

Boston Water and Sewer Commission



- 2015 -

Comprehensive Annual Financial Report

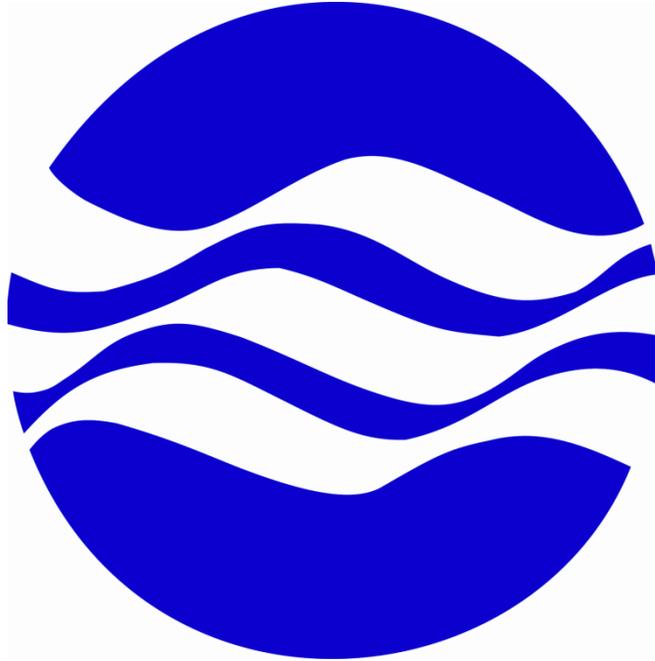
For the Year Ended December 31, 2015

Boston, Massachusetts

BOSTON WATER AND SEWER COMMISSION

Boston, Massachusetts

Comprehensive Annual Financial Report
For the Year Ended December 31, 2015



BOARD OF COMMISSIONERS

Michael J. Woodall, Chair
Muhammad Ali-Salaam, Commissioner
Cathleen Douglas Stone, Commissioner

Henry F. Vitale
Executive Director

Prepared by the Finance Division

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Introductory Section

2015

**Boston Water and
Sewer Commission**



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June 30, 2016

Board of Commissioners
Boston Water and Sewer Commission

It is our pleasure to submit to you this Comprehensive Annual Financial Report of the Boston Water and Sewer Commission for the year ending December 31, 2015. Responsibility for the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the Commission. To the best of our knowledge and belief, this report is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the Commission. All disclosures necessary to enable the reader to gain an understanding of the Commission's financial activities have been included.

The Commission was created by an act of the Massachusetts Legislature that requires an annual audit by independent certified public accountants. The Commission's audit committee has selected the independent audit firm O'Connor and Drew P.C. to perform the audit of the Commission's books for fiscal year ended December 31, 2015.

The Management's Discussion and Analysis ("MD&A") follows the independent auditor's report and provides a narrative introduction, overview and analysis to accompany the basic financial statements. This letter of transmittal is intended to complement the MD&A and should be read in conjunction with it.

The Commission is required to assess whether an annual single audit in conformity with the provisions of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) needs to be performed. In accordance with the Uniform Guidance, a Single Audit was not required because the Commission's federal expenditures were below the \$750,000 threshold.

About the Commission

The Boston Water and Sewer Commission (“the Commission” or “BWSC”) is a public instrumentality, a body politic and corporate and a political subdivision of the Commonwealth, separate and apart from the City. It was established pursuant to a “home rule” petition enacted by the Massachusetts Legislature as the Boston Water and Sewer Reorganization Act of 1977, Chapter 436 of the Acts of 1977 (“the Enabling Act”), on July 18, 1977. In accordance with the Enabling Act, the Commission assumed ownership of and responsibility for the wastewater collection and storm water drainage system (collectively known as the sewer system) and the water distribution system. The Department of Public Works of the City previously provided these services.

Upon its creation, the Commission was granted the authority to independently set its rates and charges. These rates and charges must be set at a level and amount sufficient to meet the Commission's financial obligations including, but not limited to, operating expenses, debt service on all outstanding bonds, any reserve requirements specified in bond resolutions and assessments for bulk water supply, water distribution, wastewater treatment and sewerage collection services obtained by the Commission. These rates must comply with all applicable laws and statutes and must be set in a manner to ensure eligibility for any federal and state funding.

The Enabling Act also authorizes the Commission to operate, maintain and construct all necessary improvements to the systems and finance its operations and improvements through revenue collection and the sale of bonds and notes payable solely from the Commission’s revenues. The Act further dictates that any revenue surpluses earned by the Commission in any fiscal year shall be credited to the next year’s rates or returned to the City of Boston. Since its inception, the Commission has generated a surplus in each year of its operations and has credited the surplus to the reduction of the next year’s rates. The Act may be amended only by means of further “home rule” petitions of the City enacted by the Massachusetts Legislature, or by means of state legislation affecting generally all water and sewer districts within the Commonwealth.

Management Objectives

The Commission was created to maintain and improve the long-term quality and reliability of water and sewer services for all users in the City and to assure adequate funding for the systems. The Commission is committed to the following three primary goals:

To maintain and improve the Water Distribution and Sewer systems. The Commission is committed to a number of improvements to the systems, including following an aggressive renewal and replacement program, reducing unaccounted-for water, encouraging conservation and participating in the Boston Harbor pollution abatement project. The Commission is also committed to meeting or exceeding the requirements of all federal and state water and wastewater laws, regulations and technical standards.

To establish and administer a billing and collections system that is fair and efficient. The Commission has worked to establish a rate structure that fully reflects its costs, fairly distributes the burden and encourages water conservation by consumers. The metering, billing and collection process is a central focus of the Commission’s management team and the Commission is committed to maintaining a strong record in this area.

To maintain a strong financial structure. The Commission has consistently employed conservative financial projections and budgeting assumptions, maintained adequate reserves and achieved a reasonable balance between debt funding and rate funding of capital expenses.



Introductory Section

To sustain the effectiveness of investments and comply with regulations. The Commission is committed to complying with all its regulatory obligations under federal and state laws, including the Safe Drinking Water Act (“SDWA”) and the Clean Water Act (“CWA”) with its National Pollutant Discharge Elimination System (“NPDES”) permitting obligations for both stormwater systems and combined sewer systems. Compliance obligations also extend to meeting and exceeding the goals and requirements of the Boston Harbor Decree and the Consent Decree executed in 2012 with the Environmental Protection Agency (“EPA”) related to stormwater discharges.

A continuing issue facing municipalities this year is the Other Post-Employment Benefits (“OPEB”) Liability as stated in GASB Statement Numbers 43 and 45. The Commission has adopted an irrevocable, tax-exempt trust for the purpose of funding the OPEB obligation. The Commission funded the 2015 Current Expense Budget with \$5.4 million dedicated to reducing the liability of the Commission’s trust. The Commission will continue to work with the City of Boston to fully fund the Commission’s portion of the liability since the Commission is part of the City of Boston’s retirement system.

Commission Organization

The Boston Water and Sewer Commission is overseen by a three-member Board of Commissioners appointed by the Mayor of Boston, subject to the approval of the City Council. The primary responsibility of the Board is to ensure the sound economical and efficient operation and maintenance of the systems and to ensure the highest quality services to the City of Boston. The Board of Commissioners is also responsible for setting clear financial and operational policy directives.

The Commission consists of five divisions: Executive, Operations, Engineering, Administration and Finance.

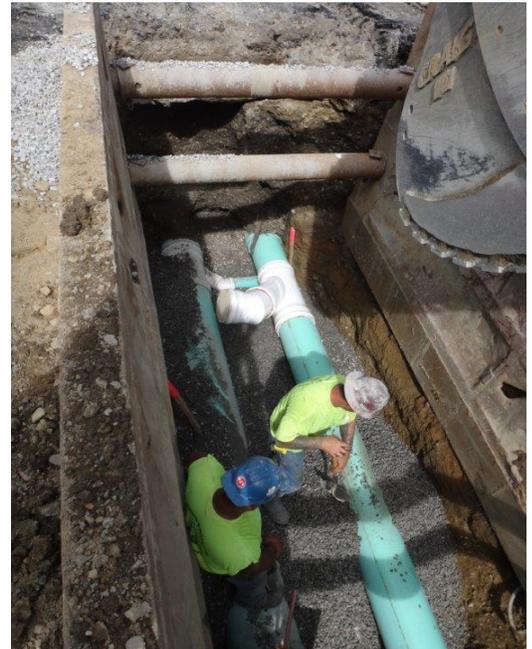
The *Executive Division* provides executive management, including policy formation and strategic planning, to the entire Commission. The Executive Division also represents the Commission in all legislative lobbying efforts pertaining to securing continued federal and state funded rate relief. This Division is also responsible for implementing and monitoring the Commission’s affirmative action plans and for ensuring the participation of women and minority-owned businesses in obtaining goods and services contracts and safety management to the entire Commission. Additionally, the Executive Division represents the Commission in all litigation. The Human Resources Department is now part of the Executive Division and provides its employees with proactive personnel services.

The *Operations Division* ensures the ongoing maintenance and emergency repairs to the Commission’s water and sewer mains, service connections, hydrants and drains. The Operations Division is also responsible for inventory control, management and maintenance of the Commission’s automotive fleet for the entire Commission.

The *Engineering Division* is responsible for high quality, reliable water, and sewer and drainage services. These services are achieved by effectively planning, designing, managing and providing contract compliance for the construction of the Commission’s Capital Improvement Projects.

The *Administration Division* provides the Commission and the Commission’s customers with administrative support services. The Administration Division provides its employees with proactive personnel services. This Division is also responsible for representing the Commission at various public and community meetings, maintaining collections, customer services and the installation and repair of meters and the provision of facilities and support services. The Information Technology (“IT”) Department is now part of the Administration Division and is responsible for the preservation of the Commission’s technical infrastructure.

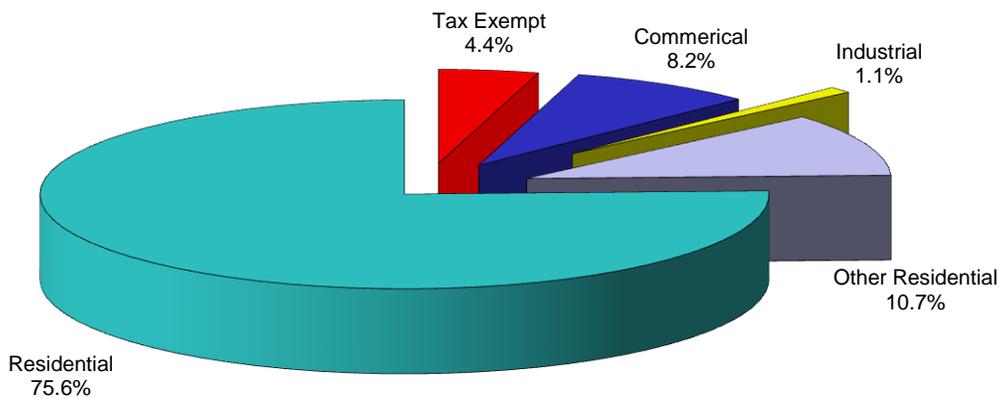
The *Finance Division* provides effective management of the Commission’s revenues and all its resources. The Finance Division accomplishes this goal through its financial budgeting, rate setting, accounting and cash management, billing and adjustments. This Division is also responsible for financing debt, managing investment, providing procurement, investigating, documenting and resolving meter problems and erratic consumption.



Customer Base

2015 Distribution of Customers by Account Type

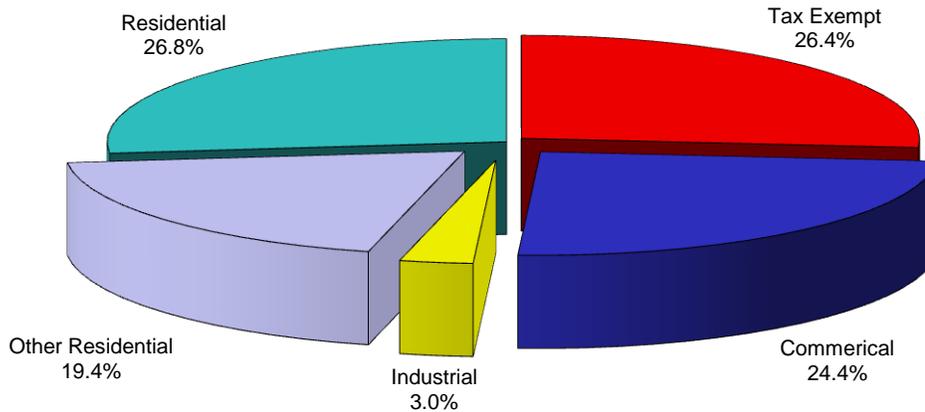
ACCOUNT TYPE BY LAND CODE	NUMBER OF ACCOUNTS	% OF TOTAL ACCOUNTS
Residential	66,491	75.6%
Other Residential	9,457	10.7%
Commercial	7,224	8.2%
Tax Exempt	3,903	4.4%
Industrial	929	1.1%
Total by Consumption	88,004	100.0%



The Commission provides water and sewer services to residential, commercial, industrial, public, private and non-profit institutional properties throughout the city. The above table and graph show the distribution of the Commission’s 88,004 accounts in 2015 as followed: 75.6% were one-to-three-family dwellings; other residential dwellings accounted for 10.7%. Commercial customers represented 8.2%; tax-exempt customers accounted for an additional 4.4%; the remaining 1.1% of the customer base was made of the industrial customers. It should be noted that the Boston Housing Authority, which is tax exempt and is also the Commission’s largest customer, falls into the classification “other residential.”

2015 Distribution of Customers by Consumption

ACCOUNT TYPE BY CONSUMPTION	SALES IN CUBIC FEET(000)	% OF TOTAL CONSUMPTION
Residential	727,143	26.8%
Other Residential	525,795	19.4%
Commercial	664,414	24.4%
Tax Exempt	717,817	26.4%
Industrial	80,241	3.0%
Total by Consumption	2,715,410	100.0%



While the graph on the previous page highlights the distribution of the Commission’s customer base by account type, the graph above illustrates the distribution of customers by consumption. Although one-to-three-family dwellings have accounted for 75.6% of the total accounts, the actual consumption is much lower, using only 26.8%. Other residential customers accounted for an additional 19.4%. The non-residential segment of the customer base (commercial, industrial and tax exempt) represented only 13.7% of customer accounts but generated 53.8% of retail water sales. These accounts are financially strong entities for which water and sewer charges typically represent a relatively small portion of their operating budget. The high percentage of annual consumption by a relatively small number of accounts has had a positive financial impact on the Commission. These accounts, which include hospitals, universities, commercial and industrial businesses, provide the necessary stability and diversity to the customer base while creating a steady stream of revenue on a monthly basis. The composition of the Commission’s customer base is highly regarded by credit rating agencies as a major financial strength. Together with the Commission’s proven record of financial management, we have achieved excellent credit ratings. The Commission has received the following ratings from credit agencies:

- “AA+” – Fitch Investor Services
- “AA+” – Standard and Poor’s
- “Aa1” – Moody’s Investor Services

Economic Outlook

The City of Boston is the regional center for financial, governmental, higher educational and medical services for the entire geographical area of New England. Boston is the twenty-third largest city in the United States. The city's population, as estimated by the United States Census Bureau, increased from 655,884 in 2014 to 667,137 in 2015, an increase of 1.7%. Boston is also a well-educated multicultural city with 44.6% of the population having at least a bachelor's degree and 53.0% of the population made of minority or ethnic groups.

While Boston's economy had experienced moderate growth from 2004 through 2008, in November 2008 the city began to experience rising unemployment and deteriorating outlook as the financial markets began to implode. Since the Great Recession, the city had strived for a stable recovery with various economic improvements. Boston's unemployment rate dropped from 4.4% in December 2014 to 4.0% in December 2015. The city's December 2015 unemployment rate was relatively healthier than the national unemployment rate of 5.0% of the same period. Both the state of Massachusetts and New England, in December 2015, also had higher unemployment rates than the City of Boston, 4.9% and 4.6%, respectively.

The world economy and the national economy have been undergoing some fundamental shifts in the last three decades. For example, the industrial and manufacturing sectors in the U.S. have drastically declined due to the rise in worker productivity assisted by Information Technology and the growing levels of automation and off-shoring jobs to countries with low-wage workers. Boston, on the other hand, with its unique concentration of institutions of higher education, research firms and financial services, had weathered the economic crisis. Much of Boston's economic recovery and stability came from the growth in the following industries: Health, Education, Professional & Business Services and Hospitality & Leisure. In 2015, Boston had well over fifty private employers with 1,000+ employees. In addition, with 34 colleges and universities and 21 hospitals, Boston had more than four times the national average concentration of private hospital and higher education employment. These sectors had played an important role in stabilizing the state and local economies during times of recession as well in aiding economic recovery efforts. According to the economy report by Boston Redevelopment Authority, Boston had been adding at least 10,000 jobs per year from 2011 to 2014, the most recent year for which employment data were available.

Throughout the year 2015, the Commission continued to move forward by delivering effective service to all of its customers. As a result of strong management initiatives, a solid financial foundation and the use of cutting-edge technology, the Commission will continue to meet the needs of Boston consumers with reliable wastewater removal and efficient water supply well into the future.

Sources: *United States Quick Facts*, US Census Bureau
Economy at a Glance, Bureau of Labor Statistics
Boston's Workforce, Boston Redevelopment Authority

Major Initiatives and Achievements

Distinguished Budget Presentation Award

The Commission's 2015 Current Expense Budget ("CEB") received the Government Finance Officers Association's ("GFOA") Distinguished Budget Award, the highest form of recognition in governmental budgeting. This award recognized that the CEB met the GFOA program criteria as a policy document, an operations guide, a financial plan and a communications device. The Commission has been the recipient of this prestigious award for the twenty-fourth consecutive year.

Certificate of Achievement for Excellence in Financial Reporting Award

The Commission's 2014 Comprehensive Annual Financial Report ("CAFR") received the GFOA's Certificate of Achievement for Excellence in Financial Reporting. The CAFR was judged based on its conformity to Generally Accepted Accounting Principles ("GAAP") and its compliance with other finance related legal and contractual provisions. The Certificate of Achievement is the highest form of recognition in governmental accounting and financial reporting, and its attainment represents a significant accomplishment for any municipality or governmental agency. This accomplishment marks the twenty-third consecutive year in which the Commission has received this recognition.

Public Water System Award

The Commission received the Public Water System Award from the Massachusetts Department of Environmental Protection (“MassDEP”)’s Drinking Water Programs for outstanding performance and for excellent compliance efforts to protect and supply safe drinking water to Boston. 2015 marks the sixth time that the Commission has received this award. The Commission was also given special recognition by MassDEP for winning the national “Best of the Best” Tap Water Taste Award. The award acknowledges dedicated professionals who maintain safe and consistent delivery of portable water to the residents of the Commonwealth.

