior to 1995.

Union Plan - For healthy lives, mortality is in accordance with the RP-2000 Combined Mortality Table adjusted for blue-collar employees with using separate rates for employees and annuitants, and with fully generational projected mortality improvement under Scale BB2D. For disabled lives, mortality is in accordance with the disabled mortality table specified in IRS Revenue Ruling 96-7 for disabilities occurring prior to 1995.

Actuarial assumptions used in the respective valuations were based on actuarial experience studies for the period January 1, 2015 to December 31, 2015 and January 1, 2016 to December 31, 2016. Some actuarial assumption changes were made for the January 1, 2017 actuarial report. Effective for benefit commencement on and after February 1, 2016, the contingent annuitant options include a pop-up feature, at no additional cost to the participant. With this feature, if the named beneficiary predeceases the participant, the monthly benefit payable to the participant will increase (i.e., pop up) to the amount that would have been payable had the participant selected the life-only form of payment at retirement.

Long-Term Expected Rate of Return. The long-term expected rate of return on plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of 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 following were the asset allocation policy and best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation:

	Management Plan		Union Plan	
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return	Target Allocation	Long-Term Expected Real Rate of Return
US equity	70.0%	5.71%	70.0%	5.71%
Fixed income	30.0%	0.50%	30.0%	0.50%
	100.0%		100.0%	

Discount Rate. The discount rate used to measure the total pension liability was 7.20%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that the Authority's contributions will be made based on the actuarially determined contribution. Based on those assumptions, the fiduciary net position of each plan was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Changes in Net Pension Liability (Asset). Changes in the Authority's net pension liability (asset) are as follows:

	Management Plan		
	Total Pension Liability	Plan Net Position	Net Pension Liability (Asset)
Balances at 12/31/16	$ 41,623,963	$ 35,448,846	$ 6,175,117
Changes for the year:			
Service cost	1,420,751	-	1,420,751
Interest	3,135,922	-	3,135,922
Differences between expected and actual experience	816,498	-	816,498
Changes of benefit terms	228,011	-	228,011
Changes of assumptions	1,342,644	-	1,342,644
Employer contributions	-	1,795,051	(1,795,051)
Member contributions	-	242,438	(242,438)
Net investment income	-	2,427,121	(2,427,121)
Benefit payments, including refunds of employee contributions	(1,757,159)	(1,757,159)	-
Balances at 12/31/17	$ 46,810,630	$ 38,156,297	$ 8,654,333
Plan fiduciary net position as a percentage of total pension liability			81.51%

Net investment income includes $147,005 of trustee and other investment related expenses.

	Union Plan		
	Total Pension Liability	Plan Net Position	Net Pension Liability (Asset)
Balances at 12/31/16	$ 108,429,625	$ 104,339,458	$ 4,090,167
Changes for the year:			
Service cost	2,616,615	-	2,616,615
Interest	8,080,735	-	8,080,735
Differences between expected and actual experience	(179,689)	-	(179,689)
Changes of benefit terms	603,344	-	603,344
Changes of assumptions	3,411,383	-	3,411,383
Employer contributions	-	3,307,866	(3,307,866)
Member contributions	-	205,330	(205,330)
Net investment income	-	7,341,987	(7,341,987)
Benefit payments, including refunds of employee contributions	(4,763,085)	(4,763,085)	-
Balances at 12/31/17	$ 118,198,928	$ 110,431,556	$ 7,767,372
Plan fiduciary net position as a percentage of the total pension liability			93.43%

Net investment income includes $308,968 of trustee and other investment related expenses.

Pennsylvania Act 205 (Act 205) is the authority by which benefit provisions are established and may be amended. Stand-alone financial reports were not issued for either of the Plans, as they are not required under the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

Sensitivity of the Net Pension Liability to Changes in Discount Rate. The following presents the net pension liability (asset) of the Authority, calculated using the discount rate of 7.20%, as well as what the Authority's net pension liability (asset) would be if it were calculated using a discount rate that is 1% lower (6.20%) or 1% higher (8.20%) than the current rate:

	1% Decrease (6.20%)	Current Discount Rate (7.20%)	1% Increase (8.20%)
Management	$ 14,656,778	$ 8,654,333	$ 3,612,909
Union	23,007,737	7,767,372	(5,045,120)
	$ 37,664,515	$ 16,421,705	$ (1,432,211)

