



NEW ISSUE - BOOK-ENTRY ONLY

RATINGS: See "RATINGS" herein

In the opinion of Bond Counsel, under current law and subject to the conditions described herein under the caption "TAX MATTERS," interest, including original issue discount ("OID"), on the Series 2017A Bonds (a) will not be included in gross income for Federal income tax purposes and (b) will not be an item of tax preference for purposes of the Federal alternative minimum income tax imposed on individuals and corporations; however, with respect to corporations (as defined for Federal income tax purposes) subject to the alternative minimum income tax, such interest is taken into account in determining adjusted current earnings for purposes of computing such tax. A holder of the Series 2017A Bonds may be subject to other Federal tax consequences as described herein under the caption "TAX MATTERS." Interest on the Series 2017A Bonds will be exempt from income taxation by the State of Georgia. See the proposed form of the opinion of Bond Counsel attached hereto as Appendix D.



\$226,820,000*
CITY OF ATLANTA, GEORGIA
WATER AND WASTEWATER REVENUE REFUNDING BONDS,
SERIES 2017A

Dated: Date of Delivery

Due: November 1, as shown on the inside front cover

This Official Statement relates to the issuance by the City of Atlanta (the "City") of \$226,820,000* in aggregate principal amount of its Water and Wastewater Revenue Refunding Bonds, Series 2017A (the "Series 2017A Bonds") pursuant to that certain Master Bond Ordinance adopted on March 31, 1999, as previously supplemented and amended (the "Master Bond Ordinance"), and particularly as supplemented by that certain Series 2016 Bond Ordinance adopted on October 17, 2016 and approved by operation of law on October 26, 2016, as supplemented by that certain Series 2016 Supplemental Pricing Resolution expected to be adopted on or about April 26, 2017 (collectively, the "Series 2016 Bond Ordinance," and together with the Master Bond Ordinance are hereinafter collectively referred to as the "Bond Ordinance"). The Series 2017A Bonds are being issued for the purpose of: (a) refunding a portion of the City's outstanding Water and Wastewater Revenue Bonds, Series 2009B and (b) paying the costs of issuance related to the Series 2017A Bonds. See "PLAN OF REFUNDING" and "ESTIMATED SOURCES AND USES OF FUNDS" herein. All capitalized terms used and not otherwise defined herein shall have the meanings assigned thereto in the Bond Ordinance. See "APPENDIX C - SUMMARY OF CERTAIN PROVISIONS OF THE BOND ORDINANCE" attached hereto.

The Series 2017A Bonds are initially being issued as fully registered bonds, without coupons, in denominations of \$5,000 or any integral multiple thereof and initially will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"). Purchases of beneficial ownership interests in the Series 2017A Bonds will be made in book-entry form only and purchasers will not receive physical delivery of bond certificates representing the beneficial ownership interests in the Series 2017A Bonds so purchased. Payments of principal of, premium, if any, and interest on, any Series 2017A Bond will be made to Cede & Co., as nominee for DTC as registered owner of the Series 2017A Bonds, by U.S. Bank National Association, as bond registrar and paying agent, to be subsequently disbursed to the Beneficial Owners (as defined herein) of the Series 2017A Bonds. See "BOOK-ENTRY ONLY SYSTEM" herein.

Interest on the Series 2017A Bonds is payable semiannually on May 1 and November 1 of each year, commencing November 1, 2017. The Series 2017A Bonds will bear interest at the rates and will be payable as to principal in the amounts and on the dates set forth on the inside front cover of this Official Statement. See "DESCRIPTION OF THE SERIES 2017A BONDS - General" herein.

The Series 2017A Bonds are subject to optional and mandatory redemption prior to maturity as more fully described under the caption "DESCRIPTION OF THE SERIES 2017A BONDS - Redemption Provisions" herein.

The Series 2017A Bonds are payable from and secured by a pledge of the Pledged Revenues (as defined herein) of the System (as defined herein) on a parity basis with the Outstanding Senior Bonds (as defined herein) and with any additional revenue bonds of the City hereafter issued on a parity basis with the Outstanding Senior Bonds and the Series 2017A Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2017A BONDS" herein.

The Series 2017A Bonds are special limited obligations of the City payable solely from and secured by a first priority pledge of and lien on the Pledged Revenues. The Series 2017A Bonds are not payable from and are not secured by a charge, lien, or encumbrance upon any funds or assets of the City other than the Pledged Revenues.

THE SERIES 2017A BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OF THE CITY WITHIN THE MEANING OF ANY CONSTITUTIONAL LIMITATION ON DEBT NOR A PLEDGE OF THE FAITH AND CREDIT OF THE CITY. THE SERIES 2017A BONDS SHALL NOT BE PAYABLE FROM OR A CHARGE UPON ANY FUNDS OTHER THAN THE REVENUES AND AMOUNTS PLEDGED TO THE PAYMENT THEREOF, NOR SHALL THE CITY BE SUBJECT TO ANY PECUNIARY LIABILITY THEREON. NO OWNER OR OWNERS OF THE SERIES 2017A BONDS SHALL EVER HAVE THE RIGHT TO COMPEL ANY EXERCISE OF THE TAXING POWER OF THE CITY TO PAY THE SERIES 2017A BONDS OR THE INTEREST THEREON, NOR TO ENFORCE PAYMENT OF THE SERIES 2017A BONDS AGAINST ANY PROPERTY OF THE CITY; NOR SHALL THE SERIES 2017A BONDS CONSTITUTE A CHARGE, LIEN, OR ENCUMBRANCE, LEGAL OR EQUITABLE, UPON ANY PROPERTY OF THE CITY, EXCEPT FOR THE PLEDGED REVENUES AND ANY OTHER FUNDS PLEDGED TO SECURE THE SERIES 2017A BONDS.