Platinum Award for Utility Excellence

In 2015, the Association of Metropolitan Water Agencies (“AMWA”) recognized the Commission for the strong record of effective utility management with the Platinum Award for Utility Excellence. The Platinum Award criteria are based on the Ten Attributes of Effectively Managed Sector Utilities and the Keys to Management Success, which were developed by a blue ribbon committee of water industry executives at the request of the U.S. Environmental Protection Agency (“EPA”).

Commonwealth of Massachusetts Governor’s Citation

The Commission was presented with the Commonwealth of Massachusetts Governor’s Citation in recognition of dedicated service to maintaining a safe and abundant supply of clean water and commitment to protecting the environment. The award gives formal recognition to achievements by both individuals and teams of state employees and their dedication to public trust and commitment to excellence.

The Completion of Combined Sewer Overflow Program

The Massachusetts Water Resources Authority (“MWRA”) assumed responsibility and legal liability for the development of a comprehensive Combined Sewer Overflow (“CSO”) control programs for all MWRA and community CSOs (Boston, Cambridge, Chelsea, Somerville) served by the MWRA sewerage system. In December 1994, the MWRA completed a CSO conceptual plan and a system master plan as required by the federal court order. The plan complied with the EPA 1994 national CSO policy and included controls tailored to the water quality conditions and standards in 14 distinct receiving water segments in Boston Harbor and its tributary waters.

A Federal Court had established a schedule with project specific milestones for implementation of the MWRA CSO Facilities Plan. As of December 2015, the Commission has completed all major CSO sewer separation work since 1996, spending approximately \$300 million on sewer separation projects. The CSO separation projects have reduced annual discharge of CSO by 124.3 million gallons.

The importance of the Commission’s sewer separation work has increased considerably. Since the MWRA’s wholesale sewer charges are based in part on total metered wastewater flow, the Commission’s ability to remove extraneous flows from its sewers will result in a reduction in its metered wastewater flow and wholesale sewer charges.

Environmental Protection Agency

In August 2012, the Commission entered in a Consent Decree with EPA and MassDEP regarding violations of its municipal separate storm sewer system permit. The Consent Decree required that the Commission take the necessary measures to fulfill the objectives of both the federal and Massachusetts Clean Water Acts. Under the terms of the Consent Decree, the Commission implemented a Capacity, Maintenance, Operations and Management (“CMOM”) self-assessment study that analyzed all aspects of the Commission’s sanitary sewer and storm drainage facility operations and maintenance. The Commission finalized a CMOM Corrective Action Plan in July 2013 and developed a CMOM Program Document in May 2014. The Consent Decree offers an unprecedented opportunity for the Commission to increase its role as an environmental steward for Boston’s waterways. The Commission is committed to meeting and surpassing the benchmarks outlined in the Consent Decree. To fulfill this commitment, the Commission has begun implementing both short-term and long-term measures that are designed to improve water quality, increase public awareness and protect the environment.

The City of Boston, the Commission and its ratepayers have helped clean up Boston Harbor and Boston’s waterways to a level where they are accessible for public use 98% of the time. South Boston’s beaches are recognized as the cleanest urban beaches in the U.S., and the Charles River has been recognized by the EPA and internationally as one of the cleanest urban rivers in America. The Commission’s illicit discharge detection protocol and sampling program have been cited as an example and

standard by the EPA. These achievements are a direct result of the Commission’s investment in improved sewer and storm-water infrastructure, implementation of best management practices and working with other stakeholders in the City of Boston. The Commission will continue on a tenable, sustainable path to improve water quality and maintain outstanding access to the City’s waterways.

Debt Plan and Commercial Paper Program

The Commission issues General Revenue Bonds to finance portions of its Capital Improvement Program (“CIP”). The Commission’s 2016-2018 CIP, which totals \$202.7 million, anticipates that projects totaling \$130.8 million, or 64.5%, will be funded from bond proceeds. The 2016 budget for debt service is \$48.3 million, or approximately 14.1% of the overall expenses. The Commission currently has eight series of General Revenue Bonds outstanding at the end of 2016:

\$ 28.6 million	1993 Series A
20.3 million	1994 Series A
33.8 million	2009 Series A
29.1 million	2009 Series B
55.4 million	2010 Series A
107.5 million	2012 Series A
100.0 million	2014 Series A
72.8 million	2015 Series A

The Commission implemented a Commercial Paper Program in December of 2006 with an initial draw of \$25.0 million. As of December 31, 2015 the Commission had \$25.0 million outstanding Commercial Paper.

Capital Improvement Program

The overall objectives of the Commission’s CIP are to ensure the delivery of high-quality potable water for consumption and fire protection, as well as the efficient collection of sewage for transport and delivery to a treatment facility for approved discharge. In addition, the CIP includes projects to improve the overall efficiency of the Commission and to enhance the Commission’s ability to provide services to its customers. The projects included in the current CIP are intended to accomplish these objectives in the most efficient and cost effective manner. Recently, a number of major enhancements to the Commission’s water and sewer systems have been undertaken. These include the following:

- Update of Water Pipe Ranking Software
- Water Main Replacement Program
- Sewer and Drain Replacement Program
- Sewer and Drain Rehabilitation and Replacement in the North End
- Lining of the West Side Interceptor
- Inspection and Rehabilitation of Steel Water Mains
- Sewer Separation in Roxbury
- City-wide Illegal Connections Investigations
- Upgrades to Union Park Pumping Station and Satellite Stations
- Upgrade of Automatic Metering Infrastructure (“AMI”)
- CCTV of Sewers and Storm Drains (Contamination Investigation)
- Construct Best Management Practices and Green Infrastructure Central
- Fort Point Channel Water Quality Assessment
- Stormwater Fee Evaluation
- Augment Drain Model to Characterize Water Quality
- Wastewater/Drainage Facilities Plan
- Separation of Sewer House Laterals
- Design of Constructed Wetland in Storm Water Tributary Area
- Design of Constructed Rain Gardens

Introductory Section

The following tables show the funding sources and cash flows for the 2016-2018 periods:

<i>Funding Source</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2016-2018</i>
<i>BWSC Bonds</i>	\$ 68,133,000	\$ 47,168,000	\$ 15,462,000	\$ 130,763,000
<i>Rate Revenue</i>	15,003,000	17,214,000	11,328,000	43,545,000
<i>MWRA Water Assistance</i>	6,413,000	5,917,000	2,099,000	14,429,000
<i>MWRA I/I Assistance</i>	147,000	796,000	531,000	1,474,000
<i>Mass. Clean Water Trust</i>	2,500,000	5,000,000	5,000,000	12,500,000
Total	\$ 92,196,000	\$ 76,095,000	\$ 34,420,000	\$ 202,711,000

<i>Program Source</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2016-2018</i>
<i>Water</i>	\$ 40,310,000	\$ 34,144,000	\$ 11,996,000	\$ 86,450,000
<i>Sewer</i>	37,446,000	35,771,000	17,094,000	90,311,000
<i>Support</i>	14,440,000	6,180,000	5,330,000	25,950,000
Total	\$ 92,196,000	\$ 76,095,000	\$ 34,420,000	\$ 202,711,000

Note: Although expenditures decrease from 2017 to 2018, it is anticipated that funding for 2018 will be equal or greater than funding presented in 2017. The decrease in 2018 is primarily due to the CIP being a one-year cash flow, over a three-year budget period.



As shown in the first table, funding for the CIP is provided through five sources: Commission general revenue bonds, current year rate revenues and two grant/loan programs provided by the MWRA and the Massachusetts Clean Water Trust (“MCWT”). The primary funding source for the three-year capital program is the sale of Commission general revenue bonds. Over the three-year plan, general revenue bonds will comprise \$130.8 million, or 64.5% of the total funding requirement. In 2016, bonds made up \$68.1 million, or 73.9% of the funding required for that year.

Based on the second table, expenditures are divided into three categories: Water Distribution System projects, Sewer System projects and Support projects. Water Distribution System projects account for \$86.5 million, or 42.7% of the 2016-2018 CIP. Sewer System projects comprise \$90.3 million, or 44.5% and Support projects total \$25.9 million, or 12.8% of the expenditures.

Introductory Section

Total capital expenditures of \$92.2 million were outlined for 2016. Water Distribution projects comprised \$40.3 million, or 43.7%. Sewer System projects accounted for \$37.5 million, or 40.6%, and Support projects totaled \$14.4 million consisting of the remaining 15.7% of the 2015 amount.

As in the past, the 2016-2018 CIP programs will fund renewal and replacement (“R&R”) projects from current rate revenues. Renewal and replacement projects include water main relining, water main replacement (only replacement with the same size pipe), sewer pipe rehabilitation and the residential meter replacement program. The 2016-2018 CIP outlines R&R expenses of \$43.5 million, or 21.5% of total expenditures over the three years of the program. In 2016, approximately \$15.0 million, or 16.3%, will be expended out of current rate revenues for CIP projects.

The 2016-2018 CIP for the Water Distribution System continues programs for the replacement of water mains, the replacement of older or defective hydrants as necessary on all replacement projects, the replacement of water mains on new or reconstructed bridges and various design services, permits and paving fees associated with the capital funded projects. Over the last ten years, the Commission has completed a total of \$255.0 million in water distribution improvements. These improvements have resulted in the replacement of 103.9 miles of water mains and cement lining of 43.5 miles of water mains. The projects scheduled for initiation in 2016 will result in the replacement of approximately 11 miles of water mains.

The 2016-2018 CIP has five major programs for the Sewer System: the sewer renewal and replacement program, the increased capacity program, the sewer separation and storm drainage program, the Infiltration/Inflow program and special projects. Projects in the Sewer System CIP include the repair or replacement of approximately 4.7 miles of deteriorated or collapsed sanitary sewers and storm drains along with the television inspection of approximately 90 miles of sewer pipe. Also included are drainage improvements and the replacement of faulty tide-gates. In addition, the Commission’s CMOM program includes the cleaning and inspection of approximately 60 miles of sewer pipe in 2015. The CMOM Program utilizes closed circuit TV camera inspection equipment and software to assess the structural and maintenance condition of pipes. The SCREAM system is used to prioritize these inspection results for repair and replacement by the Commission crews and is under its Capital Improvement Program. This program together with TV Inspections under other programs will result in the inspection of more than 80 miles in 2016 with a goal of completing the entire system over a ten year period.

Each year the Commission participates in the MWRA Infiltration/Inflow program for Infiltration/Inflow and Separation projects. Since 1993, the Commission has received \$83.7 million in MWRA funding for various Infiltration/Inflow and Separation projects. The Commission plans to continue to take advantage of MWRA funding over the 2016-2018 period. \$1.5 million in funding is anticipated to be used for projects that are ongoing along with new projects for the three years 2016-2018.

In 2010, the MWRA Board voted to authorize the development of a loan program to assist its member communities in the performance of water system improvement projects. The program is called the MWRA Local Water System Assistance Program (“LWSAP”). The program offers interest-free loans payable over a ten-year period and is designed to improve water quality in local distribution systems. The amount of funding available from the program is \$29.2 million per year with Boston receiving a share of approximately \$3.9 million. The loans will be repaid to the MWRA over a ten-year period. Loan funds are approved for distribution from fiscal year 2011 through fiscal year 2020. The Commission has applied for loan funding for certain water main replacement projects awarded in 2010 and through the remainder of this program. Projects costs incurred on or after January 1, 2010 have been considered for eligibility in application under the LWSAP. From 2010 to 2015, the Commission has received \$23.3 million in LWSAP funding. It is anticipated that in 2015, \$6.4 million will be funded using the LWSAP Program.

The Massachusetts Clean Water Trust, which is administered by MassDEP, is a joint federal-state financing loan program that provides subsidized interest rate loans to improve or protect water quality in the Commonwealth. In 2014, the Commission submitted an application to MassDEP for funding toward Sewer Separation in the Upper Roxbury Area. This Sewer Separation program includes approximately 250 acres of residential, commercial and industrial areas in Roxbury, bounded by Blue Hill Ave, Warren St., Gerard St., Melena Cass Boulevard and the Washington Park area. The area is primarily served by a combined sewerage system in the inland areas. All of the flows drain to existing combined sewer interceptor, primarily via the Roxbury Canal Sewer and the Dorchester Brook Conduit. Funding for the 2016-2018 Capital Improvement Program is \$12.5 million.

Sources: *2016 Current Expense Budget*, Boston Water and Sewer Commission.
2016 – 2018 Capital Improvement Program, Boston Water and Sewer Commission.

Financial Information

Administrative Controls

Internal controls are procedures designed to protect assets from loss, theft or misuse, to check the accuracy of accounting data, to promote operational efficiency, to facilitate the preparation of financial statements, to satisfy other reporting requirements and to encourage compliance with managerial policies.

The Commission is responsible for establishing a system of internal controls that provide reasonable assurance that these objectives are met. The concept of reasonable assurance stipulates that (1) the cost of a control should not exceed the benefits likely to be derived and (2) the valuation of cost and benefits requires estimates and judgments by management. Federal and State financial assistance programs require recipients to comply with a number of laws and regulations. Administrative controls are procedures designed to ensure compliance with these programs. The Commission has established a system of administrative controls to ensure compliance with the requirements of the programs under which it receives financial assistance.

As with other internal controls, this system is subject to periodic review and evaluation by management or by the Commission's independent auditors. Additional enhancements to the Commission's accounting, administrative, and operational controls have taken place and are described below.

Budgeting Systems and Controls

The Commission establishes its annual CEB on a rate basis that is consistent with generally accepted rate-setting practices of the utility industry. The financial statements contained in the financial section of this report, however, are presented on a basis that is consistent with GAAP for regulated utilities.

The Commission identifies operating, fixed and capital costs and prepares an annual CEB and three-year CIP. The Commission's Enabling Act requires that the Commission recover its costs of operation through fees, rates, rents, assessments and special charges. The CEB defines the operational activities and other costs that must be funded from these revenue sources during the fiscal year. The budget includes the costs of operations, maintenance and repair programs, MWRA charges for water supply and wastewater treatment, the Safe Drinking Water Act ("SDWA") assessment and Renewal & Replacement projects funded from current revenues, insurance, debt service and additional reserves.

The Commission has developed this integrated financial plan to encompass all of its current expenses and capital improvement needs. It also helps provide for the efficient, financially self-sustaining operation of the water and sewer systems and allocates costs to all our customers in a fair and equitable manner.

Long Term Financial Planning

The Enabling Act designated the Commission with the responsibility for the operation and maintenance of the water distribution and the wastewater collection and storm-water drainage systems which serve the City of Boston. Complying with the requirements of the Enabling Act and the General Bond Resolution, the Commission is presenting its CIP totaling \$202.7 million for the three-year period 2016-2018. The CIP is made up of Water, Sewer and Support Programs.

The Commission's Water Program for 2016-2018 accounts for \$86.5 million, or 42.7%, of the total CIP expenditures. The Sewer Program accounts for \$90.3 million, or 44.5%, of the CIP. The Support Program accounts for \$25.9 million, or 12.8%, of the CIP.

Monies allocated for the 2016 programs total \$92.2 million. The amount mentioned is distributed as followed: Water \$40.3 million, or 43.7%; Sewer \$37.5 million, or 40.6%; and Support \$14.4 million, or 15.7%.

Acknowledgements

The staff of the Finance Division is responsible for the preparation of this Comprehensive Annual Financial Report. We wish to acknowledge the staff's dedicated effort in bringing together information from numerous sources to produce this document.

Respectfully submitted,



Henry F. Vitale
Executive Director



Nelson W. Piacenza
Chief Financial Officer and Treasurer

Board of Commissioners

Michael J. Woodall, Chair

Muhammad Ali-Salaam, Commissioner

Cathleen Douglas Stone, Commissioner

Senior Management

Henry F. Vitale, Executive Director

Nelson W. Piacenza, Chief Financial Officer and Treasurer

John P. Sullivan, P.E., Chief Engineer

Paul Canavan, Director of Operations

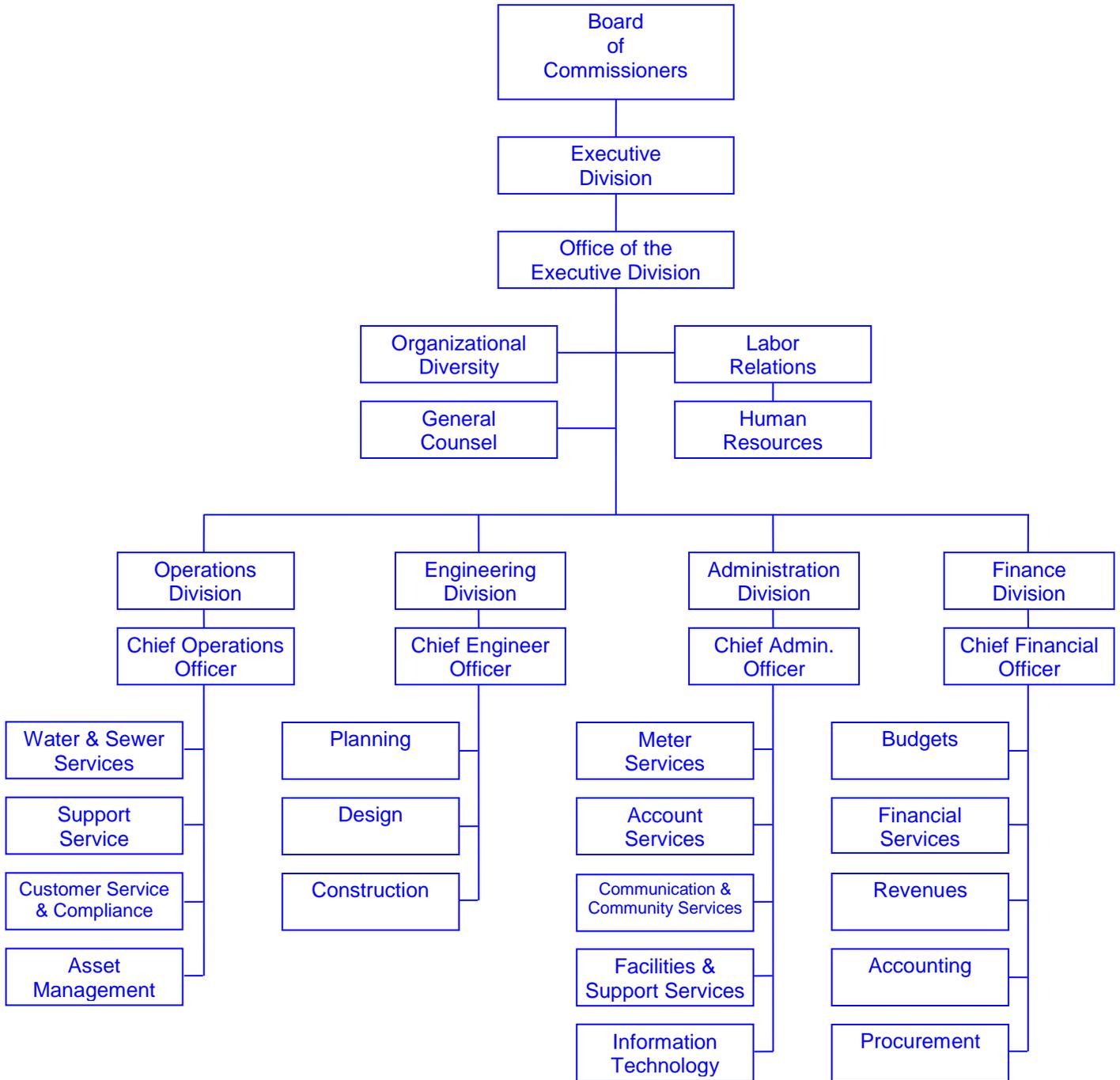
Hussein Dayib, Director of Organizational Diversity