Pension Expense and Deferred Inflows/Outflows of Resources Related to Pensions. For the years ended December 31, 2017 and 2016, the Authority recognized pension expense of $8,172,702 and $5,226,072, respectively. At December 31, 2017 and 2016, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	2017	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 1,771,600	$ 403,289
Changes of assumptions	6,664,959	-
Net difference between projected and actual earnings on pension plan investments	7,834,921	2,532,668
Contributions made subsequent to the measurement date	4,976,035	-
	$ 21,247,515	$ 2,935,957

	2016	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 1,324,475	$ 303,434
Changes of assumptions	3,208,302	-
Net difference between projected and actual earnings on pension plan investments	9,818,546	3,799,002
Contributions made subsequent to the measurement date	5,102,917	-
	$ 19,454,240	$ 4,102,436

Deferred outflows of resources related to Authority pension contributions subsequent to the measurement date of $4,976,035 and $5,102,917 will be recognized as a reduction of the net pension liability in the years ending December 31, 2018 and 2017, respectively. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year Ending December 31,	Deferred Outflows	Deferred Inflows
2018	$ 4,239,133	$ 1,346,168
2019	4,239,133	1,346,168
2020	4,239,130	79,834
2021	1,560,698	79,834
2022	1,057,839	46,122
2023	666,226	23,643
2024	269,321	14,188
	$ 16,271,480	$ 2,935,957

8. Post-Retirement Benefits

In addition to the pension benefits described in Note 7, the Authority provides certain post-retirement healthcare benefits to management and union retirees until age 65.

In accordance with the Authority's Policy and Procedures Manual for Management Employees, certain healthcare benefits are provided to all management employees, and their dependents, who retire on or after attaining age 55 with at least ten years of credited service. Nine retirees in 2017 and eight retirees in 2016 met these eligibility requirements for which the Authority paid 100% of the medical insurance premiums. These premium expenditures amounted to $102,211 and $126,505 for 2017 and 2016, respectively. These benefits cease when the retiree turns 65.

Additionally, in accordance with the current labor agreement between the Authority and the Utility Workers Union of America AFL-CIO Local 433, certain healthcare benefits are provided to all union employees and their dependents who retire at age 60 through age 65 with 25 years of credited service. In addition to the healthcare benefits, the Authority provides full hospitalization for retirees and their dependents between the ages of 62 and 65 with 15 to 24 years of credited service and 25% of the life insurance coverage that was provided while employed with the Authority will be carried into retirement. Sixteen retirees in 2017 and fifteen retirees in 2016 met these eligibility requirements for which the Authority pays 100% of the medical insurance premiums. These premium expenditures amounted to $247,541and $225,913 for 2017 and 2016, respectively.

In addition to these post-retirement healthcare benefits, the Authority also provides to both management and union retirees, the Vision Program, the Prescription Drug Program, and the Dental Program. For these programs, however, the retiree shall be responsible to pay the entire prevailing premium being paid by the Authority for its employees. Usually, these premiums are taken directly out of the retirees' pension payments.

During fiscal year 2017, the annual future other post-retirement benefits cost was determined based on the assumptions used in the actuarial valuation performed in 2017. This resulted in the Authority accruing a liability of $6,199,726 for future other post-retirement benefits.

The Authority's annual OPEB cost is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost each year and to amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty years. The following table shows the component of the Authority's annual OPEB cost for the year, the amount actually contributed, and changes in the Authority's net OPEB obligation:

Annual required contribution	$ 1,679,315
Interest on net OPEB obligation	206,956
Adjustment to annual required contribution	(299,206)
Annual OPEB cost	1,587,065
Contributions made (includes implicit rate subsidy)	(561,220)
Increase in net OPEB obligation	1,025,845
Net OPEB obligation - beginning of year	5,173,881
Net OPEB obligation - end of year	$ 6,199,726

The Authority's annual OPEB cost, the percentage of annual OPEB cost contributed and the OPEB obligation were as follows:

Year Ending	Annual OPEB Cost	Employer Contributions	% of AOC Contributed	Net OPEB Obligation
12/31/2015	$ 1,137,300	$ 406,766	35.77%	$ 4,456,371
12/31/2016	1,124,276	406,766	36.18%	5,173,881
12/31/2017	1,587,065	561,220	35.36%	6,199,726

The ARC for the current year was computed as of the latest actuarial valuation using the following actuarial assumptions:

Actuarial valuation date	1/1/17
Actuarial cost method	Projected Unit Credit
Amortization method	Level Dollar Open
Asset valuation method	n/a
Amortization period	30 years
Actuarial assumptions:	
Investment rate of return	4.0%
Projected salary increases	4.5%
Inflation rate	2.3%
Cost-of-living adjustments	n/a

Some actuarial assumption changes were made for the January 1, 2017 actuarial report. The trend rate assumption has been separated into medical and prescription drug components, to better represent near-future expectations and consider recent double digit drug trends. Trend rates are developed using the Society of Actuaries Long Term Healthcare Resource Model, with updated economic factor inputs. Additionally, the assumed percentage of future retirees electing drug coverage has changed from 100% to 75%, to recognize recent experience and the required member contribution.

Funding Status and Funding Progress

The schedule of funding progress as of January 1, 2017 for the postemployment medical and life insurance benefits is as follows:

Actuarial value of plan assets	$	-
Actuarial accrued liability (AAL)		14,069,005
Unfunded actuarial accrued liability (UAAL)	$	(14,069,005)
Funded ratio (actuarial value of plan assets/AAL)		0.00%
Covered payroll (active plan members)	$	28,498,964
UAAL as a percentage of covered payroll		-49.37%

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

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

9. Contingencies

The Authority is exposed to various risks of loss related to torts; alleged negligence; acts of discrimination; breach of contract; disagreements arising from the interpretation of laws or regulations; theft of, damage to and destruction of assets; errors and omissions; injuries to employees and natural disasters, for which the Authority carries commercial insurance. While some of these claims may be for substantial amounts, they are not unusual in the ordinary course of providing collection, transportation and treatment of wastewater services for applicable municipalities. The Authority does not participate in any public entity risk pool, and does not retain risk related to any aforementioned exposure except for those amounts incurred relative to policy deductibles, which are not significant. Additionally, the Authority has not significantly reduced any of its insurance coverage from the prior years. Settled claims have not exceeded the Authority's commercial coverage in any of the past three years. Except as noted below, the Authority's management does not expect that the resolution of any outstanding claims and litigation will have a material adverse effect on the accompanying financial statements.

10. Environmental Permit Requirements

The Authority is currently engaged in a major capital program to provide additional treatment capacity as required by Pennsylvania Law. This program is the first phase of a multi-phased program designed to reduce or eliminate wet-weather discharges from the Authority's conveyance and treatment system. As required by the Clean Water Act, the Authority concluded negotiations with the U.S. Environmental Protection Agency, Pennsylvania Department of Environmental Protection, and the Allegheny County Health Department (collectively the Agencies) in May of 2007. A Consent Decree resulting from these negotiations was entered by the United States District Court for the Western District of Pennsylvania on January 23, 2008. The Consent Decree requires the Authority to further develop, refine and submit a Long Term Wet Weather Control Plan (Plan) to the Agencies by January 30, 2013. A draft of the Plan was released for public comment at the end of July, 2012, and subsequently provided to the Agencies for review January 30, 2013. In response to public comment, the Authority requested additional time to finalize the Plan to incorporate an evaluation of green technology. The Agencies are reviewing the Authority's submissions and continue to meet with the Authority to discuss implementing the Plan in phases that will accommodate cost and green alternatives.

The final Plan will include provisions for significant capital improvements to the Authority's conveyance and treatment system, to capture and treat a defined flow from its customer municipalities, and to achieve applicable receiving stream water quality standards.

11. Clean Water Assistance Fund

The Authority has created the Clean Water Assistance Fund to help families pay their sewage treatment bills. This program serves low-income residential customers in the 83 municipalities that the Authority serves. It is administered by Dollar Energy. As of December 31, 2017, the Authority had contributed $939,000 to the fund.