This cover page contains certain limited information for quick reference only. It is not, and is not intended to be, a summary of the matters relating to the Series 2017A Bonds. Potential investors must read the entire Official Statement (including the cover page and all appendices attached hereto) to obtain information essential to the making of an informed investment decision.

The Series 2017A Bonds are being offered when, as, and if issued by the City and accepted by the Underwriters subject to prior sale and to withdrawal or modification of the offer without notice, and subject to the approving opinion of Hunton & Williams LLP, Atlanta, Georgia, Bond Counsel. Certain legal matters will be passed upon for the City by the City's Department of Law. Certain legal matters will be passed upon for the City by Greenberg Traurig, LLP and Riddle and Schwartz, LLC, both of Atlanta, Georgia, Co-Disclosure Counsel. Certain legal matters will be passed upon for the Underwriters by Haley Law Firm LLC, Atlanta, Georgia, Underwriters' Counsel. FirstSouthwest, a Division of Hilltop Securities Inc., Dallas, Texas and Grant & Associates LLC, Atlanta, Georgia are serving as Co-Financial Advisors to the City. The Series 2017A Bonds are expected to be delivered through the book-entry system of DTC in New York, New York on or about May 4, 2017.

Siebert Cisneros Shank & Co., L.L.C.

Barclays
Academy Securities

Ramirez & Co., Inc.
SunTrust Robinson Humphrey

April __, 2017

* Preliminary; subject to change.

**MATURITIES, PRINCIPAL AMOUNTS, INTEREST RATES,
YIELDS, PRICES AND INITIAL CUSIP NUMBERS[†]**

\$226,820,000*

**CITY OF ATLANTA, GEORGIA
WATER AND WASTEWATER REVENUE REFUNDING BONDS,
SERIES 2017A**

Maturity (November 1) [*]	Principal Amount [*]	Interest Rate	Yield	Price	Initial CUSIP No. [†]
2020	\$ 6,270,000				
2021	6,680,000				
2022	2,245,000				
2023	10,435,000				
2024	11,710,000				
2028	12,275,000				
2029	13,500,000				
2030	14,375,000				
2031	15,620,000				
2032	16,605,000				
2033	14,300,000				
2034	18,175,000				
2035	18,015,000				
2036	19,220,000				
2037	20,720,000				
2038	22,520,000				
2039	4,155,000				

^{*} Preliminary; subject to change.

[†] Initial CUSIP numbers have been assigned to the Series 2017A Bonds by an organization not affiliated with the City not the Co-Financial Advisors and are included for the convenience of the owners of the Series 2017A Bonds only at the time of original issuance of the Series 2017A Bonds. Neither the City, nor the Co-Financial Advisors is responsible for the selection, use or accuracy of the CUSIP numbers nor is any representation made as to the accuracy of the CUSIP numbers as to the Series 2017A Bonds indicated above now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the issuance of such Series 2017A Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of such maturity of the Series 2017A Bonds.

CITY OF ATLANTA

Elected Officials

Mayor

Kasim Reed

City Council

Ceasar C. Mitchell, President

Carla Smith, <i>District 1</i>	Felicia A. Moore, <i>District 9</i>
Kwanza Hall, <i>District 2</i>	Clarence Terrell (C.T.) Martin, <i>District 10</i>
Ivory Lee Young, Jr., <i>District 3</i>	Keisha Lance Bottoms, <i>District 11</i>
Cleta Winslow, <i>District 4</i>	Joyce M. Sheperd, <i>District 12</i>
Natalyn Mosby Archibong, <i>District 5</i>	Michael Julian Bond, <i>Post 1, At-Large</i>
Alex Wan, <i>District 6</i>	Mary Norwood, <i>Post 2, At-Large</i>
Howard Shook, <i>District 7</i>	Andre Dickens, <i>Post 3, At-Large</i>
Yolanda Adrean, <i>District 8</i>	

Finance/Executive Committee of the City Council

Howard Shook, <i>Chair</i>	Carla Smith
Yolanda Adrean	Clarence Terrell (C.T.) Martin
Alex Wan	Felicia A. Moore
Natalyn Mosby Archibong	

City Utilities Commission

Alex Wan, <i>Chair</i>	Clarence Terrell (C.T.) Martin
Natalyn Mosby Archibong	Joyce M. Sheperd
Howard Shook	Carla Smith
Yolanda Adrean	

Appointed Officials

J. Anthony "Jim" Beard, Chief Financial Officer	Cathy D. Hampton, Esquire, City Attorney
Daniel L. Gordon, Chief Operating Officer	Candace L. Byrd, Esquire, Chief of Staff
Kishia L. Powell, Commissioner of Watershed Management	