Gerald F. Dwyer, Chief Administrative Officer

Bonita Gottschalk, General Counsel

Maureen E. Hanson, Director of Labor Relations

Organizational Chart





Government Finance Officers Association

**Certificate of
Achievement
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in Financial
Reporting**

Presented to

**Boston Water & Sewer Commission
Massachusetts**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

December 31, 2014

Executive Director/CEO

EXHIBIT I
2015 BUDGETED REVENUE AND EXPENSE ANALYSIS
(RATE BASIS)

	2015 ACTUAL	2015 BUDGET	VARIANCE	PERCENT VARIANCE
Revenues:				
Water & Sewer	\$336,805,905	\$328,091,642	\$8,714,263	2.7%
Less:				
Adjustments	8,366,706	8,202,291	(164,415)	-2.0%
Discounts	1,238,639	1,090,670	(147,969)	-13.6%
Bad Debt	223,168	328,092	104,924	32.0%
Subtotal	9,828,513	9,621,053	(207,460)	-2.2%
Net Billed Charges	326,977,392	318,470,589	8,506,803	2.7%
Prior Year Surplus	389,063	386,066	2,997	0.8%
Miscellaneous Revenues:				
Late Charges	1,414,957	1,312,367	102,590	7.8%
Investment Income	2,824,294	3,463,732	(639,438)	-18.5%
Fire Pipe	4,486,066	4,362,679	123,387	2.8%
Other Income	6,294,690	6,678,410	(383,720)	-5.7%
Total Revenues	342,386,462	334,673,843	7,712,619	2.3%
Direct Operating Expenses:				
Salaries and Wages	46,923,242	35,818,195	(11,105,047)	-31.0%
Overtime Wages	789,500	692,344	(97,156)	-14.0%
Fringe Benefits	7,710,203	7,760,389	50,186	0.6%
Supplies and Materials	2,295,723	2,921,143	625,420	21.4%
Repairs and Maintenance	6,686,471	7,379,444	692,973	9.4%
Utilities	1,093,997	1,493,052	399,055	26.7%
Professional Services	2,724,914	3,329,180	604,266	18.2%
Space and Equipment Rentals	251,778	276,800	25,022	9.0%
Other Services	1,560,244	1,743,777	183,533	10.5%
Insurance	533,935	548,224	14,289	2.6%
Travel and Training	73,004	124,800	51,796	41.5%
Damage Claims	61,729	100,000	38,271	38.3%
Inventory	10,778	23,000	12,222	53.1%
Capital Outlay	76,327	107,500	31,173	29.0%
Total Direct Operating Expenses	70,791,845	62,317,848	(8,473,997)	-13.6%
Indirect Operating Expense:				
MWRA Assessment	206,839,502	208,531,087	1,691,585	0.8%
Capital Improvement	8,939,628	12,759,000	3,819,372	29.9%
Debt Services	48,105,732	49,262,254	1,156,522	2.3%
Contractual Funding Obligations	6,990,000	1,605,327	(5,384,673)	-335.4%
SDWA Assessment	198,327	198,327	-	0.0%
Total Indirect Operating Expenses	271,073,189	272,355,995	1,282,806	0.5%
Total Current Expenses	\$341,865,034	\$334,673,843	(\$7,191,191)	-2.1%

EXHIBIT II
REVENUES AND EXPENSES - BUDGETARY BASIS
FOR THE YEARS ENDED DECEMBER 31, 2015 AND 2014
(RATE BASIS)

	<u>2015</u>	<u>2014</u>	<u>CHANGE</u>	<u>PERCENT</u>
Water Revenue	\$149,355,846	\$139,922,776	\$9,433,070	6.7%
Sewer Revenue	187,450,059	175,943,859	\$11,506,200	6.5%
Revenue Adjustments	(9,828,513)	(8,746,133)	(\$1,082,380)	12.4%
Prior Period Surplus	389,063	211,384	\$177,679	84.1%
Other Revenue :				
Fire Pipe	4,486,066	4,330,652	\$155,414	3.6%
Late Charge	1,414,957	1,357,316	\$57,641	4.2%
Investment Income	2,824,294	2,820,493	\$3,801	0.1%
Other Income	6,294,690	5,666,579	\$628,111	11.1%
Total Revenue	<u>342,386,462</u>	<u>321,506,926</u>	<u>20,879,536</u>	<u>6.5%</u>
Operating Expenses	70,791,845	59,668,195	(\$11,123,650)	-18.6%
MWRA Assessments	206,839,502	199,673,027	(\$7,166,475)	-3.6%
SDWA Assessments	198,327	200,249	\$1,922	1.0%
Other Nonoperating Expenses :				
Capital Improvements	8,939,628	8,057,958	(\$881,670)	-10.9%
Deposit to Reserves	6,990,000	6,643,000	(\$347,000)	-5.2%
Debt Service	48,105,732	46,875,435	(\$1,230,297)	-2.6%
Total Expenses	<u>341,865,034</u>	<u>321,117,864</u>	<u>(\$20,747,170)</u>	<u>-6.5%</u>
Current Surplus	<u><u>\$521,428</u></u>	<u><u>\$389,062</u></u>	<u><u>\$132,366</u></u>	<u><u>34.0%</u></u>

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*Financial
Section*

2015



INDEPENDENT AUDITORS' REPORT

To the Commissioners of
Boston Water and Sewer Commission
Boston, Massachusetts

Report on the Financial Statements

We have audited the accompanying financial statements of Boston Water and Sewer Commission (the "Commission"), which comprise the statement of net position for the year ended December 31, 2015, the related statements of revenues, expenses and change in net position and cash flows for the year then ended, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Boston Water and Sewer Commission as of December 31, 2015, and the respective change in net position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of a Matter

As discussed in Note 2 to the financial statements, the Commission restated the Statement of Net Position as of December 31, 2014 in connection with the implementation of Government Accounting Standards Board Statement No. 68, effective for calendar year 2015 – *Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27*. Our opinion is not modified with respect to this matter.

Required Supplementary Information

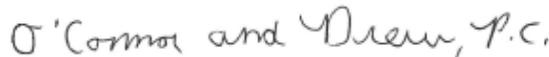
Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis on pages 21 through 25, the schedule of proportionate share of the net pension liability on page 54, and the schedule of contributions on page 55 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Government 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 historic 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 with 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 audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Boston Water and Sewer Commission's basic financial statements. The accompanying supplemental schedule of revenues and expenses on page 56 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing 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.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated May 31, 2016 on our consideration of Boston Water and Sewer Commission's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Boston Water and Sewer Commission's internal control over financial reporting and compliance.



**Certified Public Accountants
Braintree, Massachusetts**

May 31, 2016

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2015

Overview

Upon its creation in 1977, Boston Water and Sewer Commission (the "Commission") assumed the responsibility to provide water distribution, wastewater collection and storm water drainage services in the City of Boston (the "City").

The Commission has realized a rate basis surplus from its operation in each year since its inception. In accordance with the Boston Water and Sewer Reorganization Act of 1977 (the Enabling Act), the Commission applies audited surpluses to reduce its rates in succeeding years.

To accommodate the rate making process, the Commission follows the accounting standards set forth in Governmental Accounting Standards Board Statement No. 62 ("GASB 62"), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. GASB 62 allows certain (a) revenues provided for future allowable costs to be deferred until the costs are actually incurred (deferred credits) and (b) costs incurred to be capitalized if future recovery is reasonably assured (deferred charges).

The statements of net position provide information on the assets and liabilities of the Commission, with net position reported as the difference between assets and liabilities. The statements of operations of the Commission reflect all revenues earned and all expenses incurred.

Condensed financial information for the most recent fiscal years is presented in this section of the report.

Condensed Financial Information

(in thousands)

	2015	(as restated) 2014
Current assets	\$ 57,638	58,201
Capital assets, net	1,302,178	1,256,782
Other assets	229,384	237,849
Total assets	<u>1,589,200</u>	<u>1,552,832</u>
Total deferred outflows	<u>68,553</u>	<u>42,292</u>
Current liabilities	93,966	60,148
Noncurrent liabilities	520,903	562,165
Total liabilities	<u>614,869</u>	<u>622,313</u>
Total deferred inflows	<u>652,233</u>	<u>600,022</u>
Net position:		
Invested in capital assets, net of related debt	764,282	724,198
Restricted	100,161	97,420
Unrestricted net deficit	<u>(473,792)</u>	<u>(448,829)</u>
Total net position	<u>\$ 390,651</u>	<u>372,789</u>

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2015

During the year, the Commission saw an increase in total assets and a decrease in total liabilities, resulting in an increase in total net position of \$17.9 million, or 4.8%. In 2014, net position totaled \$372.8 million, a decrease of \$3.1 million, or 0.8% from 2013. The Commission's 2015 operations resulted in a rate basis surplus of \$521,425 compared to \$389,062 in 2014.

Since inception, the Commission has invested in various capital assets, including capital improvement projects, machinery and equipment, buildings, and improvements. These investments, net of accumulated depreciation, totaled \$1.3 billion at December 2015, which is 3.6% higher than in 2014. In 2014, these investments totaled also \$1.3 billion, an increase of \$48.8 million, or 4.0% over the 2013 total investment in capital assets. These increases in capital assets are the result of continuous upgrades of the Commission owned water and sewer infrastructure.

Total operating revenues in 2015 were \$349.0 million, which is 6.7% greater than in 2014. Total operating revenues in 2014 were \$327.2 million, which is 3.2% greater than 2013. Operating revenues consist of water and sewer revenue, late charge revenue, fire pipe revenue and other income. Water and sewer revenue in 2015 and 2014 represented 96.9% of total operating revenues. The increases in 2015 and 2014 operating revenues were primarily driven by a 5.05% and 4.8% average rate increase, respectively.

Total operating expenses in 2015 were \$292.6 million, which represents an increase of 1.4% from 2014. The increase in 2015 operating expenses was primarily due to a combined additional spending of 19.7%, or \$12.8 million in three line items (operations, maintenance and Massachusetts Water Resources Authority ("MWRA") assessment) coupled with a reduction of pension expenses related to the enactment of GASB 68. Total operating expenses in 2014 were \$288.5 million, which represents an increase of 5.3% from 2013. This increase in 2014 expenses was driven by a combined increase in operation, maintenance and MWRA assessment. Operating expenses consist of operations and maintenance, MWRA assessment, depreciation and amortization. The MWRA assessment is the largest expense incurred by the Commission, representing 68.9% and 68.8% in 2015 and 2014, respectively, of total operating expenses.

In 2015 and 2014, over 85% of water provided by MWRA was billable to customers. Since its inception, the Commission has maintained the percentage of billable water at 78% and is continuing to take steps to improve the amount of billable water, including replacement of old and defective meters and implementation of a comprehensive leak detection and repair program.

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2015

Condensed Financial Information

(in thousands)

	<u>2015</u>	<u>(as restated) 2014</u>
Operating revenues:		
Water and sewer usage	\$ 338,220	317,224
Other	10,780	9,997
Operating expenses	<u>(292,641)</u>	<u>(288,549)</u>
Excess operating revenues	56,359	38,672
Investment income	2,934	5,215
Interest expense	<u>(19,769)</u>	<u>(18,697)</u>
Total nonoperating net expense	<u>(16,835)</u>	<u>(13,482)</u>
Excess revenues before capital grants, contributions and transfer requirements	39,524	25,190
Capital grants and contributions	30,549	3,355
Excess revenues used to fund reserves and other deferrals	(52,079)	(31,454)
Change in accumulated revenues used to offset future rates	<u>(132)</u>	<u>(178)</u>
Change in net position	17,862	(3,087)
Net position, beginning of year	<u>372,789</u>	<u>375,876</u>
Net position, end of year	<u>\$ 390,651</u>	<u>372,789</u>

Capital Assets

In fiscal year 2015, major Commission project additions totaled \$30.7 million, of which \$19.1 million was financed with bond proceeds. Major project expenditures (in millions) are as follows:

Relay of water mains	\$ 8.5
Rehabilitation/replacement of sewers or storm drains	15.4
Interceptor improvements	0.2
Separation of combined sewers	6.1
Infiltration and inflow	0.5
Meter replacement	—
	<u>\$ 30.7</u>

BOSTON WATER AND SEWER COMMISSION

Management’s Discussion and Analysis

Required Supplementary Information

December 31, 2015

The Commission’s 2016-2018 capital budget includes projected expenditures of \$202.7 million for infrastructure and capital projects. The major projects are for the rehabilitation of water mains and the replacement/rehabilitation of the sewer system. Some water projects are financed on a pay-as-you go basis combined with interest free loans for water rehabilitation provided by the MWRA. The majority of the sewer improvements along with the installation of a new radio frequency meter reading system will be financed through bond proceeds. However, there are sewer improvements that are funded through the utilization of the MWRA loan programs. Please refer to footnote 5 for more detailed capital asset activity.

Debt Plan

The Commission is empowered by the Enabling Act to issue bonds and notes payable solely constituted on the general obligation of the Commission. The Commission has no legal restrictions concerning the amount of debt, which it may have outstanding, subject to the coverage requirements described below.

The Commission issues General Revenue Bonds to finance portions of its capital improvement projects. The Commission’s 2016-2018 capital budget, which totals \$202.7 million, anticipates that projects totaling \$130.8 million, or 64.5% of the Commission’s 2016-2018 capital budget, will be funded from bond proceeds. The 2016 budget for debt service is \$48.3 million. Please refer to footnote 6 for more detailed long-term debt information.

The Commission currently has seven series of General Revenue Bonds outstanding at the end of 2015, totaling approximately \$447.5 million as follows (in millions):

1993 Series A	\$	28.6
1994 Series A		20.3
2009 Series A		33.8
2009 Series B		29.1
2010 Series A		55.4
2012 Series A		107.5
2014 Series A		100.0
2015 Series A		72.8
	\$	<u>447.5</u>

Debt Service Coverage Requirements

The Commission’s bond covenants require that rates and charges be at least sufficient to provide revenues (i) to pay all current expenses of the Commission, (ii) to pay the principal of, premium if any, and interest on all bonds issued by the Commission as they become due and payable, (iii) to create and maintain such reasonable reserves as may be reasonably required by any trust agreement or resolution securing bonds, (iv) to provide funds for paying the cost of all necessary repairs, replacements and renewal of the systems and (v) to pay or provide for any and all amounts which the Commission may be obligated to pay or provide for by law or contract. The Commission is also required to establish and maintain rates and charges at levels sufficient so that total net revenues in each year during which bonds are outstanding will equal at least 125% of (1) the bond debt service

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2015

requirement during such year less (2) the amount, if any, of bond proceeds available to pay interest becoming due in such year on bonds outstanding as of the first day of such year. The Commission has exceeded the 125% debt service coverage requirement of the Resolution in each year since its inception in 1977.

Additional Bonds and Refunding Bonds

The Enabling Act permits the issuance of additional bonds for paying the cost of any project, making deposits in various funds established under the Enabling Act, paying costs of issuance, paying the principal, premium and interest on any notes issued in anticipation of additional bonds, or any combination of the above.

Refunding bonds may also be issued by the Commission only upon certifying that the aggregate debt service in each fiscal year in which Refunding Bonds are outstanding will not be increased as a result of the issuance of the Refunding Bonds; provided that, in lieu of such certification, the Commission may deliver to the Trustee certificates satisfying the conditions described above for the issuance of additional bonds.

Budgets and Rates

The Commission is required by law to be self-sustaining to set its rates at a level sufficient to cover expenses and debt service requirements each year.

In 2006 the Commission modified its inclining block rate structure. The number of rate blocks was reduced from ten to six, thereby making the structure easier to understand for customers while still promoting water conservation and generating sufficient revenue. In 2015 and 2014, the Commission increased its water and sewer rates by an average of 5.05% and 4.8% respectively. The major reasons behind these increases were: (i) the increase in assessment paid to the MWRA, and (ii) the decline in water sales due to general water conservation efforts of individuals and businesses throughout the City.

Effective January 1, 2016, the Commission increased its water and sewer rates by an average of 3.0%.

Credit Ratings

The Commission's revenue bonds are rated "Aa1" by Moody's Investors Service, "AA+" by Standard and Poor's and "AA+" by Fitch Ratings.

Contacting the Commission's Financial Management

This report is designed to provide our bondholders, customers and other interested parties with a general overview of the Commission's finances and to demonstrate the Commission's accountability for the revenue it receives. If you have questions about this report or need additional information, contact Boston Water and Sewer Commission Finance Department in writing at 980 Harrison Avenue, Boston, MA 02119, or by telephone 617-989-7000, or on the web at www.bwsc.org.