12. Green Revitalization of Our Waterways

The Authority created the Green Revitalization of Our Waterways (GROW) program in June 2017. The GROW program allows for any municipality or municipal sewer authority within the Authority's service area to apply for grants that may be used to install green storm water reduction technology, remove streams from the sewer system, reduce the amount of water seeping in through groundwater, or to separate out storm sewers. As of December 31, 2017, 59 grants have been approved. Payments made as of the end of 2017 total $1,438,957, which are included in construction in progress. As of December 31, 2017, the Authority has committed to $17,676,423 in grants that will be drawn upon in future years.

13. Total Debt Service Schedule

	Series of 2010	Series of 2011	Series of 2013	Series of 2015	Series of 2016	Combined Debt Service	Annual Debt Service
June 1, 2018	$ 2,815,503	$ 11,937,750	$ 1,612,056	$ 6,128,413	$ 2,099,475	$ 24,593,197	
December 1, 2018	2,597,412	11,937,375	1,612,056	9,158,413	2,349,475	27,654,731	$ 52,247,928
June 1, 2019	2,817,412	11,940,250	1,612,056	6,067,813	2,098,225	24,535,756	
December 1, 2019	2,594,112	11,936,125	1,612,056	9,217,813	2,348,225	27,708,331	52,244,087
June 1, 2020	2,774,112	-	1,612,056	6,004,813	2,097,100	12,488,081	
December 1, 2020	2,591,187	-	1,612,056	33,459,813	2,097,100	39,760,156	52,248,237
June 1, 2021	2,781,187	-	1,612,056	5,341,638	2,097,100	11,831,981	
December 1, 2021	2,586,437	-	1,612,056	34,126,638	2,097,100	40,422,231	52,254,212
June 1, 2022	2,791,437	-	1,612,056	4,624,813	2,097,100	11,125,406	
December 1, 2022	2,581,312	-	1,612,056	34,834,813	2,097,100	41,125,281	52,250,687
June 1, 2023	2,806,312	-	1,612,056	3,872,813	2,097,100	10,388,281	
December 1, 2023	2,575,687	-	1,612,056	35,592,813	2,097,100	41,877,656	52,265,937
June 1, 2024	5,980,687	-	1,612,056	3,090,213	2,097,100	12,780,056	
December 1, 2024	2,490,562	-	7,112,056	17,820,213	8,812,100	36,234,931	49,014,987
June 1, 2025	6,030,562	-	1,489,894	2,735,150	1,929,225	12,184,831	
December 1, 2025	2,402,062	-	8,989,894	12,540,150	10,719,225	34,651,331	46,836,162
June 1, 2026	15,257,063	-	1,312,018	2,509,203	1,709,475	20,787,759	
December 1, 2026	2,080,688	-	8,812,018	4,649,203	1,854,475	17,396,384	38,184,143
June 1, 2027	5,805,688	-	1,124,519	2,478,441	1,706,575	11,115,223	
December 1, 2027	1,987,563	-	8,624,518	13,263,443	2,181,575	26,057,099	37,172,322
June 1, 2028	5,907,563	-	938,518	2,208,816	1,697,075	10,751,972	
December 1, 2028	1,889,563	-	6,438,518	13,528,816	2,192,075	24,048,972	34,800,944
June 1, 2029	6,004,563	-	807,319	1,962,665	1,687,175	10,461,722	
December 1, 2029	1,786,688	-	3,307,319	13,777,665	2,202,175	21,073,847	31,535,569
June 1, 2030	6,116,688	-	754,819	1,667,290	1,676,875	10,215,672	
December 1, 2030	1,678,438	-	754,819	14,072,290	2,206,875	18,712,422	28,928,094
June 1, 2031	4,238,438	-	754,819	1,357,165	1,666,275	8,016,697	
December 1, 2031	1,622,438	-	754,819	3,952,165	12,651,275	18,980,697	26,997,394
June 1, 2032	4,297,438	-	754,819	1,313,374	1,446,575	7,812,206	
December 1, 2032	1,563,922	-	754,819	3,993,374	12,876,575	19,188,690	27,000,896
June 1, 2033	4,353,922	-	754,819	1,246,375	1,217,975	7,573,091	
December 1, 2033	1,502,891	-	754,819	4,061,374	13,107,975	19,427,059	27,000,150
June 1, 2034	4,417,891	-	754,819	1,175,999	980,175	7,328,884	
December 1, 2034	1,439,125	-	754,819	4,131,000	13,340,175	19,665,119	26,994,003
June 1, 2035	4,499,125	-	754,819	1,102,125	732,975	7,089,044	
December 1, 2035	1,362,625	-	754,819	4,207,125	13,587,975	19,912,544	27,001,588
June 1, 2036	4,582,625	-	754,819	1,024,500	475,875	6,837,819	
December 1, 2036	1,282,125	-	754,819	4,284,500	13,840,875	20,162,319	27,000,138
June 1, 2037	4,662,125	-	754,819	943,000	208,575	6,568,519	
December 1, 2037	1,197,625	-	754,819	4,363,000	14,113,575	20,429,019	26,997,538
June 1, 2038	16,372,625	-	754,819	857,500	-	17,984,944	
December 1, 2038	818,250	-	754,819	4,447,500	-	6,020,569	24,005,513
June 1, 2039	16,773,250	-	754,819	767,750	-	18,295,819	
December 1, 2039	419,375	-	754,819	4,537,750	-	5,711,944	24,007,763
June 1, 2040	17,194,375	-	754,819	673,500	-	18,622,694	
December 1, 2040	-	-	754,819	4,633,500	-	5,388,319	24,011,013
June 1, 2041	-	-	754,819	574,500	-	1,329,319	
December 1, 2041	-	-	9,789,819	4,734,500	-	14,524,319	15,853,638
June 1, 2042	-	-	517,650	470,500	-	988,150	
December 1, 2042	-	-	6,897,650	4,835,498	-	11,733,148	12,721,298
June 1, 2043	-	-	350,175	361,375	-	711,550	
December 1, 2043	-	-	6,855,175	4,946,375	-	11,801,550	12,513,100
June 1, 2044	-	-	179,419	246,750	-	426,169	
December 1, 2044	-	-	7,014,419	5,061,750	-	12,076,169	12,502,338
June 1, 2045	-	-	-	126,375	-	126,375	
December 1, 2045	-	-	-	5,181,375	-	5,181,375	5,307,750
	$ 190,330,678	$ 47,751,500	$ 118,878,463	$ 374,345,738	$ 168,591,050	$ 899,897,429	$ 899,897,429