CONSULTANTS TO THE CITY

Feasibility Consultant

Galardi Rothstein Group
Chicago, Illinois

Bond Counsel

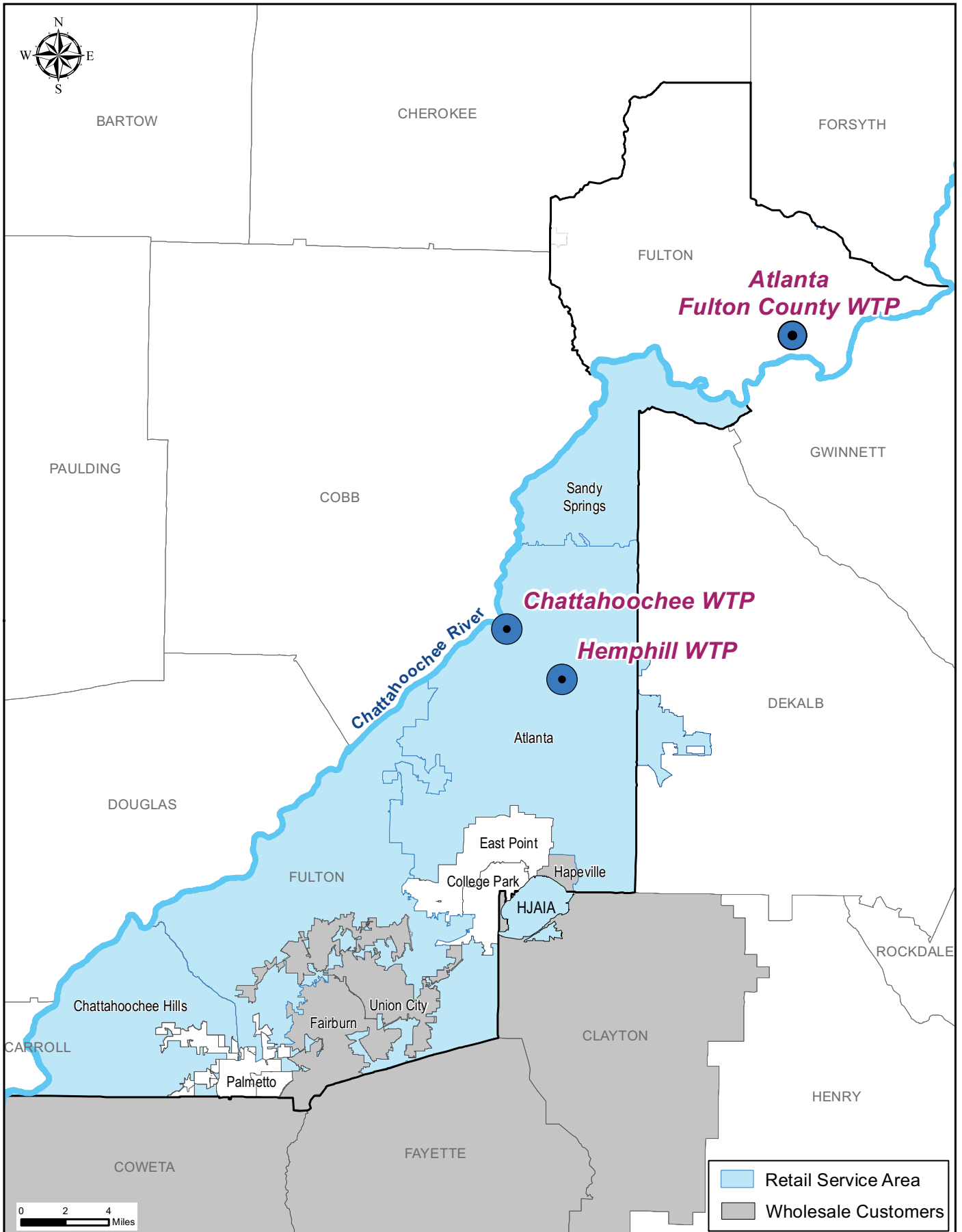
Hunton & Williams LLP
Atlanta, Georgia

Co-Disclosure Counsel

Greenberg Traurig, LLP Atlanta, Georgia	Riddle & Schwartz, LLC Atlanta, Georgia
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Co-Financial Advisors

FirstSouthwest, a Division of Hilltop Securities Inc. Dallas, Texas	Grant & Associates LLC Atlanta, Georgia
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City of Atlanta Drinking Water Service Area

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This Official Statement does not constitute a contract between the City or the Underwriters and any one or more owners of the Series 2017A Bonds, nor does it constitute an offer to sell or the solicitation of an offer to buy the Series 2017A Bonds in any jurisdiction to any person to whom it is unlawful to make such an offer in such jurisdiction.

No dealer, salesman or any other person has been authorized by the City or the Underwriters to give any information or to make any representations, other than those contained in this Official Statement, in connection with the offering of the Series 2017A Bonds, and if given or made, such information or representations must not be relied upon as having been authorized by the City or any other person. The information and expressions of opinion in this Official Statement are subject to change without notice, and this Official Statement speaks only as of its date. Neither the delivery of this Official Statement nor any sale made hereunder will, under any circumstances, create the implication that there has been no change in the matters described herein since the date hereof. Except as otherwise indicated, the information contained in this Official Statement, including in the appendices, has been obtained from representatives of the City, the Underwriters and from public documents, records and other sources considered to be reliable.

The Underwriters have provided the following sentence for inclusion in this Official Statement: The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of their responsibilities under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

THIS PRELIMINARY OFFICIAL STATEMENT IS IN A FORM DEEMED FINAL BY THE CITY FOR PURPOSES OF RULE 15c2-12 ISSUED UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED, EXCEPT FOR CERTAIN INFORMATION PERMITTED TO BE OMITTED PURSUANT TO RULE 15c2-12(B)(1).