BOSTON WATER AND SEWER COMMISSION

Statement of Net Position

December 31, 2015

Assets

Current assets:		
Cash and cash equivalents (Note 12)	\$	8,646,589
Accounts receivable, net:		
Customers, less allowances of \$2,731,284		21,425,174
in 2015 (Note 1)		26,996,634
Unbilled revenues, less allowances of \$1,702,361 in 2015		569,870
Prepaid expenses		
		<u>57,638,267</u>
Total current assets		
Noncurrent assets:		
Restricted cash and investments (Notes 6 and 12)		229,384,295
Capital assets (Note 5):		
Depreciable, net		1,135,194,778
Nondepreciable		166,982,457
		<u>1,531,561,530</u>
Total noncurrent assets		
Total Assets		<u>1,589,199,797</u>
Deferred Outflows of Resources (Note 3)		<u>68,553,363</u>

Liabilities

Current liabilities:		
Payable from current assets:		
Accounts payable		20,926,974
Other accrued liabilities		15,932,360
Commercial paper notes (Note 7)		25,000,000
Current portion of long-term notes (Note 6)		8,778,756
Current portion of revenue bonds (Note 6)		23,327,699
		<u>93,965,789</u>
Total current liabilities		
Noncurrent liabilities:		
Long-term notes (Note 6)		25,511,128
Revenue bonds, net (Note 6)		455,277,025
Net pension liability (Notes 10 and 14)		38,931,280
Other long-term liabilities (Note 14)		1,183,508
		<u>520,902,941</u>
Total noncurrent liabilities		
Total Liabilities		<u>614,868,730</u>
Deferred Inflows of Resources		
Deferred credits and reserves (Note 4)		<u>652,233,335</u>

Net Position

Net position:		
Invested in capital assets, net of related debt		764,282,627
Restricted for debt service		48,538,724
Restricted for capital assets		200,044
Restricted for debt covenants		51,422,141
Unrestricted net deficit		(473,792,441)
Commitments and contingencies (Notes 13 and 15)		
		<u>390,651,095</u>
Total Net Position	\$	<u><u>390,651,095</u></u>

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION
Statement of Revenues, Expenses and Change in Net Position
Year ended December 31, 2015

Operating revenues:		
Water and sewer usage (Notes 1)	\$	338,220,862
Fire pipe		4,486,066
Other		6,294,690
		<u>349,001,618</u>
Total operating revenues		349,001,618
Operating expenses:		
Operations		59,240,716
Maintenance		6,686,471
MWRA assessment (Note 8)		206,839,502
Depreciation and amortization		19,875,281
		<u>292,641,970</u>
Total operating expenses		292,641,970
Excess operating revenues		56,359,648
Nonoperating revenue (expense):		
Investment income		2,933,609
Interest expense		(19,769,119)
		<u>(16,835,510)</u>
Total nonoperating net revenue (expense)		(16,835,510)
Excess revenues before capital grants and contributions and transfer requirements		39,524,138
Capital grants and contributions: (Note 1)		<u>30,549,566</u>
Excess revenues before transfer requirements		70,073,704
Excess revenues used to fund reserves and other deferrals (Note 4)		(52,078,807)
Change in accumulated revenues used to offset future rates (Note 4)		(132,363)
		<u>17,862,534</u>
Change in net position		17,862,534
Net position, beginning of year		<u>372,788,561</u>
Net position, end of year	\$	<u>390,651,095</u>

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION

Statement of Cash Flows

Year Ended December 31, 2015

Cash flows from operating activities:	
Receipts from customers	\$ 351,913,896
Payments to suppliers	(258,160,024)
Payments to employees	(40,043,576)
	<u>53,710,296</u>
Net cash provided by operating activities	53,710,296
Cash flows from investing activities:	
Investment income	2,933,609
Sales of investments	206,934,979
Purchases of investments	(196,043,371)
	<u>13,825,217</u>
Net cash provided by investing activities	13,825,217
Cash flows from capital and related financing activities:	
Purchase of capital assets	(66,292,967)
Proceeds from long-term notes	3,875,400
Proceeds from revenue bonds	86,352,138
Payment of bond and long-term debt principal	(103,463,167)
Proceeds from commercial paper	25,000,000
Capital grants and contributions	5,556,465
Payment of interest	(20,208,154)
	<u>(69,180,285)</u>
Net cash applied to capital and related financing activities	(69,180,285)
Net decrease	(1,644,772)
Cash and cash equivalents, beginning of year	<u>103,860,892</u>
Cash and cash equivalents, end of year	\$ <u>102,216,120</u>
Reconciliation of operating income to net cash provided by operating activities:	
Excess operating revenues	\$ 56,359,648
Adjustment to reconcile operating income to net cash:	
Depreciation and amortization	19,875,281
Change in assets and liabilities:	
Accounts receivable, net	631,652
Unbilled revenues	2,272,663
Prepaid expenses	(14,441)
Accounts payable	604,179
Other accrued liabilities	7,964,857
Other long-term liabilities	(20,425,450)
Net pension activity	(13,558,093)
	<u>53,710,296</u>
Net cash provided by operating activities	\$ <u>53,710,296</u>
Schedule of noncash investing and financing activities:	
Bond issuance costs	\$ 391,444
MCWT subsidized loan repayments (Note 8)	\$ 454,074
Cash and cash equivalents comprise of the following:	
Cash and cash equivalents	\$ 8,646,589
Money market and cash investments in restricted cash and investments	74,241,476
Cash in restricted cash and investments	19,328,055
	<u>102,216,120</u>
Total	\$ <u>102,216,120</u>

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies

Boston Water and Sewer Commission (the "Commission") has the responsibility to provide water and wastewater services on a fair and equitable basis in the City of Boston (the "City") as required under the Boston Water and Sewer Reorganization Act of 1977 (the "Enabling Act").

Under the Enabling Act, the Commission is subject to regulation with respect to rates, accounting and other matters, where applicable, by the board of commissioners (the "Board"). The Board is appointed by the City's Mayor, subject to confirmation by the City Council. It regulates the rates that the Commission can charge its customers for water and sewer usage. The rates charged to customers are based on the cash requirements to cover the Commission's operations, debt service, and reserve contributions. To comply with the external financial reporting requirements of the Board, the accompanying financial statements are presented on a basis that is consistent with United States of America generally accepted accounting principles (GAAP) for regulated utilities (i.e., the accrual basis of accounting and the capital maintenance measurement focus).

To accommodate the rate-making process, the Commission follows the accounting standards set forth in Governmental Accounting Standards Board Statement No. 62 ("GASB 62"), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. GASB 62 allows certain board approved (a) revenues provided for future allowable costs to be deferred until the costs are actually incurred (deferred credits) and (b) costs incurred to be capitalized if future recovery is reasonably assured (deferred charges). Revenues and expenses appearing in the supplemental schedule of revenues and expenses – rate basis are presented in the same format as utilized in the Commission's operational budgeting and rate-setting process. The revenues and expenses shown on the statements of revenues and expenses are presented on a GAAP basis. Reconciliation between the revenues and expenses of these two operating statements for the year ended December 31, 2015 is provided below:

	<u>Revenues</u>	<u>Expenses</u>
As presented in the statements of revenues and expenses:		
Operating revenues/expenses	\$ 349,001,618	292,641,970
Investment income/interest expense	2,933,609	19,769,119
Total	<u>351,935,227</u>	<u>312,411,089</u>
Reclassifications and deferrals:		
Contributions to reserves	—	6,990,000
GAAP adjustments	(9,828,513)	(9,828,513)
Excess bond payments over depreciation and amortization	—	8,537,453
Interest expense (escrowed funds)	—	(76,122)
Investment income (escrowed funds)	(109,315)	—
Capital expenditures	—	9,015,955
Excess revenue used to offset current rates	389,063	—
Other deferrals	—	14,815,172
As presented in the supplemental schedule	<u>\$ 342,386,462</u>	<u>341,865,034</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

The Enabling Act requires that any net surplus, as defined by the rate-setting process, be either turned over to the City or applied to offset water and sewer rates for the following year. The Commission has applied \$521,428 for the year ended December 31, 2015 to offset rates in the respective subsequent years.

(a) Revenue Billings

Water and sewerage fees are billed to users of the systems on a monthly cycle basis. Revenues are accrued for periods between the termination of billings for the various cycles and the end of the year. Some adjustments are made on a post billing basis that reduce the amount of total billings. The total customer bills outstanding as of December 31, 2015 were approximately \$24.1 million. These net billing amounts are reduced by an allowance for uncollectible accounts of approximately \$2.7 million in 2015 to arrive at the net accounts receivable. Charges for water and sewer services provided but unbilled at year end are estimated based on a historical usage. The calculation is reduced by an allowance for the adjustment of approximately \$1.7 million.

(b) Investments

Investments are stated at fair value. Fair value is based on quoted market prices.

(c) Capital Assets

Capital assets are stated at historical cost. Depreciation is provided on the straight-line method based upon the estimated useful lives of the various classes of assets. Maintenance and repairs are charged to expense as incurred. Major renewals or betterments over \$500 are capitalized and depreciated over their estimated useful lives.

The Commission capitalizes interest costs during construction of assets for its own use. No interest was capitalized in 2015.

(d) Compensated Absences

Employees of the Commission accumulate unused sick time (subject to certain limitations) to be used at a later date or a percentage paid in cash upon voluntary resignation and/or retirement from the Commission (subject to Commission policies and/or bargaining agreements). The liability for vacation leave is based on the amount earned but not used; for sick leave, it is based on a percentage of the amount accumulated at the statement of net position dates that would be paid to employees on termination. The liability for each amount is calculated based on the pay or salary rates in effect as of the date of the statement of net position.

(e) Business-Type Activity Accounting

Business-type activity funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses result from providing services in connection with ongoing operations. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(f) Depreciation

The Commission provides for depreciation using the straight-line method. Estimated useful lives used in computing depreciation are as follows:

	<u>Years</u>
Water:	
Works	100
Meters	10
Hydrants	40
Sewerage:	
Works	75
Pumping station	35
Buildings	40
Other	4 to 14

(g) Cash and Cash Equivalents

The Commission considers all highly liquid, short-term cash investments with original maturities of three months or less to be cash equivalents for purposes of the statement of cash flows.

(h) Deferred Inflows and Outflows

Deferred inflows and outflows represent the consumption or acquisition of net assets applicable to a future reporting period. These are typically items of an asset or liability nature for which an exchange transaction is not inherent to their realization or liquidation.

(i) Pensions

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

(j) Post-Employment Benefits

GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions* requires governments to account for other postemployment benefits (“OPEB”) on the accrual basis, rather than pay as you go (cash basis). Furthermore, the determination of the OPEB liability is dependent upon the type of plan in which the employer participates. Effective January 15, 2015, the Commission established an independent entity titled the Boston Water and Sewer Other Post-Employment Benefits (“OPEB”) Trust, to manage OPEB benefits for the Commission and assess the annual required contribution (“ARC”). To the extent the Commission does not pay the entire ARC or contractual obligation, they will have an OPEB related liability.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(k) Use of Estimates

The preparation of financial statements in conformity with United States of America generally accepted accounting principles 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.

(l) Contributions in Aid of Construction

Contributions in aid of construction (“CIAC”) are additions and/or upgrades to infrastructure made by customers or developers that have been assigned to the Commission upon completion of the applicable project. Historically, CIAC has not been material to the financial statements and the contribution is not recorded. The Commission accepts the responsibility for the ongoing maintenance of CIAC.

(m) Capital contributions

Capital contributions consist of special grants or loan subsidies received from the Massachusetts Water Resource Authority (“MWRA”) or Massachusetts Clean Water Trust (“MCWT”) along with funds received from property owners and developers to assist the Commission in development of their infrastructure.

(n) New Government Accounting Pronouncements

GASB Statement 72, *Fair Value Measurement and Application* is effective for periods beginning after June 15, 2015. This Statement requires a government to use valuation techniques that are appropriate under the circumstances and for which sufficient data are available to measure fair value. The valuation techniques should be consistent with one or more of the following approaches: the market approach, the cost approach or the income approach. Valuation methodologies should maximize the use of relevant observable inputs and minimize the use of unobservable inputs. GASB Statement 72 establishes a hierarchy of inputs to valuation techniques used to measure fair value, which are as follows: Level 1 inputs are unadjusted quoted prices in active markets for identical assets or liabilities. Level 2 inputs are inputs, other than quoted prices, included within Level 1 that is observable, directly or indirectly. Level 3 inputs are unobservable inputs such as management’s assumptions about certain factors affecting the value of the asset or liability. Management is in the process of evaluating the implementation of this Statement but does not expect any material effect to its financial position.

GASB Statement 73, *Accounting and Financial Reporting for Pensions and Related Assets that are not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68* is effective for periods beginning after June 15, 2015. The purpose of these provisions is to clarify and enhance certain reporting requirements of GASB Statements 67 and 68. GASB Statement 68 is effective for the fiscal year ended June 30, 2015. Management has not yet evaluated the effects of the implementation of GASB Statement 73.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(n) *New Government Accounting Pronouncements - Continued*

GASB Statement 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* is effective for periods beginning after June 15, 2017. This Statement replaces Statement 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pension Plans* and Statement 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*. The objective of Statement 75 is to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (“OPEB”). It also requires additional information by state and local governmental employers about financial support for OPEB that is provided by other entities. The Statement establishes standards for recognizing and measuring liabilities, deferred outflows and inflows of resources, and expense/expenditures. GASB 75 also identifies the assumptions and methods that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value and attribute that present value to periods of employee service for defined benefit OPEB. Management has not yet evaluated the effects of the implementation of this Statement.

GASB Statement 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments* supersedes similarly named Statement 55 and is effective for reporting periods beginning after June 15, 2015. The objective of this Statement is to identify, in the context of the current governmental financial reporting environment, the hierarchy of generally accepted accounting principles (“GAAP”). The hierarchy consists of the sources of accounting principles used to prepare financial statements of state and local governmental entities in conformity with GAAP and the framework for selecting those principles. GASB 76 reduces the GAAP hierarchy to two categories of authoritative GAAP and addresses the use of authoritative and non-authoritative literature in the event that the accounting treatment of a transaction or other event is not specified within a source of authoritative GAAP. Management is currently reviewing this pronouncement, implementation of which must be applied retroactively.

GASB Statement 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans* is effective for reporting periods beginning after December 15, 2015. The objective of the statement is to address a practice issue regarding the scope and applicability of GASB Statement 68, *Accounting and Financial Reporting for Pensions*. This issue is associated with pension plans provided through certain multiple-employer defined benefit pension plans and to state or local governmental employers whose employees are provided with such pension plans. Management has not yet evaluated the effects of the implementation of this Statement.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(n) *New Government Accounting Pronouncements - Continued*

GASB Statement 79, *Certain External Investment Pools and Pool Participants* is effective for reporting periods beginning after June 15, 2015. This Statement addresses accounting and financial reporting for certain external investment pools and pool participants. Specifically, it establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes. An external investment pool qualifies for that reporting if it meets all of the applicable criteria established in this Statement. The specific criteria address (1) how the external investment pool transacts with participants; (2) requirements for portfolio maturity, quality, diversification, and liquidity; and (3) calculation and requirements of a shadow price. Significant noncompliance prevents the external investment pool from measuring all of its investments at amortized cost for financial reporting purposes. Professional judgment is required to determine if instances of noncompliance with the criteria established by this Statement during the reporting period, individually or in the aggregate, were significant. Management has not yet evaluated the effects of the implementation of this Statement.

GASB Statement 82, *Pension Issues* is an amendment of GASB Statements No. 67, No. 68 and No. 73 and is effective for reporting periods beginning after June 15, 2016. The objective of this Statement is to address certain issues that have been raised with respect to Statements No. 67, Financial Reporting for Pension Plans, No. 68, Accounting and Financial Reporting for Pensions, and No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68. Specifically, this Statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. Management has not yet evaluated the effects of the implementation of GASB Statement 82.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(2) Restatement of Net Position

GASB 68 *Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27*, requires an entity participating in a multi-employer pension system to record its proportionate share of the net pension liability and to restate prior period balances accordingly. As a result of implementing this new standard the Commission recognized a net pension liability of \$32,763,071 as of December 31, 2014. The Commission follows the accounting standards set forth in GASB 62, and therefore provides for recovery of these pension liability costs as a deferred outflow of resources to be collected over the life of the liability in which it relates. GASB 68 also disallows the expenditure of contributions made to the plan after the valuation date. As of result of implementing this standard the Commission recognized a deferred outflow of resources of \$1,851,420 as of December 31, 2014. As noted above, GASB 62 allows the Commission to defer this credit until the period of recognition as an offsetting deferred inflow of resources.

The statement of net position as of December 31, 2014 was restated as follows:

	<u>As Previously Reported</u>	<u>Restated</u>
As of December 31, 2014:		
Deferred outflow of resources	\$ 7,678,084	\$ 42,292,575
Other long-term liabilities	\$ 28,120,977	\$ 60,884,048
Deferred inflow of resources	\$ 598,170,742	\$ 600,022,162

(3) Deferred Outflows of Resources

Deferred outflows of resources represent the consumption of net assets by the Commission that are applicable to future reporting periods. Deferred outflows of resources have a positive effect on net position, similar to assets. In accordance with GASB 62, pension obligations will be recovered through future rates or matched against credits related to the specific costs in the future.

The following is a summary of deferred outflow of resources as of December 31, 2015:

Costs to be recovered through future revenues:	
Pension obligation	\$ 38,931,280
Differences between projected and actual earnings on pension plan investments	7,454,492
Contributions made after the plan valuation date	7,955,018
Deferred loss on defeasance	<u>14,212,573</u>
Total	<u>\$ 68,553,363</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(4) Deferred Inflows of Resources

In accordance with GASB 62 resulted in certain revenues and expenses being removed from the statements of revenue and expenses and reflected in the statements of net position as deferred charges or deferred credits. The revenues and expenses that have been removed from the statements of revenue and expenses and added to the statements of net position as deferred credits appear in the line “Excess revenues used to fund reserves and other deferrals” on the statements of operations.

Components of excess revenues used to fund reserves and other deferrals for the year ended December 31, 2015 are as follows:

	<u>2015</u>
Contributions to reserves	\$ (6,990,000)
Principal payments on long-term debt	(28,412,734)
Interest paid from escrow funds	76,122
Capital expenditures	(9,015,955)
Depreciation and amortization	13,356,449
Investment income on project and escrow funds	658,305
Other	(21,750,994)
	<u>\$ (52,078,807)</u>

Excess revenues have been designated for the purpose of the deferred credits and reserves listed below. The activity in, and the components of, these items for the year ended December 31, 2015 is as follows:

Debt service	\$ 158,604,816
Capital improvements	477,252,012
Pension related	15,409,510
Working capital	(1,784,431)
Self-insurance	2,240,000
	<u>651,721,907</u>
Reduction of future Rates	<u>521,428</u>
Total	<u>\$ 652,243,335</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(5) Capital Assets

The cost and activity of water and sewerage capital assets in service and related accumulated depreciation at December 31, 2015 is as follows:

	(as restated) Balance at December 31, 2014	Increases	Decreases	Reclassification	Balance at December 31, 2015
Capital assets, not being depreciated:					
Land	\$ 5,884,243	\$ —	\$ —	\$ —	\$ 5,884,243
Construction in progress	178,229,299	62,864,802	—	(79,995,887)	161,098,214
Total capital assets, not being depreciated	<u>184,113,542</u>	<u>62,864,802</u>	<u>—</u>	<u>(79,995,887)</u>	<u>166,982,457</u>
Capital assets, being depreciated:					
Buildings and improvements	67,873,512	4,295	—	64,010	67,941,817
Machinery and equipment	34,427,273	3,057,567	—	14,669	37,499,509
Infrastructure	1,298,171,416	366,303	—	79,917,208	1,378,454,927
Total capital assets, being depreciated	<u>1,400,472,201</u>	<u>3,428,165</u>	<u>—</u>	<u>79,995,887</u>	<u>1,483,896,253</u>
Less: accumulated depreciation for:					
Buildings and improvements	25,682,377	1,628,559	—	—	27,310,936
Machinery and equipment	28,072,501	2,042,227	—	—	30,114,728
Infrastructure	274,048,853	17,226,958	—	—	291,275,811
Total accumulated depreciation	<u>327,803,731</u>	<u>20,897,744</u>	<u>—</u>	<u>—</u>	<u>348,701,475</u>
Total capital assets being depreciated, net	<u>1,072,668,470</u>	<u>(17,469,579)</u>	<u>—</u>	<u>79,995,887</u>	<u>1,135,194,778</u>
Capital assets, net	<u>\$ 1,256,782,012</u>	<u>\$ 45,395,223</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 1,302,177,235</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(6) Long-Term Obligations

(a) Revenue Bonds

The Commission issues revenue bonds to support various projects. The following is a summary of revenue bond activity for the year ended December 31, 2015 (amounts in thousands).