REQUIRED SUPPLEMENTARY INFORMATION

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF CHANGES IN THE NET
PENSION LIABILITY AND RELATED RATIOS - MANAGEMENT

YEARS ENDED DECEMBER 31,

	2017	2016	2015
Total Pension Liability:			
Service cost	$ 1,420,751	$ 1,193,822	$ 1,012,344
Interest	3,135,922	2,864,194	2,597,036
Differences between expected and actual experience	816,498	1,043,646	163,825
Changes of benefit terms	228,011	-	-
Changes of assumptions	1,342,644	-	1,178,962
Benefit payments, including refunds of member contributions	(1,757,159)	(1,591,493)	(1,495,819)
Net Changes in Total Pension Liability	5,186,667	3,510,169	3,456,348
Total Pension Liability - Beginning	41,623,963	38,113,794	34,657,446
Total Pension Liability - Ending (a)	$ 46,810,630	$ 41,623,963	$ 38,113,794
Plan Fiduciary Net Position:			
Plan member contributions	$ 242,438	$ 215,651	$ 217,014
Employer actuarially recommended contributions	1,795,051	1,642,817	1,647,664
Net investment income	2,427,121	(64,985)	3,062,959
Benefit payments, including refunds of member contributions	(1,757,159)	(1,591,493)	(1,495,819)
Net Change in Plan Fiduciary Net Position	2,707,451	201,990	3,431,818
Plan Fiduciary Net Position - Beginning	35,448,846	35,246,856	31,815,038
Plan Fiduciary Net Position - Ending (b)	$ 38,156,297	$ 35,448,846	$ 35,246,856
Net Pension Liability (Asset) - Ending (a-b)	$ 8,654,333	$ 6,175,117	$ 2,866,938
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	81.51%	85.16%	92.48%
Covered Payroll	$ 8,594,987	$ 7,340,502	$ 6,455,960
Net Pension Liability as a Percentage of Covered Payroll	100.69%	84.12%	44.41%

See accompanying notes to required supplementary pension schedules.