IN CONNECTION WITH THE OFFERING OF THE SERIES 2017A BONDS, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICE OF THE SERIES 2017A BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

THE SERIES 2017A BONDS HAVE NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION UNDER THE SECURITIES ACT OF 1933, AS AMENDED, NOR HAS THE BOND ORDINANCE BEEN QUALIFIED UNDER THE TRUST INDENTURE ACT OF 1939, AS AMENDED, IN RELIANCE UPON EXEMPTIONS CONTAINED IN SUCH ACTS. THE REGISTRATION OR QUALIFICATION OF THE SERIES 2017A BONDS IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE SECURITIES LAWS OF THE STATES, IF ANY, IN WHICH THE SERIES 2017A BONDS HAVE BEEN REGISTERED OR QUALIFIED AND THE EXEMPTION FROM REGISTRATION OR QUALIFICATION IN CERTAIN OTHER STATES CANNOT BE REGARDED AS A RECOMMENDATION THEREOF. NEITHER THESE STATES NOR ANY OF THEIR AGENCIES HAVE PASSED UPON THE MERITS OF THE SERIES 2017A

BONDS OR THE ACCURACY OR COMPLETENESS OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY MAY BE A CRIMINAL OFFENSE.

In making an investment decision, investors must rely on their own examination of the City, the System, and the terms of the offering, including the merits and risks involved. The Series 2017A Bonds have not been recommended by any federal or state securities commission or regulatory authority. Any representation to the contrary may be a criminal offense.

The order and placement of information in this Official Statement, including the appendices, are not an indication of relevance, materiality or relative importance, and this Official Statement, including the appendices, must be read in its entirety. The captions and headings in this Official Statement are for convenience only and in no way define, limit or describe the scope or intent, or affect the meaning or construction, of any provision or section in this Official Statement.

THIS OFFICIAL STATEMENT IS BEING PROVIDED TO PROSPECTIVE PURCHASERS IN EITHER BOUND OR PRINTED FORMAT ("ORIGINAL BOUND FORMAT") OR IN ELECTRONIC FORMAT ON THE FOLLOWING WEBSITE: WWW.MUNIOS.COM. THIS OFFICIAL STATEMENT MAY BE RELIED ON ONLY IF IT IS IN ITS ORIGINAL BOUND FORMAT, OR IF IT IS PRINTED IN ITS ENTIRETY DIRECTLY FROM SUCH WEBSITE.

References to website addresses presented herein, including the City's website or any other website containing information about the City, are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such websites and the information or links contained therein are not incorporated into, and are not part of, this Official Statement for any purpose including for purposes of Rule 15c2-12 promulgated by the Securities and Exchange Commission.

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OFFICIAL STATEMENT

relating to

\$226,820,000*

CITY OF ATLANTA, GEORGIA WATER AND WASTEWATER REVENUE REFUNDING BONDS, SERIES 2017A

INTRODUCTION

General

The purpose of this Official Statement, which includes the cover page and the appendices attached hereto, is to provide certain information in connection with the issuance and sale by the City of Atlanta (the "City") of \$226,820,000* in aggregate principal amount of its Water and Wastewater Revenue Refunding Bonds, Series 2017A (the "Series 2017A Bonds").

This introduction is not a summary of this Official Statement and is intended only for quick reference. It is only a brief description of and guide to, and is qualified in its entirety by reference to, the more complete and detailed information contained in the entire Official Statement, including the cover page and the appendices attached hereto, and the documents summarized or described herein. A full review should be made of the entire Official Statement and of the documents summarized or described herein, if necessary. The offering of the Series 2017A Bonds to potential investors is made only by means of the entire Official Statement, including the appendices attached hereto. No person is authorized to detach this Introduction from this Official Statement or to otherwise use it without the entire Official Statement including the appendices attached hereto.

All capitalized terms used and not otherwise defined herein will have the meanings assigned thereto in the hereinafter defined Bond Ordinance. See "APPENDIX C - SUMMARY OF CERTAIN PROVISIONS OF THE BOND ORDINANCE" attached hereto.

The City

The City is a municipal corporation of the State of Georgia (the "State") created by an act of the General Assembly of the State in 1843. See "THE CITY" herein.

Authority for Issuance

The Series 2017A Bonds are being issued by the City pursuant to (a) that certain Master Bond Ordinance adopted on March 31, 1999, as previously supplemented and amended (the "Master Bond Ordinance"), and particularly as supplemented by that certain Series 2016 Bond Ordinance adopted on October 17, 2016 and approved by operation of law on October 26, 2016, as supplemented by that certain Series 2016 Supplemental Pricing Resolution expected to be

* Preliminary; subject to change.

adopted on or about April 26, 2017 (collectively, the "Series 2016 Bond Ordinance," and together with the Master Bond Ordinance are hereinafter collectively referred to as the "Bond Ordinance"); (b) the Constitution of the State of Georgia; (c) the Revenue Bond Law (Article 3 of Chapter 82 of Title 36 of the Official Code of Georgia Annotated, as amended); and (d) the Charter of the City of Atlanta, as amended (the "Charter").

Purpose of the Series 2017A Bonds

The Series 2017A Bonds are being issued for the purpose of: (a) refunding a portion of the City's outstanding Water and Wastewater Revenue Bonds, Series 2009B (the "Series 2009B Bonds"), and (b) paying the costs of issuance related to the Series 2017A Bonds. The portions of the Series 2009B Bonds actually refunded with the proceeds of the Series 2017A Bonds are herein referred to as the "Refunded Bonds." See "PLAN OF REFUNDING" and "ESTIMATED SOURCES AND USES OF FUNDS" herein.

Security and Sources of Payment for the Series 2017A Bonds

The Series 2017A Bonds are payable from and secured by a pledge of the Pledged Revenues (as defined herein) of the City's water and wastewater system (the "System") on a parity basis with the Outstanding Senior Bonds (as defined herein) and with any additional revenue bonds of the City hereafter issued on a parity basis with the Outstanding Senior Bonds and the Series 2017A Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2017A BONDS" herein.

The Series 2017A Bonds are special limited obligations of the City payable solely from and secured by a first priority pledge of and lien on the Pledged Revenues. The Series 2017A Bonds are not payable from and are not secured by a charge, lien, or encumbrance upon any funds or assets of the City other than the Pledged Revenues. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2017A BONDS" herein.