Description	(as restated) Balance at December 31, 2014	Additions	Reductions	Balance at December 31, 2015	Amounts due within one year
Revenue bonds:					
1993 Series A, bearing an interest rates ranging from 2.2% to 5.25%, issued September 17, 1993, maturing 1993 to 2019	\$ 33,455	—	4,900	28,555	7,405
1994 Series A, bearing a variable interest rate, issued August 20, 1994, maturing 1995 to 2024	21,900	—	1,600	20,300	1,700
2009 Series A, bearing interest rates ranging from 3.0% to 5.0%, issued March 26, 2009, maturing 2010 to 2028	75,070	—	41,245	33,825	3,555
2009 Series B, bearing interest rates ranging from 3.0% to 5.0%, issued March 26, 2009, maturing 2009 to 2021	39,465	—	10,375	29,090	4,200
2010 Series A, bearing interest rates ranging from 2.5% to 5.0%, issued January 26, 2010, maturing 2010 to 2031	91,485	—	36,100	55,385	550
2012 Series A, bearing interest rates ranging from 3.0% to 5.0%, issued June 6, 2012, maturing 2015 to 2037	107,970	—	425	107,545	2,585
2014 Series A, bearing interest rates ranging from 3.5% to 5.0%, issued July 22, 2014, maturing 2017 to 2044	100,000	—	—	100,000	—
2015 Series A, bearing interest rates ranging from 3.5% to 5.0%, issued August 05, 2015, maturing 2023 to 2028	—	72,760	—	72,760	—
	469,345	72,760	94,645	447,460	19,995
Plus:					
Unamortized issue premium	23,161	13,984	6,000	31,145	3,332
Net revenue bonds	\$ 492,506	86,744	100,645	478,605	23,327

Interest rates for the 1994 Series A bonds are calculated daily according to the Municipal Market Data scale.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(6) Long-Term Obligations - Continued

(a) Revenue Bonds - Continued

Debt principal and interest maturities for future years as of December 31, 2015 are as follows (amounts in thousands):

	<u>Principal</u>	<u>Interest</u>
2016	\$ 19,995	20,087
2017	21,095	19,075
2018	22,115	17,999
2019	23,230	16,869
2020	23,270	15,693
2021-2025	125,480	60,924
2026-2030	103,735	32,276
2031-2035	54,410	14,758
2036-2040	34,130	6,533
2041-2044	20,000	1,687
	<u>\$ 447,460</u>	<u>205,901</u>

Amortization expense for losses on bond refunding and amortization of bond issuance premiums for the year ended December 31, 2015 totaled \$(1,022,463).

The Commission is required to maintain a Senior Debt Service Reserve Fund of an amount at least equal to the sum of the maximum amount of principal or sinking fund payments and interest to become due in the current or immediately succeeding year on the outstanding senior bonds issued as “fixed rate bonds”, net of any accrued interest from the sale of any such bonds. As of December 31, 2015, approximately \$41.7 million has been deposited into the Senior Debt Service Reserve Account. This account is included with restricted cash and investments on the Statement of Net Position.

During 2015, the Commission completed the issuance of \$72,760,000 General Revenue and Refunding Bonds, 2015 Series A (the “Bonds”). The net proceeds of \$86,352,138 (after issuance costs of \$391,444, plus premium of \$13,983,582) were used to refund \$39,435,000 and \$36,100,000 of the remaining of \$75,070,000 and \$91,485,000 outstanding of the 2009 and 2010 Series A bonds (the “defeased bonds”) respectively and permanently financing certain capital improvements previously financed by outstanding commercial paper issued by the Commission, providing funds for certain additional capital improvements, provide for a deposit to the Senior Debt Service Fund, and paying costs of issuance associated with the Bonds. The Bonds have principal payable annually beginning November 1, 2023, through and including November 1, 2028. The refunding decreased the Commission’s total debt service by approximately \$6.6 million. The transaction resulted in an economic gain (the difference between the present value of the debt service on the old and new bonds) of approximately \$5.4 million.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(6) Long-Term Obligations - Continued

(b) Prior Year Debt Refunding (Defeasements)

In the aggregate, \$250,175,000 remains outstanding at December 31, 2015, on bond issues that were defeased “in-substance” in prior years.

(c) Restricted Cash and Investments

The Commission has established both trustee and nontrustee funds with investments, principally short-term securities, which are restricted for payment of specified liabilities, capital projects, or other costs of operations. The components of the trustee and nontrustee investments at December 31, 2015 are as follows:

	<u>2015</u>
Trustee:	
U.S. government obligations	\$ 12,969,615
U.S. government agency obligations	98,285,469
Money market	71,684,025
Repurchase agreements	8,416,250
	<u>191,355,359</u>
Nontrustee:	
U.S. government obligations	100,039
U.S. government agency obligations	1,423,425
Cash	19,328,055
Money market	2,557,451
Open-ended mutual funds	14,619,966
	<u>38,028,936</u>
Restricted cash and investments	229,384,295
Less trustee and nontrustee cash	<u>(19,328,055)</u>
Trustee and nontrustee investments	<u>\$ 210,056,240</u>

(d) Long-Term Notes Payable

The Commission has entered into various interest-free loan agreements with Massachusetts Water Resource Authority (the "MWRA"). Under these agreements, the Commission is required to repay these loans in annual installments as part of the MWRA’s Infiltration/Inflow Local Financial Assistance Program (I/I), Local Water Infrastructure Rehabilitation Program (WIR), Pipeline Assistance Program (PAP) and System Assistance Program (SAP). These programs are designed to assist service area communities with sewer system rehabilitation.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(6) Long-Term Obligations - Continued

(d) Long-Term Notes Payable - Continued

During 1996 and 1997, the Commission executed loan agreements with the Massachusetts Clean Water Trust (MCWT) to finance and refinance a portion of the Commission’s water pollution abatement projects. As part of the agreement, MCWT agreed to subsidize a portion of the annual loan repayments, which the Commission records as a capital grant. As of December 31, 2015, the Commission anticipates that approximately \$0.5 million of future MCWT payments will be recognized as capital grants. The following is a summary of long-term note activities with MWRA and MCWT for the year ended December 31, 2015:

Description	(as reated) Balance at December 31, 2014	Additions	Reductions	Balance at December 31, 2015	Amounts due within one year
MWRA I/I Program Phase VI, interest free, due August 15, 2017	\$ 2,340,656	—	940,159	1,400,497	940,159
MWRA I/I Program Phase VII, interest free, due November 15, 2017	3,739,560	—	1,246,520	2,493,040	1,246,520
MWRA I/I Program Phase VIII, interest free, due August 15, 2018	3,450,990	—	1,037,748	2,413,242	1,037,748
MWRA S.A.P. Program, interest free, due November 15, 2024	16,742,236	3,875,400	1,937,700	18,679,936	2,325,240
MWRA P.A.P. Program, interest free, due August 15, 2020	10,830,519	—	3,078,566	7,751,953	2,462,853
MWPAT Pool II, subsidized interest, due August 1, 2015	685,714	—	685,714	—	—
MWPAT Pool III, subsidized interest, due February 1, 2017	2,288,495	—	737,279	1,551,216	766,236
Total long-term notes	\$ 40,078,170	3,875,400	9,663,686	34,289,884	8,778,756

Debt principal for future years as of December 31, 2015 are as follows (amounts in thousands):

2016	\$ 8,779
2017	7,702
2018	4,354
2019	3,426
2020	2,975
2021-2025	7,054
	<u>\$ 34,290</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(7) Short-Term Obligations

The Commission issues commercial paper notes for the purpose of financing capital expenditures. The following represents the Commission’s commercial paper notes outstanding as of December 31, 2015

<u>Description</u>	<u>Balance at December 31, 2014</u>	<u>Additions</u>	<u>Reductions</u>	<u>Balance at December 31, 2015</u>
Commercial paper notes, Bank of America program due September 02, 2015 through May 17, 2016	\$ —	25,000,000	—	25,000,000
Total long-term notes	\$ —	25,000,000	—	25,000,000

Subsequent to year-end the Commission took on an additional \$25,000,000 in commercial paper in March 2, 2016 maturing July 5, 2016. The September 2, 2015 note has been extended to August 2, 2016.

(8) Massachusetts Water Resources Authority

The Commission obtains water supply and sewer treatment services from MWRA and is assessed a portion of the MWRA's actual operating and capital expenses. The assessment is based on the MWRA’s fiscal year (July 1 to June 30), and payments are due to MWRA in ten equal installments excluding the months of January and July. Detail of the MWRA assessments included in the statement of revenue and expenses is as follows:

	<u>2015</u>
Assessments based on:	
Water usage	\$ 77,916,969
Wastewater usage	128,922,533
Total	\$ <u>206,839,502</u>

(9) Transactions with the City of Boston

Departments of the City of Boston were billed approximately \$4,200,000 during 2015 based on actual consumption.

The City provides services to the Commission, including paving and facilities rental. Operating costs billed to the Commission by the City were approximately \$1,195,800 and capital costs billed by the City were approximately \$2,600,000 during the year ended December 31, 2015, respectively.

Through 1996, in exchange for an administrative fee, the City provided collection services to the Commission by allowing water and sewer bills outstanding for more than two years to be added as liens on property tax bills. Uncollected amounts under this agreement as of December 31, 2015 is approximately \$58,000.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(10) Pension Benefits

(a) Description of the State-Boston Retirement System Plan

The Commission contributes to the State-Boston Retirement System ("SBRBS"), a cost-sharing, multi-employer qualified defined benefit public employee retirement system established under Chapter 32 of the MGL and is a member of the Massachusetts Contributory Retirement System (the "System"). Under a cost-sharing plan, pension obligations for employees of all employers are pooled and plan assets are available to pay the benefits of the employees of any participating employer providing pension benefits through the plan, regardless of the status of the employers' payment of its pension obligation to the plan. The System provides retirement, disability, and death benefits to plan members and beneficiaries. Chapter 32 of the MGL assigns authority to establish and amend benefit provisions of the plan.

The System issues a publicly available financial report, which can be obtained through the Commonwealth of Massachusetts, Public Employee Retirement Administration Commission (PERAC), 5 Middlesex Avenue, Suite 304, Somerville, Massachusetts 02145.

(b) Benefit Provisions

Participation in the System is mandatory for all permanent, full time, and certain part-time employees immediately upon the commencement of employment. Participants who resign from employment, or are receiving workers' compensation benefits, and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total deductions. In addition, those participants that resign voluntarily with less than ten years of service are entitled to receive 3% per year interest; all others receive interest which has accrued on their cumulative deductions at the regular interest rate (0.1% at December 31, 2015).

Employees with ten or more years of service having attained age 55 are entitled to pension benefits; an early retirement is allowed upon completion of twenty years of service. The System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive three year average annual rate of regular compensation (highest consecutive five-year average for those members who join the System on or after April 2, 2012). Benefit payments are based upon a participant's age, length of creditable service, level of compensation, and group classification. Participants become vested after ten years of credible service. Effective July 1, 1998 Chapter 32 of the MGL assigns authority to establish and amend benefits provisions and grant cost-of-living increases for the plan to the SRBS.

If a member in service dies due to causes unrelated to his or her job, the surviving spouse and/or surviving dependent children may receive benefits, either in a lump sum or in the form of an annuity based on the length of service, contributions and age. In the event there are no spouse and/or dependent children named, other beneficiaries may be entitled to a lump sum distribution. Participants who before permanently and totally disabled from further duty may be eligible to receive accidental or ordinary disability retirement benefits.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(10) Pension Benefits - Continued

(b) Benefit Provisions - Continued

Accidental disability is provided to members with incapacitation resulting from a work-related injury or hazard. Generally, annual pension benefits are provided based on 72% of the annual rate of regular compensation. Ordinary disability is available to any member whose permanent incapacitation is not work related and has attained ten years of creditable service. Such benefits are provided as if the member had attained the age of 55 (or actual age is over 55) based on the amount of creditable service actually earned. Limits are placed on how much a disability employee can earn from sources while collecting a disability retirement pension.

(c) Contributions

Plan members are required to contribute to the SBRS at rates ranging from 5% to 9% of annual covered compensation. The Commission is required to pay into the SBRS its share of the remaining system wide actuarially determined contribution accepted by PERAC plus administration costs, which are apportioned among the employers based on active covered payroll. The contributions of plan members and the Commission are governed by Chapter 32 of the MGL. The Commission's contributions towards the pension for the years ended December 31, 2015, 2014 and 2013 \$7,955,018, 1,851,420 and \$1,751,573, respectively, which equaled its required contribution each year along with additional funds to reduce the unfunded liability. Total employee contributions, based on actuarially determined amounts, were \$3,029,268 or 9.31% of covered payroll in 2015.

The Commission's funding policies have been established by Chapter 32 of the MGL. The Legislature has the authority to amend these policies. The annuity portion of the Commission's retirement allowance is funded by employees, who contribute a percentage of their regular compensation. Costs of administering the plan are funded out of plan assets. Member contributions vary depending on the most recent date of membership:

<u>Hire Date</u>	<u>Percentage of Compensation</u>
Prior to 1975	5% of regular compensation
1975-1983	7% of regular compensation
1984 to 6/30/1996	8% of regular compensation
7/1/1996 to present	9% of regular compensation

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(10) Pension Benefits - Continued

(d) Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources

At December 31, 2015, the Commission reported a liability of \$39 million for its proportionate share of the net pension liability related to its participation in SBRS. The net pension liability was measured as of January 1, 2015, the measurement date, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2014 rolled forward to January 1, 2015. The Commission’s proportion of the net pension liability was based on its share of the Plan’s collective pension amounts allocated on the basis of actual pension contributions made by the Commission for calendar year 2015. The Commission’s proportionate share was based on actual employer contributions to the SBRS for fiscal year 2015 relative to total contributions of all participating employers for that fiscal year. At December 31, 2015, the Commission’s proportion was 69.23%.

For the year ended December 31, 2015, the Commission recognized pension expense of \$6.2 million. The Commission follows the accounting standards set forth in GASB 62, and therefore provides for recovery of these pension liability costs as a deferred outflow of resources to be collected over the life of the liability in which it relates. At December 31, 2015, the Commission reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

(e) Deferred Outflows of Resources

Net difference between projected and actual earnings	
on pension plan investments	\$ 7,454,492

Contributions of \$7,955,018 are reported as deferred outflows of resources related to pensions resulting from contributions in calendar year 2015 subsequent to the measurement date and will be recognized as a reduction of the net pension liability for the year ended December 31, 2016. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as increases in pension expense as follows:

Years Ending December 31,	
2016	\$ 1,863,623
2017	1,863,623
2018	1,863,623
2019	<u>1,863,623</u>
Total	<u>\$ 7,454,492</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(10) Pension Benefits - Continued

(f) Actuarial Assumptions

The total pension liability was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.5% for 2015 – 2016, 4.0% thereafter
Salary increases	4.0% for 2015 – 2016, 4.5% thereafter
Investment rate of return	7.5%
Post-retirement cost of living adjustment	3% of first \$13,000

Mortality rates were based on pre-retirement of RP-2000 Employees Mortality Table projected generationally using Scale BB2D from 2009 and post-retirement of Healthy Annuitant Mortality Table projected generationally used Scale BB2D from 2009. For disabled retirees, this table is set from 2015.

The actuarial assumptions used in the January 1, 2014 valuation rolled forward to January 1, 2015 involves estimates of the reported amounts and assumptions about probability of occurrence of events far into the future. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made into the future.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future rates of return 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 rates of return by the target asset allocation percentage.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan’s target asset allocation as of December 31, 2013 are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic equity	23.0%	6.6%
International developed markets equity	16.0%	7.1%
International emerging markets equity	9.0%	9.4%
Core fixed income	10.0%	2.2%
High-yield fixed income	14.0%	4.7%
Real estate	10.0%	4.4%
Hedge fund, GTAA, Risk parity	8.0%	3.9%
Private equity	7.0%	11.7%
Short-term government money market	3.0%	1.8%
	<u>100.0%</u>	

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(10) Pension Benefits - Continued

(g) Discount Rate

The discount rate used to measure the total pension liability was 7.5%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rates and employer contributions will be made at the actuarially determined contractually required rates. Based on those assumptions, the net position 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.

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

The following table illustrates the sensitivity of the net pension liability calculated using the discount rate of 7.5 percent as well as what the net pension liability would be if it were calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current rate.

1.00% Decrease	Current Discount	1.00% Increase
<u>(6.5%)</u>	<u>Rate</u>	<u>(8.5%)</u>
<u>(6.5%)</u>	<u>(7.5%)</u>	<u>(8.5%)</u>
\$53,872,817	\$38,931,280	\$26,329,365

(11) Post-Employment Benefits other than Pensions (OPEB)

Plan Description

The Commission participates in the City of Boston’s (the “City”) health insurance program, which is administered by the City as an agent multiple-employer defined benefit other post-employments benefits plan (“OPEB plan”). Participation in the City’s plan was made via an agreement between the City and the Commission and may be amended with the agreement of both parties. The City provides postemployment healthcare and life insurance benefits, in accordance with state statute and City ordinance, to participating retirees and their beneficiaries. The OPEB plan is administered by the City and does not issue a stand-alone financial report.

Medical and prescription drug benefits are provided to all eligible retirees not enrolled in Medicare through a variety of plans offered by Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim HealthCare, Tufts, and Neighborhood Health Plan. Medical and prescription drug benefits are provided to retirees enrolled in Medicare through supplemental and Medicare Advantage plans offered by Blue Cross Blue Shield of Massachusetts, Tufts and Harvard Pilgrim HealthCare. The Commission also pays 50% of the retiree life insurance premium and reimburses retirees 50% of their Medicare Part B premium. Retirees, who became members of SBRS before April 2, 2012, with at least 10 years of creditable service are eligible at age 55; retirees with 20 years of creditable service are eligible at any age. Retirees, who became members of SBRS on or after April 2, 2012, with at least 10 years of creditable service, are eligible at age 60. Retirees on accidental disability retirement are eligible at any age while ordinary disability retirement requires 10 years of creditable service. The surviving spouse is eligible to receive both pre- and post-retirement death benefits for life, as well as medical and prescription drug coverage.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(11) Post-Employment Benefits other than Pensions (OPEB) - Continued

Plan Description - Continued

In 2015 the Commission's Board of Commissioners elected approved and adopted the Boston Water and Sewer Other Post-Employment Benefits (OPEB) Trust (the "Trust"), an irrevocable, tax-exempt trust for the purpose of funding the Commission's OPEB obligations. The Trust was established to independently hold and administer Commission assets appropriated to pay benefits and costs associated with the OPEB plan along with reducing the unfunded actuarial liability related to post-employment benefits other than pensions. In accordance with GASB 45 provisions, the creation of the Trust allowed for the Commission's OPEB obligation recorded in previous years to be reduced to zero.