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF CHANGES IN THE NET
PENSION LIABILITY AND RELATED RATIOS - UNION

YEARS ENDED DECEMBER 31,

	2017	2016	2015
Total Pension Liability:			
Service cost	$ 2,616,615	$ 2,476,956	$ 2,293,999
Interest	8,080,735	7,634,199	7,030,443
Differences between expected and actual experience	(179,689)	389,969	(415,816)
Changes of benefit terms	603,344	-	-
Changes of assumptions	3,411,383	-	3,319,486
Benefit payments, including refunds of member contributions	(4,763,085)	(4,509,841)	(4,067,193)
Net Changes in Total Pension Liability	9,769,303	5,991,283	8,160,919
Total Pension Liability - Beginning	108,429,625	102,438,342	94,277,423
Total Pension Liability - Ending (a)	$ 118,198,928	$ 108,429,625	$ 102,438,342
Plan Fiduciary Net Position:			
Plan member contributions	$ 205,330	$ 194,364	$ 179,401
Employer actuarially recommended contributions	3,307,866	3,170,502	3,124,830
Net investment income	7,341,987	(1,652,268)	12,699,402
Benefit payments, including refunds of member contributions	(4,763,085)	(4,509,841)	(4,067,193)
Net Change in Plan Fiduciary Net Position	6,092,098	(2,797,243)	11,936,440
Plan Fiduciary Net Position - Beginning	104,339,458	107,136,701	95,200,261
Plan Fiduciary Net Position - Ending (b)	$ 110,431,556	$ 104,339,458	$ 107,136,701
Net Pension Liability (Asset) - Ending (a-b)	$ 7,767,372	$ 4,090,167	$ (4,698,359)
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	93.43%	96.23%	104.59%
Covered Payroll	$ 18,107,692	$ 17,147,336	$ 16,613,080
Net Pension Liability as a Percentage of Covered Payroll	42.90%	23.85%	-28.28%

See accompanying notes to required supplementary pension schedules.

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF AUTHORITY CONTRIBUTIONS - PENSIONS

YEARS ENDED DECEMBER 31,

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution:										
Management	$ 1,916,633	$ 1,795,051	$ 1,642,817	$ 1,647,664	$ 1,606,029	$ 1,529,224	$ 1,358,351	$ 1,328,190	$ 934,784	$ 850,919
Union	3,059,402	3,307,866	3,170,502	3,124,830	2,260,312	2,199,113	1,804,689	1,765,668	667,181	624,065
	4,976,035	5,102,917	4,813,319	4,772,494	3,866,341	3,728,337	3,163,040	3,093,858	1,601,965	1,474,984
Contributions in relation to the actuarially determined contribution:										
Management	1,916,633	1,795,051	1,642,817	1,647,664	1,606,104	1,529,224	1,358,400	1,328,190	934,800	850,919
Union	3,059,402	3,307,866	3,170,502	3,124,830	2,260,313	2,199,952	1,804,700	1,765,668	667,181	624,065
	4,976,035	5,102,917	4,813,319	4,772,494	3,866,417	3,729,176	3,163,100	3,093,858	1,601,981	1,474,984
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ (76)	$ (839)	$ (60)	$ -	$ (16)	$ -
Covered payroll:										
Management	$ 9,342,095	$ 8,594,987	$ 7,340,502	$ 6,455,960	$ 7,066,389	$ 6,957,730	$ 6,554,237	$ 6,198,835	$ 5,783,644	$ 5,259,790
Union	19,156,669	18,107,692	17,147,336	16,613,080	16,193,768	15,871,099	15,750,647	15,233,174	14,618,183	13,899,054
	$ 28,498,764	$ 26,702,679	$ 24,487,838	$ 23,069,040	$ 23,260,157	$ 22,828,829	$ 22,304,884	$ 21,432,009	$ 20,401,827	$ 19,158,844
Contributions as a percentage of covered payroll	17.46%	19.11%	19.66%	20.69%	16.62%	16.33%	14.18%	14.44%	7.85%	7.70%

Notes to Required Supplementary Pension Schedules:

Valuation date: Actuarial calculations are performed each year as of January 1. Contributions noted above are as of each pension plan's calendar year ending December 31 using actuarially determined contribution rates calculated as of January 1, one year prior to the end of the calendar year in which contributions are reported.