THE SERIES 2017A BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OF THE CITY WITHIN THE MEANING OF ANY CONSTITUTIONAL LIMITATION ON DEBT NOR A PLEDGE OF THE FAITH AND CREDIT OF THE CITY. THE SERIES 2017A BONDS SHALL NOT BE PAYABLE FROM OR A CHARGE UPON ANY FUNDS OTHER THAN THE REVENUES AND AMOUNTS PLEDGED TO THE PAYMENT THEREOF, NOR SHALL THE CITY BE SUBJECT TO ANY PECUNIARY LIABILITY THEREON. NO OWNER OR OWNERS OF THE SERIES 2017A BONDS SHALL EVER HAVE THE RIGHT TO COMPEL ANY EXERCISE OF THE TAXING POWER OF THE CITY TO PAY THE SERIES 2017A BONDS OR THE INTEREST THEREON, NOR TO ENFORCE PAYMENT OF THE SERIES 2017A BONDS AGAINST ANY PROPERTY OF THE CITY; NOR SHALL THE SERIES 2017A BONDS CONSTITUTE A CHARGE, LIEN, OR ENCUMBRANCE, LEGAL OR EQUITABLE, UPON ANY PROPERTY OF THE CITY, EXCEPT FOR THE PLEDGED REVENUES AND ANY OTHER FUNDS PLEDGED TO SECURE THE SERIES 2017A BONDS.

Description of the Series 2017A Bonds

The Series 2017A Bonds will be dated not later than the date on which they are issued and delivered, will be in the form of fully registered bonds, without coupons, in denominations of \$5,000 or any integral multiple thereof, and will bear interest from the dated dates thereof, at the rates set forth on the inside front cover of this Official Statement. The Series 2017A Bonds are being issued in book-entry form only and so long as The Depository Trust Company, a New York Corporation (the "DTC") or its nominee is the registered owner of the Series 2017A Bonds, U.S. Bank National Association, as bond registrar (in that capacity, the "Bond Registrar") and paying agent (in that capacity, the "Paying Agent"), will make payments of the principal or redemption price of and interest on the Series 2017A Bonds to DTC in accordance with the Series 2016 Bond Ordinance and the Paying Agent will have no obligation to make payments to any Beneficial Owner (as defined herein). See "BOOK-ENTRY ONLY SYSTEM" herein. Interest on the Series 2017A Bonds is payable semiannually on May 1 and November 1 of each year, commencing November 1, 2017. The Series 2017A Bonds will bear interest at the rates set forth on the inside front cover of this Official Statement. See "DESCRIPTION OF THE SERIES 2017A BONDS - General" herein.

The Series 2017A Bonds are subject to optional and mandatory redemption prior to maturity as more fully described under the caption "DESCRIPTION OF THE SERIES 2017A BONDS - Redemption Provisions" herein.

Continuing Disclosure

In order to assist the Underwriters (as defined herein) in complying with Rule 15c2-12(b)(5) of the Securities and Exchange Commission (the "SEC") promulgated pursuant to the Securities Exchange Act of 1934, as in effect on the date hereof (the "Rule"), simultaneously with the issuance of the Series 2017A Bonds, the City, as an "obligated person" under the Rule, will enter into a Continuing Disclosure Agreement (the "Disclosure Agreement") with Digital Assurance Certification, L.L.C., as initial dissemination agent ("DAC") for the benefit of the holders of the Series 2017A Bonds, under which the City will undertake to provide continuing disclosure with respect to the Series 2017A Bonds. See "CONTINUING DISCLOSURE" herein and "APPENDIX E - FORM OF CONTINUING DISCLOSURE AGREEMENT" attached hereto.

Other Information

This Official Statement speaks only as of its date, and the information contained herein is subject to change. This Official Statement and the appendices attached hereto contain brief descriptions of, among other matters, the City, the System, the Series 2017A Bonds, and the security and sources of payment for the Series 2017A Bonds, the Bond Ordinance, the Disclosure Agreement, and the Feasibility Study (as defined herein). Such descriptions and information do not purport to be comprehensive or definitive. The summaries of various constitutional provisions, statutes, the Bond Ordinance, the Disclosure Agreement, the Feasibility Study and other documents are intended as summaries only and are qualified in their entirety by reference to such documents, and references herein to the Series 2017A Bonds are qualified in their entirety to the form thereof included in the Bond Ordinance. Copies of the

Bond Ordinance, the Feasibility Study, the Disclosure Agreement and other relevant documents and information are available, upon written request and payment of a charge for copying, mailing and handling, from the Chief Financial Officer, Department of Finance, 68 Mitchell Street, S.W., Suite 11100, South Tower, Atlanta, Georgia 30303, telephone (404) 330-6430.