Funding Policy

The Commission funds the plan on a partially funded basis and shares the cost of health insurance with plan members. Contribution rates are regulated by the collective bargaining agreements. Plan members contribute 10% to 26.25% of the monthly premium cost, depending on the plan in which they were enrolled.

Participating in the City of Boston plan requires funding the actuarially determined annual required contribution ("ARC"). The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal costs each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty years. The Commission's contribution to the plan for the year ended December 31, 2015 were \$2,374,805 which represents 100% of the ARC. The Commission also elected to contribute an additional \$3,000,000 to the Trust. For the years ended December 31, 2014 and 2015 the Commission made contributions as a percentage of the required contributions of 25.3% and 202.0%, respectively.

(12) Deposit and Investment Risks

(a) Custodial Credit Risk

Custodial credit risk is the risk that in the event of bank failure, the Commission's deposits may not be returned. The Commission carries deposits that are fully insured by FDIC insurance or collateralized with securities held by the Commission or the Commission's agent in the Commission's name. The Commission also carries deposits that are not collateralized and are uninsured. The Commission does not have a formal policy for managing custodial credit risk of deposits. As of December 31, 2015, the cash balances of uninsured and uncollateralized deposits totaled \$74,241,476. All of the Commission's investments are held by a third-party in the name of the Commission.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(12) Deposit and Investment Risks - Continued

(b) Investment Policy

Investment of Commission funds is governed by federal and state laws and is restricted to permitted investments as defined by the Commission's General Revenue Bond Resolution and Supplemental Resolutions. Revenues generated from the investment of Commission funds reduce the amount the Commission must charge to its customers, while any investment losses would negatively affect the Commission's general rates and charges. Consequently, the Commission adheres to an investment policy that will maintain a fully invested, diversified portfolio with the objective of achieving the highest yield that is attainable in conjunction with a very low risk of loss of capital. The basic criteria that will be used in making investment decisions includes the evaluation of risk/reward tradeoffs, historical price spreads between different securities, the slope of the yield curve and the anticipated cash flows of the different investment accounts of the Commission.

Current permitted investments under the General Revenue Bond Resolution include:

1. Any bond or other obligation to which principal and interest are unconditionally guaranteed by the United States of America.
2. Any bond or other obligation of any state, agency or local government unit of any state which are:
 - A. Noncallable.
 - B. Fully collateralized by fund consisting of cash, bonds or obligations of one of the above.
3. Public Housing bonds secured by the United States of America, certain notes issued by public agencies or municipalities fully secured by the United States of America or obligations issued by State or public agencies or municipalities carrying the highest bond rating.
4. Obligations of any state to which the full faith and credit of the state is pledged and are within the two highest bond ratings.
5. Prime Commercial Paper rated A – 1 or P – 1.
6. Shares of a money market fund that is open ended and rated A or better, or a money market fund of banks meeting certain criteria.
7. Certificates of Deposits issued by FDIC banks, which are fully secured by obligations described in 1 or 2 above.
8. Repurchase Agreements fully collateralized by obligations described in 1 or 2 above.
9. Futures contracts traded on an exchange for investments described in 1, 2, 3, and 4 above.

A single investment in commercial paper cannot be more than \$15 million and can only be purchased once. Further, all investments of the Commission are held in the Commission's name by a third-party.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(12) Deposit and Investment Risks - Continued

(c) Interest Rate Risk

The Commission’s guidelines do not specifically address limits on maturities as a means of managing its exposure to fair value losses arising from changing interest rates. The following is a listing of the Commission’s fixed income investments and related maturity schedule (in years) as of December 31, 2015:

Investment type	Fair value	2015			
		Less than 1	1 – 5	6 – 10	More than 10
U.S. government obligations	\$ 13,069,654	8,892,195	4,177,459	—	—
U.S. government agencies	99,708,894	23,858,728	10,276,314	12,144,125	53,429,727
Guaranteed investment contract	8,416,250	—	—	—	8,416,250
Money market	74,241,476	74,241,476	—	—	—
Open ended mutual funds	14,619,966	14,619,966	—	—	—
	<u>\$ 210,056,240</u>	<u>121,612,365</u>	<u>14,453,773</u>	<u>12,144,125</u>	<u>61,845,977</u>

(d) Credit Risk

The Commission follows its investment policy listed above in regards to the credit worthiness of its investments. The Commission’s fixed income investments as of December 31, 2015 were rated by Standard and Poor’s rating scale and/or an equivalent national rating organization, and the ratings are presented below using the Standard and Poor’s rating scale:

Investment type	Fair value	2015		
		AAA	AA	Not rated
U.S. government obligations	\$ 13,069,654	13,069,654	—	—
U.S. government agencies	99,708,894	70,497,265	—	29,211,629
Guaranteed investment contract	8,416,250	—	—	8,416,250
Money market	74,241,476	—	74,241,476	—
Open ended mutual funds	14,619,966	14,619,966	—	—
	<u>\$ 210,056,240</u>	<u>98,186,885</u>	<u>74,241,476</u>	<u>37,627,879</u>

As of December 31, 2015, the Commission had \$29,211,629 of unrated investments that are explicitly guaranteed by the U.S. Government.

(e) Concentration Risk

The Commission's investment policy does not offer specific limitations in regards to the concentration of risk, except that a single investment in commercial securities cannot be more than \$15 million. The Commission has individual investments that at fair value exceed 5% of the total investments balance at December 31, 2015. Individually these investments in money market funds range between \$10.6 million and \$18.5 million for 2015. In the aggregate, they approximate \$52 million for the year ended December 31, 2015.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(13) Commitments

The Commission has committed to capital improvement projects of approximately \$167.1 million over the next three years, which are primarily related to enhance the operation of the water and sewer system, including reducing pollution to Boston Harbor and neighboring waterways. Of this amount, approximately \$134.9 million represents extension and improvement projects and \$32.2 million represents renewal and replacement projects. The extension and improvement projects will be 18% funded by federal, state and Massachusetts Water Resources Authority grants and loans. The remainder will be funded from the Commission’s operating revenues and borrowings, as needed.

(14) Risk Management and Other Insurance

The Commission carries self-insured stop-loss insurance for claims filed under workers’ compensation and general liability, and completely self-insures for all unemployment benefits. The workers’ compensation self-insured stop-loss insurance limit is \$750,000 per claim and is supplemented with excess coverage at statutory limits purchased through an outside carrier. For general liability, the Commission’s self-insured limits are \$1 million per occurrence, \$2.5 million multi-line liability aggregate stop loss and is supplemented by \$10 million of excess coverage. Under the sections of the Model Water and Sewer Act, the Commission’s maximum tort liability is \$100,000 per claimant.

The Commission maintains other insurance coverage as follows:

<u>Policy type</u>	<u>Coverage</u>
Vehicles	Combined single limit of \$1 million/accident.
Property	Aggregate limit of \$165 million blanket building and contents per occurrence based \$25,000 deductible.
Public officials	Coverage of \$1 million combined; \$100,000 self-insurance retention.
Fiduciary	\$5 million coverage; with \$10,000 deductible per claim.
Crime	Employee dishonesty coverage of \$5 million, with \$50,000 deductible.
Cyber Risk	\$25 million policy and program aggregate, with \$50,000 deductible.

Insurance claims for all policies have not exceeded coverage by a material amount in the past three years.

Liabilities for self-insured claims are reported if it is probable that a loss has been incurred and the amount can be reasonably estimated. The Commission has established a liability based on historical trends along with attorney’s and independent insurance reserve appraiser’s estimates of pending matters and lawsuits in which the Commission is involved.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(14) Risk Management and Other Insurance - Continued

Changes for the years ended December 31, 2015 are as follows:

	<u>2015</u>	<u>2014</u>
Beginning balance of reserves	\$ 1,544,119	1,738,765
Payment of claims attributable to events of both current and prior years:		
Workers' compensation	-	-
General liability	(645,957)	(424,268)
Incurring claims	<u>285,346</u>	<u>229,622</u>
Ending balance of reserves	<u>\$ 1,183,508</u>	<u>1,544,119</u>

Incurring claims represent the total of a provision for events of the current fiscal year and any change in the provision for events of the prior fiscal years. Other long-term liabilities are comprised of the following:

	<u>(as restated) 2014</u>	<u>Activity</u>	<u>2015</u>
Pension liability	\$ 32,763,071	6,168,209	38,931,280
OPEB liability	26,576,858	(26,576,858)	-
Reserve for self-insured claims	<u>1,544,119</u>	<u>(360,611)</u>	<u>1,183,508</u>
Total	<u>\$ 60,884,048</u>	<u>(20,769,260)</u>	<u>40,114,788</u>

(15) Contingencies

(a) Legal

The Commission is involved in ordinary and routine litigation and other matters related to its operations and the establishment of rates. Management believes that the resolution of these matters will not materially affect the financial position of the Commission.

The Commission has received federal and state grants for specific purposes that are subject to review and audit by the grantor agencies. Such audits could lead to requests for reimbursement to the grantor agency for expenditures disallowed under terms of the grant. The Commission believes such disallowances, if any, will not be significant.

(b) Pollution Remediation Obligations

GASB Statement No. 49, *Accounting and Financial Reporting by Employers for Pollution Remediation Obligations*, requires governments to reasonably determine potential polluted sites and provide guidance to recognize Pollution Remediation Obligations (“PRO”) components as liability. The Commission evaluated their pollution remediation events and determined that the PRO liability as of December 31, 2015, as well as, the PRO payments made during 2015 were not material to the Commission’s financial statements.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2015

(15) Contingencies - Continued

(c) *Environmental Protection Agency*

During 2012, the Commission entered into a consent decree with the Conservation Law Foundation, Inc. (“CLF”) and the United States Environmental Protection Agency in settlement of a suit originally brought by the CLF alleging violations of the Commission’s National Pollution Discharge Elimination System Permit. The consent decree required the Commission to pay approximately \$374,000 of penalties and reimbursed legal fees and established specific annual compliance goals. Failure to meet each of these goals will subject the Commission to penalties calculated on a daily basis until the goal is achieved. The decree also calls for other payments if the Commission does not meet specific expenditure levels. For 2015, the Commission achieved the goals set forth in the decree. In accordance with GASB 49, the achievement of these goals is considered to be a part of the Commission’s ongoing operations and is not accrued as a PRO.

BOSTON WATER AND SEWER COMMISSION
Schedule of Proportionate Share of the Net Pension Liability
For the Year Ended December 31, 2015

Valuation was performed as of January 1, 2014 and adjusted through January 1, 2015

Commission's proportion of the net pension liability		1.33%
Commission's proportionate share of the net pension liability	\$	38,931,280
Commission's covered-employee payroll	\$	31,361,504
Commission's proportionate share of the net pension asset as a percentage of its covered-employee payroll		124.10%
Plan fiduciary net position as a percentage of the total pension liability		69.20%

Note: This schedule is intended to present information for ten years. Information is currently available only for one year.

See accompanying notes to the required supplemental information.

BOSTON WATER AND SEWER COMMISSION

Schedule of Contributions

For the Year Ended December 31, 2015

Contractually required contribution	\$	3,994,268
Contributions in relation to the contractually required contribution		<u>7,955,018</u>
Contribution excess	\$	<u><u>(3,960,750)</u></u>
Commission's covered-employee payroll	\$	31,361,504
Contribution as a percentage of covered-employee payroll		25.40%

Note: This schedule is intended to present information for ten years. Information is currently available only for one year.

See accompanying notes to the required supplemental information.

BOSTON WATER AND SEWER COMMISSION
 Supplemental Schedules of Revenues and Expenses – Rate Basis
 For the Years Ended December 31, 2015

Revenues:		
Water revenue		\$ 149,355,846
Sewer revenue		187,450,059
	Subtotal	<u>336,805,905</u>
Less:		
Adjustments		8,366,706
Discounts		1,238,639
Bad debt		223,168
	Subtotal	<u>9,828,513</u>
	Net billed charges	326,977,392
Prior year surplus		389,063
Miscellaneous revenues:		
Late charge revenue		1,414,957
Investment income		2,824,294
Fire pipe revenue		4,486,066
Other income		6,294,690
	Total revenues	<u>342,386,462</u>
Direct operating expenses:		
Salaries and wages		46,923,242
Overtime wages		789,500
Fringe benefits		7,710,203
Supplies and materials		2,295,723
Repairs and maintenance		6,686,471
Utilities		1,093,997
Professional services		2,724,914
Space and equipment rentals		251,778
Other services		1,560,244
Insurance		533,935
Travel and training		73,004
Damage claims		61,729
Inventory		10,778
Capital outlay		76,327
	Total direct operating expenses	<u>70,791,845</u>
Nonoperating expenses:		
MWRA assessment		206,839,502
Capital improvements		8,939,628
Principal payments		28,412,734
Interest expense		19,692,998
Deposits to reserve funds		6,990,000
SDWA assessment		198,327
	Total nonoperating expenses	<u>271,073,189</u>
	Total current expenses	<u>341,865,034</u>
	Current year rate surplus	<u>\$ 521,428</u>

This supplemental schedule presents the Commission’s revenues and expenses on the basis that is presented in the Commission’s budget and rate-setting documents. See Note 1 in the notes to the basic financial statements for the differences between this supplemental schedule and GAAP.

See accompanying independent auditors’ report.



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

To the Commissioners of
Boston Water & Sewer Commission
Boston, Massachusetts

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Boston Water and Sewer Commission (the "Commission") as of and for the year ended December 31, 2015, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements, and have issued our report thereon dated May 31, 2016.

Internal Control over Financial Reporting

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

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

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

Compliance and Other Matters

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

Purpose of this Report

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

O'Connor + Drew P.C.

**Certified Public Accountants
Braintree, Massachusetts**

May 31, 2016

*Statistical
Section*

2015

Statistical Section

This part of the Commission's comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the Commission's overall financial health.

Contents

Financial Trends

These schedules contain trend information to help the reader understand how the Commission's financial performance and well-being have changed over time. These schedules are found on pages 60-62

Net Position by Component – Last Ten Fiscal Years
Changes in Net Position – Last Ten Fiscal Years
Revenues and Expenses (Rate basis) – Last Ten Fiscal Years

Revenue Capacity

These schedules contain information to help the reader assess the factors affecting the Commission's ability to generate revenue. These schedules are found on pages 63-66

Largest Users – Last Ten Fiscal Years
Water Purchased vs. Water Billed – Last Ten Fiscal Years
Billings and Collections – Last Ten Fiscal Years
Water and Sewer Rates Structure – Current and Nine Years ago

Debt Capacity

These schedules present information to help the reader assess the affordability of the Commission's current levels of outstanding debt and the Commission's ability to issue additional debt in the future. These schedules are found on pages 67 and 68

Commission per Capita Debt – Last Ten Fiscal Years
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Demographic and Economic Information

These schedules offer demographic and economic indicators to help the reader understand the environment within which the Commission's financial activities take place. These schedules are found on pages 69-73

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Economy, Household Income, Occupation – Year-end 2015 Summary

Operating and Capital Information

These schedules contain service and infrastructure data to help the reader understand how the information in the Commission's financial relates to the services the Commission provides and the activities it performs. These schedules are on pages 74-77

Divisional Breakdown of BWSC Employees – Last Ten Fiscal Years
Water and Sewer Distribution System – Current and Nine Years ago
Insurance Coverage – Current and Nine Years ago
Retirement System – Funding Process

Table 1
Net Position by Component
Last Ten Fiscal Years Summary

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
				*						
Invested in capital assets, net of related debt:	\$764,282,627	\$724,198,689	\$800,137,309	\$717,850,640	\$704,696,145	\$644,153,249	\$642,238,854	\$562,921,566	\$521,876,788	\$505,171,776
Restricted for debt service:	48,538,724	47,887,684	44,301,549	43,969,633	41,540,947	43,599,905	44,621,869	46,597,362	38,722,718	37,618,370
Restricted for capital assets:	200,044	0	100,002	157,941	118,327	107,847	3,310,809	-	699,800	-
Restricted for debt covenants:	51,422,141	49,531,618	48,752,536	50,927,908	49,641,373	48,661,896	46,696,233	46,027,895	45,312,437	45,565,644
Unrestricted:	(473,792,441)	(448,829,430)	(517,415,068)	(450,206,031)	(454,992,268)	(399,584,043)	(408,699,997)	(349,252,168)	(314,727,366)	(310,067,809)
Total net position:	<u>\$390,651,095</u>	<u>\$372,788,561</u>	<u>\$375,876,328</u>	<u>\$362,700,091</u>	<u>\$341,004,524</u>	<u>\$336,938,854</u>	<u>\$328,167,768</u>	<u>\$306,294,655</u>	<u>\$291,884,377</u>	<u>\$278,287,981</u>

* Restated 2012 and prior Financial Statements due to the implementation of GASB Statement No. 65.

Source: Commission's Financial Statements.