Methods and assumptions used to determine the contribution rates:

Actuarial cost method	Entry Age Normal - Union Plan Entry Age Normal - Management Plan
Amortization method	Level-dollar monthly payments - Union Plan Level-dollar monthly payments - Management Plan
Remaining amortization period	16 years Union Plan 14 years Management Plan
Asset valuation method	Smoothed market value (without phase-in) - Union Plan Smoothed market value (with phase-in) - Management Plan
Inflation	2.50% Union Plan 2.50% Management Plan
Salary increases	4.50% Union Plan 4.50% Management Plan
Investment rate of return (gross return assumption)	7.50% Union Plan 7.50% Management Plan
Mortality - Union Plan	For healthy lives, mortality is in accordance with the RP-2000 Combined Mortality Table adjusted for blue-collar employees with using separate rates for employees and annuitants, and with fully generational projected mortality improvement under Scale BB2D. Previously, combined mortality rates were used for all participants and mortality improvement was projected under Scale AA. For disabled lives, mortality is in accordance with the disabled mortality table specified in IRS Revenue Ruling 96-7 for disabilities occurring prior to 1995.
Mortality - Management Plan	For healthy lives, mortality is in accordance with the RP-2000 Combined Mortality Table adjusted for white-collar employees with using separate rates for employees and annuitants, and with fully generational projected mortality improvement under Scale BB2D. Previously, combined mortality rates were used for all participants and mortality improvement was projected under Scale AA. For disabled lives, mortality is in accordance with the disabled mortality table specified in IRS Revenue Ruling 96-7 for disabilities occurring prior to 1995.

Note: the mortality improvement assumptions were updated as of the December 31, 2006, 2010, 2012, 2014, 2015, 2016 valuations.

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF FUNDING PROGRESS - OPEB PLAN

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	Excess (Deficiency) as a Percentage of Covered Payroll
1/1/2013	$ -	$ 9,851,054	$ (9,851,054)	0.00%	$ 23,260,157	(42.35%)
1/1/2015	-	10,609,274	(10,609,274)	0.00%	24,487,838	(43.32%)
1/1/2017	-	14,069,005	(14,069,005)	0.00%	28,489,964	(49.38%)

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF CONTRIBUTIONS - OPEB PLAN

Calendar Year	Annual OPEB Cost	Employer Contributions	Percentage Contributed
2012	$ 921,581	$ 347,147	37.67%
2013	1,060,870	371,802	35.05%
2014	1,048,585	371,802	35.46%
2015	1,137,300	406,766	35.77%
2016	1,124,276	406,766	36.18%
2017	1,587,065	561,220	35.36%

SUPPLEMENTARY INFORMATION

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF INVESTMENTS AND OTHER ASSETS

YEAR ENDED DECEMBER 31, 2017

	Cash and Cash Equivalents	Investments	Accrued Interest Receivable	Total
Current Account:				
Revenue Fund	$ 119,248,255	$ -	$ -	$ 119,248,255
Special Accounts:				
Capital Facilities Fund	56,241,232	-	-	56,241,232
Construction Fund 2013	710	-	-	710
Construction Fund 2015	44,040,820	-	-	44,040,820
	100,282,762	-	-	100,282,762
Debt Service Accounts:				
Debt Service Fund	6,747	-	-	6,747
Total	$ 219,537,764	$ -	$ -	$ 219,537,764

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF INVESTMENTS AND OTHER ASSETS

YEAR ENDED DECEMBER 31, 2016

	Cash and Cash Equivalents	Investments	Accrued Interest Receivable	Total
Current Account:				
Revenue Fund	$ 91,684,772	$ -	$ -	$ 91,684,772
Special Accounts:				
Capital Facilities Fund	45,811,262	-	-	45,811,262
Construction Fund 2013	2,574,272	-	-	2,574,272
Construction Fund 2015	43,869,855	31,442,508	156,762	75,469,125
	92,255,389	31,442,508	156,762	123,854,659
Debt Service Accounts:				
Debt Service Fund	19,902	-	-	19,902
Total	$ 183,960,063	$ 31,442,508	$ 156,762	$ 215,559,333