PLAN OF REFUNDING

A portion of the proceeds of the Series 2017A Bonds will be used to refund and redeem the Refunded Bonds. The Refunded Bonds include the following maturities of the Series 2009B Bonds which will be called for redemption on the dates set forth below, at a price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date of such Series 2009B Bonds:

	Maturity (November 1)*	Amount Outstanding	Amount to be Refunded*	Redemption Date (November 1)
Serial Bond	2020	\$ 10,075,000	\$ 6,570,000	2019
Serial Bond	2021	10,730,000	6,995,000	2019
Serial Bond	2022	3,935,000	2,565,000	2019
Serial Bond	2023	16,550,000	10,790,000	2019
Serial Bond	2024	18,620,000	12,140,000	2019
Term Bond	2034	168,425,000	109,830,000	2019
Term Bond	2039	140,035,000	91,320,000	2019

To effect the refunding of the Refunded Bonds, the City will enter into an Escrow Deposit Agreement (the "Escrow Deposit Agreement") with U.S. Bank National Association, as escrow agent (in that capacity, the "Escrow Agent") on or prior to the delivery of the Series 2017A Bonds. By virtue of such deposit, the Refunded Bonds will be deemed, as of the date of delivery of the Series 2017A Bonds, paid and no longer outstanding under the Bond Ordinance. Pursuant to the terms of the Escrow Deposit Agreement, on the date of issuance of the Series 2017A Bonds, the City will deposit a portion of the proceeds of the Series 2017A Bonds and certain other available funds of the City, if any, with the Escrow Agent for deposit to the credit of the escrow deposit trust fund established for the Refunded Bonds (the "Escrow Fund") pursuant to the Bond Ordinance and the Escrow Deposit Agreement. Such monies will be applied to pay, at maturity or upon redemption prior to maturity, all principal of and accrued interest on the Refunded Bonds on November 1, 2019, as provided in the Escrow Deposit Agreement.

Upon delivery of the Series 2017A Bonds, the Verification Agent (as defined herein) will verify the accuracy of the arithmetical computations of the sufficiency of the amounts to be deposited in the Escrow Fund to be held by the Escrow Agent to pay, at maturity or upon redemption prior to maturity, the principal of, and accrued interest on the Refunded Bonds. See "VERIFICATION OF CERTAIN CALCULATIONS" herein.

* Preliminary, subject to change.

The amounts deposited to the Escrow Fund shall constitute sufficient funds to pay the Refunded Bonds and upon deposit of such amounts with the Escrow Agent pursuant to the Escrow Deposit Agreement, the Refunded Bonds will be deemed, as of the date of delivery of the Series 2017A Bonds, paid and no longer outstanding under the Bond Ordinance. See "VERIFICATION OF CERTAIN CALCULATIONS" herein. The amounts held by the Escrow Agent in the Escrow Fund will not be available to pay debt service on the Series 2017A Bonds.

ESTIMATED SOURCES AND USES OF FUNDS

The proceeds of the Series 2017A Bonds, together with any additional funds made available by the City, are expected to be applied as follows:

Sources of Funds:

Par Amount of Series 2017A Bonds	\$
Net Original Issue Discount/Bond Premium	
Transfer from Debt Service Reserve Account	
Total Sources of Funds:	\$

Uses of Funds:

Deposit to Escrow Fund	\$
Costs of Issuance ⁽¹⁾	
Total Uses of Funds:	\$

⁽¹⁾ Includes Underwriters' discount, legal and accounting fees, co-financial advisor and other consultant fees, initial fees of the Bond Registrar and Paying Agent, rating agency fees, printing costs, validation court costs, and other miscellaneous fees and costs.

DESCRIPTION OF THE SERIES 2017A BONDS

General

The Series 2017A Bonds will be dated as of their date of delivery and will bear interest at the rates set forth on the inside front cover of this Official Statement (based on a 360-day year comprised of twelve 30-day months), payable semiannually on each May 1 and November 1, commencing November 1, 2017. Subject to redemption as set forth below, the Series 2017A Bonds will mature on the dates and in the amounts set forth on the inside front cover of this Official Statement.

The principal of and interest on the Series 2017A Bonds will be payable upon the presentation and surrender of the Series 2017A Bonds at the principal corporate trust office of the Paying Agent.

The Series 2017A Bonds are issuable only as fully registered bonds, without coupons, in denominations of \$5,000 or any integral multiple thereof. Purchases of beneficial ownership interests in the Series 2017A Bonds will be made in book-entry form, and purchasers will not receive certificates representing interests in the Series 2017A Bonds so purchased. If the

book-entry system is discontinued, Series 2017A Bonds will be delivered as described in the Bond Ordinance, and Beneficial Owners will become the registered owners of the Series 2017A Bonds. See "BOOK-ENTRY ONLY SYSTEM" herein.

Redemption Provisions

Optional Redemption. The Series 2017A Bonds maturing on or before November 1, 20__ may not be called for optional redemption prior to maturity. The Series 2017A Bonds maturing on or after November 1, 20__, are subject to redemption prior to maturity at the option of the City on or after November 1, 20__, in whole or in part at any time, at the redemption prices of 100% of the principal amount being redeemed, plus accrued interest on such redemption date.

Mandatory Redemption. The Series 2017A Bonds maturing on November 1, 20__ are subject to mandatory redemption prior to maturity by application of payments from the Sinking Fund, in accordance with the Bond Ordinance, at a redemption price equal to the principal amounts of the Series 2017A Bonds set forth below plus the interest due thereon on the redemption date, on the dates set forth below:

**Series 2017A Bonds
Maturing on November 1, 20__**

Redemption Dates (November 1)	Principal Amount
_____	_____
*	\$

* _____
Maturity.

Notice of Redemption

General. Notice of call of any Series 2017A Bonds for redemption will be given by mailing a copy of the redemption notice by first class mail, postage prepaid, to the registered owners of such Series 2017A Bonds or portions thereof to be redeemed, not less than 30 days nor more than 60 days prior to the redemption date, at their last addresses shown on the registration books of the City maintained by the Bond Registrar. While the Series 2017A Bonds are held in a book-entry only system of registration, notice of redemption will be sent to Cede & Co., as described below. If notice of redemption has been given in the manner provided in the Bond Ordinance, and moneys for payment of the redemption price are held by the Paying Agent as provided therein, the Series 2017A Bonds or portions thereof so called for redemption will, on the redemption date designated in such notice, become due and payable at the redemption price provided for redemption of such Series 2017A Bonds, and interest on such Series 2017A Bonds or portions thereof will cease to accrue on such date, such Series 2017A Bonds or portions thereof will cease to be entitled to any lien, benefit or security under the Bond Ordinance, and the holders of such Series 2017A Bonds or portions thereof will have no rights in respect thereof except to receive payment of the redemption price thereof.