Table 2
Changes in Net Position
Last Ten Fiscal Years Summary

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<i>Operating Revenues:</i>		*		*						
Water usage	\$ 149,992,577	\$ 140,533,568	\$ 135,062,312	\$ 130,192,168	\$ 122,406,596	\$ 122,265,092	\$ 114,939,110	\$ 116,091,766	\$ 112,633,394	\$ 107,394,320
Sewer usage	188,228,285	176,689,383	171,115,529	163,206,107	153,214,217	152,829,067	144,623,556	144,823,011	140,286,933	125,432,655
Fire pipe	4,486,066	4,330,652	4,185,692	4,107,752	3,990,578	3,934,823	3,816,067	3,720,058	3,595,899	3,469,844
Other income	6,294,690	5,666,579	5,426,141	5,556,810	10,276,765	7,866,256	9,712,742	4,846,460	5,367,899	8,509,793
<i>Total Operating Revenues:</i>	<u>349,001,618</u>	<u>327,220,182</u>	<u>315,789,674</u>	<u>303,062,837</u>	<u>289,888,156</u>	<u>286,895,238</u>	<u>273,091,475</u>	<u>269,481,295</u>	<u>261,884,125</u>	<u>244,806,612</u>
<i>Operating & Maintenance Expenses:</i>										
Operations	59,240,716	59,660,238	60,370,827	57,189,385	56,462,155	57,403,354	53,946,929	64,075,096	53,882,665	49,045,154
Maintenance	6,686,471	6,203,654	5,157,692	5,441,001	5,167,230	5,056,953	4,643,428	5,284,662	6,582,756	4,181,233
MWRA assessment (Water)	77,916,969	74,518,413	72,529,779	69,114,613	66,979,588	66,818,991	65,889,100	64,750,699	78,403,182	61,786,176
MWRA assessment (Sewer)	128,922,533	125,154,614	119,256,452	115,763,908	112,534,606	109,134,450	105,758,794	100,912,502	81,333,669	92,349,702
<i>Total Operating Expenses:</i>	<u>272,766,689</u>	<u>265,536,919</u>	<u>257,314,750</u>	<u>247,508,907</u>	<u>241,143,579</u>	<u>238,413,748</u>	<u>230,238,251</u>	<u>235,022,959</u>	<u>220,202,272</u>	<u>207,362,265</u>
Operating income before depreciation:	76,234,929	61,683,263	58,474,924	55,553,930	48,744,577	48,481,490	42,853,224	34,458,336	41,681,853	37,444,347
Depreciation & amortization	19,875,281	23,011,425	16,680,991	17,336,678	17,982,946	17,564,424	17,907,873	19,236,821	16,596,699	14,827,658
<i>Excess Operating Revenues:</i>	<u>56,359,648</u>	<u>38,671,838</u>	<u>41,793,933</u>	<u>38,217,252</u>	<u>30,761,631</u>	<u>30,917,066</u>	<u>24,945,351</u>	<u>15,221,515</u>	<u>25,085,154</u>	<u>22,616,689</u>
<i>Non-Operating Revenues (Expenses):</i>										
Interest income	2,933,609	5,214,405	(331,584)	4,010,532	7,118,613	9,093,897	3,866,347	9,041,352	13,735,219	10,888,561
Interest expense	(19,769,119)	(18,696,723)	(18,047,035)	(17,676,856)	(17,303,081)	(17,792,962)	(14,935,105)	(14,914,395)	(19,188,062)	(17,876,667)
<i>Total Nonoperating Expenses:</i>	<u>(16,835,510)</u>	<u>(13,482,318)</u>	<u>(18,378,619)</u>	<u>(13,666,324)</u>	<u>(10,184,468)</u>	<u>(8,699,065)</u>	<u>(11,068,758)</u>	<u>(5,873,043)</u>	<u>(5,452,843)</u>	<u>(6,988,106)</u>
<i>Excess revenues before capital grants & contributions & transfer requirements:</i>	<u>39,524,138</u>	<u>25,189,520</u>	<u>23,415,314</u>	<u>24,550,928</u>	<u>20,577,163</u>	<u>22,218,001</u>	<u>13,876,593</u>	<u>9,348,472</u>	<u>19,632,311</u>	<u>15,628,583</u>
Capital grants and contributions	30,549,566	3,354,552	19,498,395	27,682,938	9,785,856	14,322,098	27,185,487	29,249,966	21,453,580	18,649,193
<i>Excess revenues before transfer requirements:</i>	<u>70,073,704</u>	<u>28,544,072</u>	<u>42,913,709</u>	<u>52,233,866</u>	<u>30,363,019</u>	<u>36,540,099</u>	<u>41,062,080</u>	<u>38,598,438</u>	<u>41,085,891</u>	<u>34,277,776</u>
Excess revenues used										
to fund reserves & other deferrals	(52,078,807)	(31,453,661)	(29,709,699)	(30,438,552)	(26,271,375)	(27,859,444)	(19,100,788)	(24,208,767)	(27,542,849)	(20,486,273)
Change in accumulated revenues used to offset future rates	(132,363)	(177,678)	(27,773)	(99,742)	(25,974)	90,431	(88,179)	20,606	53,354	448,184
<i>Change in Net Position:</i>	<u>\$ 17,862,534</u>	<u>(\$ 3,087,267)</u>	<u>\$ 13,176,237</u>	<u>\$ 21,695,572</u>	<u>\$ 4,065,670</u>	<u>\$ 8,771,086</u>	<u>\$ 21,873,113</u>	<u>\$ 14,410,277</u>	<u>\$ 13,596,396</u>	<u>\$ 14,239,687</u>

* Restated 2014 Financial Statements due to the implementation of GASB Statement No. 68.

* Restated 2012 and prior Financial Statements due to the implementation of GASB Statement No. 65.

Table 3
Revenues and Expenses (Rate Basis)
Last Ten Fiscal Years Summary

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Revenues:										
Water Revenue	\$ 149,355,846	\$ 139,922,776	\$ 135,062,312	\$ 130,192,168	\$ 122,406,596	\$ 122,265,092	\$ 114,939,110	\$ 116,091,766	\$ 112,633,394	\$ 107,394,321
Sewer Revenue	187,450,059	175,943,859	171,115,529	163,206,107	153,214,217	152,829,067	144,623,556	144,823,011	140,286,933	125,432,655
Subtotal	<u>336,805,905</u>	<u>315,866,635</u>	<u>306,177,841</u>	<u>293,398,275</u>	<u>275,620,813</u>	<u>275,094,159</u>	<u>259,562,666</u>	<u>260,914,777</u>	<u>252,920,327</u>	<u>232,826,976</u>
Less:										
Adjustments	(8,366,706)	(7,349,075)	(8,342,424)	(7,666,138)	(6,669,240)	(7,819,941)	(5,722,039)	(5,659,378)	(6,329,825)	(5,609,032)
Discounts	(1,238,639)	(912,695)	(908,846)	(915,322)	(890,903)	(896,700)	(867,797)	(870,252)	(866,197)	(846,151)
Bad Debt	(223,168)	(484,363)	(58,617)	(85,777)	(72,431)	(103,283)	(352,738)	(42,751)	(138,479)	(361,202)
Subtotal	<u>(9,828,513)</u>	<u>(8,746,133)</u>	<u>(9,309,887)</u>	<u>(8,667,237)</u>	<u>(7,632,574)</u>	<u>(8,819,924)</u>	<u>(6,942,574)</u>	<u>(6,572,381)</u>	<u>(7,334,501)</u>	<u>(6,816,385)</u>
Net Billed Charges	326,977,392	307,120,502	296,867,954	284,731,038	267,988,239	266,274,235	252,620,092	254,342,396	245,585,826	226,010,591
Prior Year Surplus	389,062	211,384	183,611	83,871	57,897	148,328	60,148	80,754	134,108	582,292
Miscellaneous Revenues:										
Late Charges Revenue	1,414,957	1,357,316	1,266,534	1,272,253	1,228,499	1,190,879	1,171,592	1,177,810	943,257	993,771
Investment Income	2,824,294	2,820,493	2,993,410	3,873,877	4,034,159	3,999,886	4,749,329	5,920,276	7,886,944	7,833,296
Fire Pipe Revenue	4,486,066	4,330,652	4,185,692	4,107,752	3,990,578	3,934,823	3,816,067	3,720,058	3,595,899	3,469,844
Other Income	6,294,690	5,666,579	5,426,141	5,556,810	10,276,765	7,866,259	9,712,742	4,846,460	5,367,899	8,509,793
Total Revenues	<u>342,386,461</u>	<u>321,506,926</u>	<u>310,923,342</u>	<u>299,625,601</u>	<u>287,576,137</u>	<u>283,414,410</u>	<u>272,129,970</u>	<u>270,087,754</u>	<u>263,513,933</u>	<u>247,399,587</u>
Direct Operating Expenses										
Salaries and Wages	46,923,242	35,778,748	34,379,928	32,324,690	31,900,473	32,671,883	31,731,102	31,506,257	28,138,771	26,801,523
Overtime	789,500	778,642	815,128	710,291	737,763	640,770	632,066	616,922	613,197	605,167
Fringe Benefits	7,710,203	7,261,123	7,077,635	7,260,028	7,761,174	7,023,565	6,856,686	6,904,198	6,603,848	5,927,567
Supplies and Materials	2,295,723	2,526,486	2,286,065	2,413,099	2,423,659	2,244,451	2,150,831	2,479,705	2,283,837	2,308,064
Repairs and Maintenance	6,686,471	6,203,654	5,157,692	5,441,001	5,167,230	5,056,953	4,643,428	5,284,662	6,582,756	4,181,232
Utilities	1,093,997	1,207,616	1,207,108	974,913	1,189,571	1,246,230	927,949	1,304,442	1,067,410	1,351,769
Professional Services	2,724,914	3,348,408	2,649,969	2,769,362	2,661,520	2,542,343	2,190,759	2,708,608	2,691,028	2,782,136
Space and Equipment Rentals	251,778	235,693	663,354	37,985	48,066	112,712	117,808	117,981	106,982	137,077
Other Service	1,560,244	1,506,245	1,294,110	1,233,922	1,142,055	1,160,609	1,452,614	1,245,571	1,256,064	1,385,327
Insurance	533,935	629,990	764,915	756,934	761,796	787,771	729,535	704,815	766,680	782,078
Inventory	10,778	50,864	30,082	22,235	19,065	22,033	20,337	22,927	26,304	17,100
Capital Outlay	76,327	66,283	180,699	70,624	222,279	91,873	132,425	83,798	94,642	85,151
Travel and Training	73,004	16,759	15,207	18,622	19,935	17,597	19,594	40,999	53,825	46,358
Damage Claims	61,729	57,684	64,941	113,681	94,158	159,811	568,534	303,336	125,833	534,744
Total Direct Operating Expenses	<u>70,791,845</u>	<u>59,668,195</u>	<u>56,586,833</u>	<u>54,147,387</u>	<u>54,148,744</u>	<u>53,778,601</u>	<u>52,173,668</u>	<u>53,324,221</u>	<u>50,411,177</u>	<u>46,945,293</u>
Indirect Operating Expenses:										
MWRA Assessment	206,839,502	199,673,027	191,786,231	184,878,521	179,514,194	175,953,441	171,647,894	165,663,201	159,736,851	154,135,878
Capital Improvement	8,939,628	8,057,958	11,110,952	16,056,935	10,425,758	10,016,939	9,629,054	8,592,973	13,758,716	11,147,813
Debt Service	48,105,732	46,875,435	45,815,575	43,814,254	42,598,897	43,088,633	37,592,417	36,258,080	35,314,967	34,229,914
Contractual Funding Obligations	6,990,000	6,643,000	5,211,606	340,000	598,598	308,000	717,010	5,960,777	3,971,000	568,000
SDWA Assessment	198,327	200,249	200,761	204,893	206,075	210,897	221,599	228,353	240,468	238,580
Total Indirect Operating Expenses	<u>271,073,189</u>	<u>261,449,669</u>	<u>254,125,125</u>	<u>245,294,603</u>	<u>233,343,522</u>	<u>229,577,910</u>	<u>219,807,974</u>	<u>216,703,384</u>	<u>213,022,002</u>	<u>200,320,185</u>
Total Current Expenses	<u>341,865,034</u>	<u>321,117,864</u>	<u>310,711,958</u>	<u>299,441,990</u>	<u>287,492,266</u>	<u>283,356,511</u>	<u>271,981,642</u>	<u>270,027,605</u>	<u>263,433,179</u>	<u>247,265,478</u>
Current Year Rate Surplus	\$ 521,427	\$ 389,062	\$ 211,384	\$ 183,611	\$ 57,897	\$ 57,899	\$ 60,148	\$ 60,149	\$ 134,108	\$ 134,109

**Table 4
Largest Users
Last Ten Fiscal Years Summary**

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Boston Housing Authority	12,401,671	\$11,425,569	\$11,025,244	\$10,318,374	\$10,123,840	\$11,083,979	\$11,146,974	\$10,971,396	\$10,429,021	\$9,916,718
Massachusetts Port Authority	6,485,058	5,137,581	4,967,750	4,608,693	4,643,237	5,161,245	4,571,421	5,277,981	4,205,550	4,121,975
Boston University	5,058,751	4,874,395	4,519,170	4,418,085	4,232,416	4,270,123	3,826,232	3,811,928	3,156,969	2,813,580
Medical Area Total Energy Corp.	4,764,461	4,329,129	4,088,165	4,088,165	3,940,249	3,636,983	3,381,811	3,025,989	*	*
City of Boston	4,186,332	3,665,894	5,309,393	6,056,004	5,285,350	5,864,008	5,146,873	5,112,877	2,262,411	2,052,556
Partners Healthcare	4,148,734	3,605,193	3,931,585	4,273,370	3,735,918	3,664,935	3,336,017	3,323,522	1,583,103	1,441,889
Harvard University	4,007,555	3,632,434	3,451,161	3,321,715	3,049,096	1,640,488	1,579,526	1,456,125	4,951,894	4,619,370
Boston Medical Center Corp.	3,147,780	2,977,920	3,371,101	3,594,812	2,717,789	2,475,064	2,228,351	2,257,589	1,465,910	849,397
Veolia Boston Energy Corp	2,911,497	2,552,840	3,295,210	2,610,143	2,570,724	2,605,999	3,081,868	2,750,471	2,525,018	2,732,646
Northeastern University	2,609,630	2,571,407	2,531,937	2,506,052	2,337,021	2,272,624	2,130,607	1,991,793	968,501	951,790
Boston Properties LP (PRU)	2,410,207	2,430,536	2,383,931	2,264,170	2,046,149	1,485,152	1,525,181	1,587,582	1,149,558	1,098,596
Equity Office Properties inc.	2,066,848	1,857,822	1,859,958	1,920,047	*	*	*	*	*	*
Brigham and Women's Hospital	1,975,281	1,848,262	1,857,475	1,927,653	1,591,990	1,389,569	1,316,266	1,402,830	947,217	887,609
MBTA	1,638,301	1,484,949	1,292,046	955,978	1,077,078	1,129,612	1,315,964	1,293,456	*	*
Harbor Point	1,535,910	1,458,262	1,397,938	1,321,189	1,186,874	1,165,306	1,073,820	1,115,693	1,072,611	954,132
Marriot-Copley Hotel	1,432,115	1,349,725	1,225,650	1,134,190	1,066,848	988,925	896,759	993,920	744,311	*
Genzyme	1,361,207	1,409,846	1,182,100	971,616	1,022,798	1,284,033	932,402	893,371	*	*
Beth Israel Hospital	1,265,430	1,099,090	*	1,015,048	1,229,007	968,102	972,907	978,003	*	*
Childrens Hospital	1,190,014	1,107,951	*	923,229	889,782	956,566	911,432	943,941	522,622	*
Boston Park Plaza	1,132,343	*	*	*	*	*	*	*	*	*
Total	\$65,729,125	\$58,818,805	\$57,689,814	\$58,228,533	\$52,746,166	\$52,042,713	\$49,374,411	\$49,188,467	\$35,984,696	\$32,440,258
% of Total Operating Revenue	18.83%	16.85%	18.27%	19.21%	18.20%	18.14%	18.08%	18.25%	13.74%	13.25%

Source: Commission's Billing System.
* Not included in the top 20

**Table 5
Water Purchased vs. Water Billed
Last Ten Fiscal Years Summary**

Year	Water Purchased (1)	Water Billed (2)	% Accounted For
2015	65.0	55.0	84.6%
2014	63.0	53.9	85.6%
2013	63.9	54.6	85.4%
2012	64.3	54.7	85.0%
2011	64.7	54.9	84.9%
2010	66.0	56.3	85.3%
2009	66.3	55.3	83.4%
2008	68.0	57.1	84.0%
2007	71.4	58.9	82.5%
2006	73.6	59.5	80.8%

(1) Water purchased from MWRA in millions of gallons per day (MGD).

(2) Water billed represents billed charges, in MGD, which does not include leakage, unbilled public usage and water used for construction projects.

Source: Commission Billing System.

Table 6
Billings and Collections
Last Ten Fiscal Years Summary

Year	Billings	Collections	Collection Rate
2015	\$336,644,218	\$341,217,331	101.36%
2014	311,346,280	316,242,452	101.57%
2013	300,523,152	293,290,316	97.59%
2012	271,843,871	276,144,828	101.58%
2011	271,792,931	273,104,981	100.48%
2010	255,088,718	262,841,918	103.04%
2009	254,700,485	259,216,890	101.77%
2008	253,243,082	251,491,130	99.31%
2007	235,123,737	230,879,141	98.19%
2006	220,525,236	222,175,163	100.75%

Source: Commission's Billing System.

Table 7
Water and Sewer Rates Structure*
Current Year and Nine Years Ago

2015				
Consumption (Cu. Ft./Day)	Water Rate		Sewer Rate	
	Per 1,000 Cubic Feet	Per 1,000 Gallons	Per 1,000 Cubic Feet	Per 1,000 Gallons
First 19	\$49.00	\$6.550	\$63.43	\$8.480
Next 20	51.29	6.856	65.38	8.741
Next 50	53.41	7.140	66.70	8.917
Next 260	56.79	7.592	70.37	9.408
Next 950	59.25	7.921	74.26	9.928
Over 1299	\$61.33	\$8.199	\$76.82	\$10.270

2006				
Consumption (Cu. Ft./Day)	Water Rate		Sewer Rate	
	Per 1,000 Cubic Feet	Per 1,000 Gallons	Per 1,000 Cubic Feet	Per 1,000 Gallons
First 19	\$32.36	\$4.326	\$39.88	\$5.332
Next 20	33.88	4.530	41.11	5.496
Next 50	35.28	4.716	41.94	5.607
Next 260	37.51	5.015	44.25	5.915
Next 950	39.15	5.234	46.69	6.242
Over 1299	40.53	5.418	48.31	6.459

The average one family customer using 180 gallons per day (“GPD”) in 2015 will be charged \$84.30 per 31-day month or \$992.56 annually. A multi-unit residence using 600 GPD will be charged \$291.20 per 31-day month or approximately \$3,428.64 annually. A small commercial property using 4,000 GPD will be charged \$2,119.45 per 31-day month or approximately \$24,954.81 annually.

* Rate structure changed from 10 blocks to 6 blocks in January 2006.
 Source: Commission’s Rate Document.

**Table 8
Commission per Capita Debt
Last Ten Fiscal Years Summary**

Year	General Revenue Bonds (\$000's)**	Long-Term Notes (\$000's)**	Commercial Paper (\$000's)**	Total Debt (\$000's)	Population*	Per Capita Debt (\$)	Total Personal *** Income (\$000's)	Debt per Personal Income
2015	447,460	34,290	25,000	506,750	667,137	760	N/A	N/A
2014	492,506	40,078	0	532,584	655,884	812	22,805,087	2.34%
2013	411,464	44,358	35,000	490,822	644,710	761	22,009,755	2.23%
2012	431,632	49,437	0.00	481,069	637,516	755	20,964,076	2.29%
2011	374,246	42,937	40,000	457,183	624,969	732	20,670,225	2.21%
2010	391,839	46,940	10,000	448,779	617,594	727	21,103,187	2.13%
2009	366,816	50,942	40,000	457,758	645,187	709	23,746,108	1.93%
2008	295,081	52,811	72,000	419,892	613,411	685	21,712,553	1.93%
2007	307,980	54,930	46,600	409,510	613,117	668	21,338,609	1.92%
2006	320,448	55,578	25,000	401,026	575,702	697	19,478,935	2.06%

** Source: Commission documents and the City's Official statement for population data and Bureau of Census

*** Source: Bureau of Economic Analysis (Metropolitan Boston Total Personal Income)

Table 9
Revenue Bond Coverage
Last Ten Fiscal Years Summary (\$000)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Cash Receipts*	345,972	321,348	313,317	295,979	286,737	277,037	277,897	265,937	261,364	248,443
Operating Transfers**	(278,726)	(263,488)	(257,281)	(247,076)	(241,202)	(234,246)	(239,781)	(224,071)	(219,655)	(209,282)
Net Revenues	67,246	57,860	56,036	48,903	45,535	42,791	38,116	41,866	41,709	39,161
Debt Service										
Senior Debts Service	38,141	35,509	35,421	32,959	32,880	31,263	28,024	27,221	27,594	27,471
Total Debt Service	38,141	35,509	35,421	32,959	32,880	31,263	28,024	27,221	27,594	27,471
Debt Coverage										
Senior Coverage	176%	163%	158%	148%	138%	137%	136%	154%	151%	143%
Total Coverage	176%	163%	158%	148%	138%	137%	136%	154%	151%	143%

* Cash receipts are defined as all revenues received and deposited into the Revenue Fund.

** Pursuant to Bond Resolutions, amounts withdrawn from the Revenue fund in the period and deposited into any other fund, except the Debt Service Reserve Fund, the Renewal and Replacement Fund, the Stabilization Fund, the General Revenue Fund, or any Temporary Project Fund. Withdrawals include payments for the City G.O. Debt Service and MWRA Assessment.

Table 10
Population, Income and Employment
Last Ten Fiscal Years Summary

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
United States										
Total Personal Income(\$000)	\$15,324,108,725	\$14,708,582,165	\$14,151,427,000	\$13,401,868,693	\$12,949,905,000	\$12,353,777,000	\$11,916,773,000	\$12,225,589,000	\$11,634,322,000	\$10,966,808,000
Per Capita Income (\$)	\$47,669	\$46,129	\$44,765	\$42,693	\$41,560	\$39,937	\$38,846	\$40,166	\$38,615	\$36,629
Population	321,467,160	318,857,056	316,128,839	313,914,040	311,591,917	309,330,219	306,771,529	304,374,846	301,290,332	299,398,484
Employment	N/A	185,798,800	182,278,200	179,603,300	175,834,700	173,737,400	174,208,800	181,755,100	180,943,800	178,342,900
New England										
Total Personal Income (\$000)	\$867,004,548	\$831,543,055	\$801,066,757	\$763,754,701	\$743,087,880	\$705,912,532	\$684,352,455	\$702,966,446	\$673,337,441	\$631,474,719
Per Capita Income (\$)	\$58,863	\$56,642	\$54,797	\$52,446	\$51,274	\$48,840	\$47,513	\$48,944	\$42,820	\$44,252
Population	14,729,289	14,680,722	14,618,806	14,562,704	14,492,360	14,453,587	14,403,575	14,362,641	14,259,321	14,269,989
Employment	N/A	9,378,271	9,217,266	9,125,273	9,002,996	8,935,730	8,940,282	9,275,239	9,155,067	9,210,832
Massachusetts										
Total Personal Income (\$000)	\$414,723,656	\$399,204,457	\$383,152,205	\$363,459,345	\$352,242,665	\$336,319,665	\$324,495,729	\$333,046,494	\$316,895,851	\$297,754,674
Per Capita Income (\$)	\$61,032	\$59,182	\$57,248	\$54,687	\$53,471	\$51,304	\$49,788	\$50,897	\$48,995	\$46,255
Population	6,795,177	6,745,408	6,692,824	6,646,144	6,587,536	6,555,466	6,517,613	6,543,595	6,467,915	6,434,389
Employment	N/A	4,428,064	4,322,176	4,250,566	4,168,887	4,130,436	4,113,976	4,251,139	4,198,813	4,214,576
Metropolitan Boston(1)										
Total Personal Income (\$000)	N/A	304,328,805	289,275,938	284,366,840	\$265,794,170	\$252,728,576	\$243,698,886	\$250,810,542	\$240,084,788	\$225,661,194
Per Capita Income (\$)	N/A	64,311	61,754	61,258	\$57,893	\$55,431	\$53,830	\$55,187	\$53,443	\$50,515
Population	N/A	4,732,161	4,684,299	4,642,095	4,591,112	4,559,372	4,527,220	4,544,705	4,492,338	4,467,233
Employment	N/A	3,322,513	3,239,069	3,173,395	3,124,251	3,091,611	3,076,810	3,171,444	3,121,730	3,077,490

(1) Includes five full counties in Massachusetts (Essex, Middlesex, Norfolk, Plymouth and Suffolk) and two counties in New Hampshire (Rockingham and Strafford), which together comprise the Boston-Cambridge-Quincy MA-NH Metropolitan Statistical Area.

Source: Bureau of Economic Analysis, March 2016
 Bureau of the Census, population figures for Massachusetts and Metropolitan Boston.

Table 11
Demographic and Economic Statistics
Last Ten Fiscal Years Summary

Fiscal Year	Population	Total Personal Income (in thousand)	Per Capita Personal Income	Unemployment Rate
2015	667,137	N/A	N/A	5.3%
2014	655,884	22,805,087	34,770	5.3%
2013	644,710	22,009,755	34,139	6.8%
2012	637,516	20,964,076	32,884	6.5%
2011	624,969	20,670,225	33,074	7.0%
2010	617,594	21,103,187	34,170	7.9%
2009	645,187	23,746,108	36,805	7.6%
2008	613,411	21,712,553	35,396	5.1%
2007	613,117	21,338,609	34,803	4.4%
2006	575,187	19,478,935	33,865	4.9%

N/A = Information not available for this fiscal year.

Sources:

Population:

2016 - U.S. Census Bureau, Population Division, Population Estimates Program, 2015 (preliminary estimate subject to revision)

2011-2013 & 2005-2009 - U.S. Census Bureau, 1 year American Community Survey estimates, BRA Research Division Analysis

2010- U.S. Census Bureau, 2010 Decennial Census, BRA Research Division Analysis

Income: U.S. Census Bureau, 1-year American Community Survey estimates, BRA Research Division Analysis

Converted to 2013 dollars using the Consumer Price Index

Unemployment: Bureau of Labor Statistics, BRA Research Division Analysis

Recent unemployment numbers are preliminary and subject to revision

Table 12
Distribution of Customers by Account Type
Current Year and Nine Years ago

2015		
Account Type by Land Code	Number of Accounts	% of Total Accounts
Residential	66,491	75.6%
Residential (other)	9,457	10.7%
Commercial	7,224	8.2%
Tax Exempt	3,903	4.4%
Industrial	929	1.1%
Total By Land Code	88,004	100.0%

2006		
Account Type by Land Code	Number of Accounts	% of Total Accounts
Residential	66,683	76.9%
Residential (other)	8,467	9.8%
Commercial	6,845	7.9%
Tax Exempt	3,711	4.3%
Industrial	1,051	1.2%
Total By Land Code	86,757	100.0%

Source: Commission's billing system.

**Table 13
Largest Private Employers
Current and Nine Years Ago**

Employer	Year End 2015			Year End 2006		
	Employees	Rank	Percentage of Total City Employment	Employees	Rank	Percentage of Total City Employment
Massachusetts General Hospital	16,999	1	2.43%	16,146	1	2.52%
Brigham and Women's Hospital	13,303	2	1.90%	11,225	2	1.75%
Boston University	9,854	3	1.41%	9,087	4	1.42%
Children's Hospital, Boston	8,866	4	1.27%		9	0.60%
State Street Bank & Trust Co.	7,800	5	1.12%			
Beth Israel Deaconess Medical Center	6,781	6	0.97%	10,861	3	1.69%
Harvard University Graduate Schools	5,677	7	0.81%			
Northeastern University	5,069	8	0.73%	4,417	7	0.69%
Fidelity Investments	5,000	9	0.72%	8,000	5	1.25%
Boston Medical Center Corporation	4,596	10	0.66%	4,000	8	0.62%
New England Medical Center				5,508	6	0.86%
Harvard University				3,654	10	0.57%
Total	<u>83,945</u>		<u>12.02%</u>	<u>72,898</u>		<u>11.97%</u>

Note 1: This list does not include large public sector agencies or non-profit firms except for some hospitals, colleges, and media companies.

Note 2: Used previous data from 2006 due to specific number of employees known for each employer.

Source: Dun and Bradstreet, Info UA, New England Board of Higher Education, American Hospital Association and the BRA.

Table 14
Economy, Household Income, Occupation
Year-end 2015 Summary

ECONOMY	Boston, MA	United States
Unemployment Rate	5.20%	6.30%
Recent Job Growth	1.33%	1.18%
Future Job Growth	37.50%	36.10%
Sales Taxes	6.25%	6.00%
Income Taxes	5.20%	4.72%
Income per Capita	\$33,589	\$28,051
Household Income	\$53,136	\$53,046
Family Meridian Income	\$63,230	\$64,585
HOUSEHOLD INCOME (ESTIMATED)		
Income less than 15K	19.74%	12.61%
Income between 15K and 20K	5.19%	5.33%
Income between 20K and 30K	7.86%	10.57%
Income between 30K and 40K	7.61%	9.90%
Income between 40K and 50K	7.42%	8.95%
Income between 50K and 60K	6.69%	8.08%
Income between 60K and 75K	8.50%	10.09%
Income between 75K and 100K	10.98%	12.25%
Income between 100K and 150K	13.18%	12.82%
Income between 150K and 200K	5.91%	4.78%
Income greater than 200K	6.95%	4.64%
POPULATION BY OCCUPATION		
Management, business, finance	18.22%	14.36%
Engineering, computers, science	7.44%	5.24%
Community, social services	2.46%	1.66%
Legal	2.35%	1.17%
Education, library	7.12%	6.10%
Arts, design, media, sports, entertainment	2.90%	1.88%
Healthcare practitioners and technology	5.88%	5.49%
Healthcare support	2.98%	2.47%
Firefighters, law enforcement	2.59%	2.24%
Food preparation, service	7.16%	5.61%
Building maintenance	4.51%	3.97%
Personal care	4.04%	3.54%
Sales, office, administration support	22.10%	24.89%
Farming, fishing, forestry	0.07%	0.73%
Construction, extraction, maintenance / repair	4.01%	8.56%
Production, transportation, material moving	6.18%	12.10%

Source: Boston Economy Sperling Views, 2014
 Data unavailable for 2015

Table 15
Divisional Breakdown of BWSC Employees
Last Ten Fiscal Years Summary

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Executive	32.0	32.0	52.0	52.0	53.0	54.0	54.0	55.0	55.0	62.0
Executive Director	3.0	3.0	4.0	4.0	4.0	5.0	5.0	6.0	6.0	7.0
Organizational Diversity	6.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Labor Relations	4.0	11.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0
General Counsel	12.0	15.0	12.0	12.0	12.0	11.0	11.0	13.0	13.0	13.0
Human Resources	7.0	-	-	-	-	-	-	-	-	-
MIS	-	-	29.0	29.0	30.0	31.0	31.0	29.0	29.0	29.0
Comm. & Community Svcs.	-	-	-	-	-	-	-	-	-	5.0
Operations	209.0	211.0	206.0	210.0	214.0	219.0	235.0	239.0	239.0	239.0
Chief Operations Officer	-	-	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Director of Operations	4.0	-	-	-	-	-	-	-	-	-
Operations Services	-	4.0	-	-	-	-	-	-	-	-
Water & Sewer Services	117.0	113.0	125.0	127.0	134.0	140.0	153.0	160.0	160.0	165.0
Work Order, Compliance & C. S.	33.0	35.0	10.0	10.0	10.0	11.0	11.0	11.0	11.0	11.0
Asset Management	35.0	36.0	-	-	-	-	-	-	-	-
Facilities & Support Services	20.0	23.0	25.0	26.0	25.0	22.0	21.0	20.0	20.0	19.0
Fleet	-	-	10.0	11.0	10.0	10.0	12.0	12.0	12.0	12.0
Storeroom	-	-	8.0	8.0	9.0	12.0	12.0	12.0	12.0	11.0
Enforcement	-	-	22.0	22.0	20.0	18.0	20.0	18.0	18.0	15.0
Engineering	83.0	84.0	95.0	89.0	91.0	91.0	87.0	89.0	89.0	88.0
Chief Engineer	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Design	32.0	30.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Planning	7.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Construction	39.0	43.0	34.0	32.0	34.0	34.0	30.0	32.0	32.0	31.0
Eng. Services	-	-	35.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Administration	128.0	127.0	78.0	78.0	78.0	80.0	80.0	82.0	82.0	77.0
Chief Admn. Officer	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Meter Services	30.0	29.0	29.0	29.0	29.0	31.0	32.0	33.0	33.0	33.0
Account Services	36.0	38.0	36.0	36.0	37.0	37.0	35.0	35.0	35.0	35.0
Comm. & Community Svcs.	8.0	7.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	-
Facilities & Support Svcs	22.0	22.0	-	-	-	-	-	-	-	-
Information Technology	30.0	29.0	-	-	-	-	-	-	-	-
Human Resources	-	-	7.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0
Finance	53.0	54.0	50.0	50.0	51.0	52.0	50.0	52.0	52.0	51.0
CFO	5.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0
Budget	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Accounting	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-	-
Procurement	5.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	-	-
Financial Services	9.0	9.0	9.0	9.0	8.0	9.0	9.0	9.0	22.0	25.0
Revenues	19.0	20.0	18.0	18.0	20.0	19.0	17.0	19.0	19.0	14.0
Total Full Time Employees	505.0	508.0	481.0	479.0	487.0	496.0	506.0	517.0	517.0	517.0
Percent of Total										
Executive	6.34%	6.30%	10.81%	10.86%	10.88%	10.89%	10.67%	10.64%	10.64%	11.99%
Operations	41.39%	41.54%	42.83%	43.84%	43.94%	44.15%	46.44%	46.23%	46.23%	46.23%
Engineering	16.44%	16.54%	19.75%	18.58%	18.69%	18.35%	17.19%	17.21%	17.21%	17.02%
Administration	25.35%	25.00%	16.22%	16.28%	16.02%	16.13%	15.81%	15.86%	15.86%	14.89%
Finance	10.50%	10.63%	10.40%	10.44%	10.47%	10.48%	9.88%	10.06%	10.06%	9.86%
Total	100.00%									

Table 16
Water and Sewer Distribution System
Current Year and Nine Years ago

2015

Appurtenances		Water Distribution System:		Pressure Zone	
		Water Main City Wide			
Hydrants	12,619	Total Linear Feet	5,338,662	High Pressure Fire System	16 Miles
MWRA Meters	0	Total Linear Miles	1,011	Northern High	5 Miles
Gate Valves*	17,288			Northern Low	89 Miles
				Southern Extra High	80 Miles
				Southern High	562 Miles
				Southern Low	259 Miles
Appurtenances		Sewer Distribution System:		Sewer System Code	
		Sewer Pipes City Wide			
Catch Basins	30,645	Total Linear Feet	8,102,177	Combined Sewer	165 Miles
Manholes	48,695	Total Linear Miles	1,535	Combined Sewer Overflow	4 Miles
Outfalls	252	Pumping Stations	9	Sanitary Sewer	700 Miles
Regulators	150			Storm Drain	665 miles
Tide Gates	192				

2006

Division Gates	223	Total Linear Feet	5,004,000	High Pressure Fire System	17 Miles
Hydrants	13,113	Total Linear Miles	1,016	Northern High	5 Miles
MWRA Meters	27			Northern Low	90 Miles
Gate Valves*	16,963			Southern Extra High	81 Miles
				Southern High	560 Miles
				Southern Low	264 Miles
Appurtenances		Sewer Distribution System:		Sewer System Code	
		Sewer Pipes City Wide			
Catch Basins	34,320	Total Linear Feet	7,647,408	Combined Sewer	246 Miles
Manholes	46,376	Total Linear Miles	1,448	Combined Sewer Overflow	3 Miles
Outfalls	41	Pumping Stations	8	Sanitary Sewer	612 Miles
Regulators	174	Active CSO	37	Storm Drain	587 Miles
Tide Gates	198				

Source: Commission's CIP

Table 17
Insurance Coverage
Current Year and Nine Years Ago

2015 – 2016

Provider	Policy Period	Type of Coverage	Liability Limits	Annual Premium
Alliant	6/1/15 - 6/1/16	Property	\$250,000,000	\$61,421
Hanover	6/1/15 - 6/1/16	Vehicles	1,000,000	202,011
Arch	6/1/15 - 6/1/16	Excess Workers Compensation	Statutory	130,479
Argonaut	6/1/15 - 6/1/16	Excess Liability	9,000,000	203,598
Hanover	6/1/15 - 6/1/16	Fidelity and Crime	5,500,000	11,269
U.S. Specialty	6/1/15 - 6/1/16	Fiduciary	5,000,000	18,485

2006 – 2007

Provider	Policy Period	Type of Coverage	Liability Limits	Annual Premium
Alliant	6/1/06 - 6/1/07	Property	\$100,573,600	\$43,287
Liberty Mutual	6/1/06 - 6/1/07	Automobile	1,000,000	232,050
CNA	6/1/06 - 6/1/07	Excess Workers Compensation	25,000,000	94,756
AEGIS	6/1/06 - 6/1/07	Excess Liability	10,000,000	331,706
AEGIS	6/1/06 - 6/1/07	Public Officials Liability	3,000,000	85,257
Great American	12/1/06 - 06/1/07	Fidelity and Crime	5,000,000	6,373
U.S. Specialty	6/1/06 - 6/1/07	Fiduciary	2,500,000	11,190

Source: Commission's General Counsel

Table 18
Retirement System
Schedule of Funding Process

Year	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL)	Funded Ratio (A/AAL)	Unfunded AAL (AAL - A)	Covered Payroll (C)	UAAL as a Percentage of Covered Payroll (AAL- A)C
1/1/2008	76,186,255	83,308,046	91%	7,121,791	28,192,341	25%
1/1/2009	66,104,693	87,661,174	75%	21,556,481	29,601,958	73%
1/1/2010	71,120,461	89,057,766	80%	17,937,305	28,871,087	62%
1/1/2012	73,249,513	\$96,439,718	76%	\$23,190,205	\$27,979,116	83%
1/1/2014	\$87,411,057	\$120,174,128	73%	\$32,763,071	\$31,361,504	104%

Information provided by Segal Group, Inc. from January 1, 2014 – January 1, 2015 pension valuation report

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*Single Audit
Section*

2015

Single Audit Section

In accordance with the Uniform Guidance, a Single Audit was not required because the Commission's federal expenditures were below the \$750,000 threshold.



Boston Water & Sewer Commission
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