Conditional Notice. Notwithstanding the foregoing, any notices of optional redemption of a Series 2017A Bond may state (a) that it is conditioned upon the deposit of moneys with the Paying Agent in an amount necessary to effect the redemption prior to the redemption date or (b) that the City retains the right to rescind such notice on or prior to the scheduled redemption date and such notice and optional redemption shall be of no effect if such moneys are not so deposited or if the notice is rescinded as described above.

Registration Provisions; Transfer and Exchange

The City has established a book-entry system of registration for the Series 2017A Bonds. Except as specifically provided otherwise in the Bond Ordinance, an agent will hold the Series 2017A Bonds on behalf of the Beneficial Owners. By acceptance of a confirmation of purchase, delivery, or transfer, the Beneficial Owners shall be deemed to have agreed to such arrangement. While the Series 2017A Bonds are in the book-entry system of registration, the Bond Ordinance provides special provisions relating to the Series 2017A Bonds that override certain other provisions of the Bond Ordinance. See "BOOK-ENTRY ONLY SYSTEM" herein.

The City shall cause the Bond Register for the registration and for the transfer of the Series 2017A Bonds as provided in the Bond Ordinance to be kept by the Bond Registrar. The Series 2017A Bonds shall be registered as to principal and interest on the Bond Register upon presentation thereof to the Bond Registrar which shall make notation of such registration thereon. The Series 2017A Bonds may be transferred by surrender for transfer at the principal corporate trust office of the Bond Registrar, duly endorsed for transfer or accompanied by an assignment duly executed by the registered owner or the registered owner's attorney duly authorized in writing. The City shall cause to be executed and the Bond Registrar shall authenticate and deliver in the name of the transferee or transferees a new Series 2017A Bond or Series 2017A Bonds of the same series, maturity, interest rate, aggregate principal amount, and tenor, of any authorized denomination or denominations, and bearing numbers not then outstanding.

The Bond Registrar shall not be required to transfer or exchange any Series 2017A Bond after notice calling such Series 2017A Bond for redemption has been given or during the period of 15 days (whether or not a business day for the Bond Registrar, but excluding the date of giving such notice of redemption and including such 15th day) immediately preceding the giving of such notice of redemption.

In any exchange or registration of transfer of any Series 2017A Bond, the owner of the Series 2017A Bond shall not be required to pay any charge or fee; provided, however, if and to whatever extent any tax or governmental charge is at any time imposed on any such exchange or transfer, the City or the Bond Registrar may require payment of a sum sufficient for such tax or charge. All Series 2017A Bonds surrendered for exchange or transfer of registration shall be cancelled and destroyed by the Bond Registrar in accordance with the Bond Ordinance.

BOOK-ENTRY ONLY SYSTEM

The information in this section concerning DTC and DTC's book-entry system has been obtained from DTC and neither the City nor the Underwriters make any representation or warranty or take any responsibility for the accuracy or completeness of such information.

DTC will act as securities depository for the Series 2017A Bonds. The Series 2017A Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered Series 2017A Bond certificate will be issued for each maturity of the Series 2017A Bonds as set forth on the inside front cover of this Official Statement, each in the aggregate principal amount of such maturity and will be deposited with DTC.

DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). The DTC Rules applicable to its Participants are on file with the SEC. More information about DTC can be found at www.dtcc.com.

Purchases of Series 2017A Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2017A Bonds on DTC's records. The ownership interest of each actual purchaser of each Series 2017A Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series 2017A Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Series 2017A Bonds, except in the event that use of the book-entry system for the Series 2017A Bonds is discontinued.

To facilitate subsequent transfers, all Series 2017A Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the Series 2017A Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 2017A Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Series 2017A Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Series 2017A Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Bond Ordinance. For example, Beneficial Owners of Series 2017A Bonds may wish to ascertain that the nominee holding the Series 2017A Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Bond Registrar and request that copies of the notices be provided directly to them.

Redemption notices will be sent to DTC. If less than all of the Series 2017A Bonds within a series or maturity of a series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such series or maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series 2017A Bonds unless authorized by a Direct Participant in accordance with DTC's procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts Series 2017A Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, premium, if any, and interest payments on the Series 2017A Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City or the Paying Agent on the payment date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Paying Agent, or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, premium, if any, and interest on the Series 2017A Bonds, as applicable, to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City and/or the Paying Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the Series 2017A Bonds at any time by giving reasonable notice to the City or Paying Agent. Under such circumstances, in the event that a successor depository is not obtained, Series 2017A Bond certificates are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Series 2017A Bond certificates will be delivered and registered in the name of the Beneficial Owner.

NEITHER THE CITY NOR THE PAYING AGENT WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO ANY DTC PARTICIPANT, OR ANY BENEFICIAL OWNER WITH RESPECT TO (A) THE SERIES 2017A BONDS; (B) THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC OR ANY DTC PARTICIPANT; (C) THE PAYMENT BY DTC OR ANY DTC PARTICIPANT OF ANY AMOUNT DUE TO ANY BENEFICIAL OWNER IN RESPECT OF THE PRINCIPAL OF AND PREMIUM, IF ANY, AND INTEREST ON THE SERIES 2017A BONDS; (D) THE DELIVERY OR TIMELINESS OF DELIVERY BY DTC OR ANY DTC PARTICIPANT OF ANY NOTICE DUE TO ANY BENEFICIAL OWNER WHICH IS REQUIRED OR PERMITTED UNDER THE TERMS OF THE BOND ORDINANCE TO BE GIVEN TO BENEFICIAL OWNERS; OR (E) ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY DTC, OT ITS NOMINEE, CEDE & CO., AS OWNER.

SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2017A BONDS

Pledged Revenues

Under the terms of the Bond Ordinance, the Series 2017A Bonds are secured by a pledge of and lien on (a) revenues derived by the City from the ownership and operation of the System, (b) amounts held in the funds under the Bond Ordinance, except amounts to be used for arbitrage rebate payments to the United States government, and (c) certain investment earnings on the funds held under the Bond Ordinance and amounts payable by providers of Hedge Agreements (such as interest rate swap agreements) relating to bonds issued under the Bond Ordinance (collectively, the "Pledged Revenues"). The Bond Ordinance provides that this pledge (which may be expanded for additional parity bonds) ranks superior to all other pledges which may hereafter be made of any of the Pledged Revenues, except for pledges of the Pledged Revenues hereafter made by the City in Hedge Agreements (relating to bonds issued under the Bond Ordinance) to secure payments thereunder (other than termination, indemnity, and expense payments), which may rank on a parity with this pledge as to the related Hedged Bonds.

Municipal Option Sales Tax (MOST) Revenues

In 2004, the Georgia legislature enacted House Bill 709, codified as Official Code of Georgia Annotated, Section 48-8-200, *et seq.*, which allows the City to impose (subject to voter approval) a special one-percent sales and use tax, the revenues derived from which would be applied for, among other things, water and sewer projects and other related costs. Accordingly, the City Council of the City (the "City Council") authorized a referendum held on July 20, 2004 which provided for the imposition of a special one-percent sales and use tax, commonly referred

to as the municipal option sales tax or the MOST (herein referred to as the "Sales Tax") which was approved on that date by a majority of the voters for the purpose of initially raising not more than \$750 million for water and sewer project costs. The Sales Tax became effective on October 1, 2004, but receipts began to be realized by the City on December 1, 2004. The Sales Tax applies to nearly all goods and services (excludes motor fuels, food and beverages, natural gas used to produce electricity, hotels/motels and motor vehicles) purchased within the jurisdiction limits of the City. The Sales Tax was established as a dedicated supplemental funding source for the Clean Water Atlanta program, and provides a 'dollar-for-dollar' reduction to the operating expenses of the City's Department of Watershed Management (the "Department"). Visitors who use the City's water and wastewater infrastructure, but do not pay for service as residents of the City, help pay for upgrading and maintaining the System infrastructure.

In December 2015, the City Council adopted Ordinance No. 14-0-1453 which allows dedication of up to ten percent of the proceeds of the Sales Tax for stormwater management related projects. Proceeds of the Sales Tax used earmarked for stormwater projects will be used to address structural and capacity deficiencies of the City's Municipal Separate Storm Sewer System (MS4). These projects will alleviate surface flooding and provide for water quantity control. Green infrastructure projects will also provide water quality improvement benefits.

The Sales Tax was reauthorized by voters in 2008, 2012 and again in 2016 by wide margins. In March 2016, voters approved the extension of the Sales Tax for an additional four years until October 2020. Additional extensions of the Sales Tax beyond 2020 will require an amendment to the Georgia statute authorizing the Sales Tax. If the Sales Tax is not extended beyond 2020, the City will likely elect to raise water and wastewater rates or build a rate stabilization fund to replace the Sales Tax revenues. See "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Financial Performance - Planning Scenario for MOST Expiration - Projected Debt Service Coverage, MOST Expiration Scenario" attached hereto for a summary of proposed rate increases under a scenario in which the Sales Tax is extended but proceeds are reduced by five percent per annum and another scenario in which the Sales Tax expires in Fiscal Year 2021 as currently scheduled under the enabling legislation. See also "THE SYSTEM - Contemplated Stormwater Utility Program" herein.

Since 2004, the Sales Tax has provided approximately \$1.4 billion to support the operation and maintenance of the System and fund the costs of the compliance program associated with the Consent Decrees and Consent Orders (as each is defined herein) regionally. Pursuant to the Bond Ordinance, Pledged Revenues do not include the proceeds from the Sales Tax, but such proceeds may be taken into account for purposes of determining compliance with the City's rate covenant and additional bonds test under the Bond Ordinance. See "SYSTEM REVENUES - Municipal Option Sales Tax Revenues" herein.

Expenses of Operation and Maintenance

Under the Bond Ordinance, the term "Expenses of Operation and Maintenance" is defined generally to include all expenses reasonably incurred in connection with the operation and maintenance of the System. Under the Bond Ordinance, however, the term "Expenses of Operation and Maintenance" is defined to exclude Franchise and Pilot Payments in an amount

not to exceed the sum of (a) five percent of the Operating Revenues for the preceding Fiscal Year (as defined herein) and (b) the ad valorem property taxes that would have been due to the City in the current calendar year, if title to the System were vested in an entity subject to ad valorem taxation, assuming that the fair market value of the System equaled the Book Value for purposes of determining the assessed value of the System. Such expenses also exclude expenses described above to the extent that the same were or are reasonably expected to be paid with taxes levied or imposed and in effect on or before the date of calculation. Such taxes include the proceeds to be received by the City from the Sales Tax to fund water and sewer projects and costs described under the section "SYSTEM REVENUES - Municipal Option Sales Tax Revenues" herein.

Flow of Funds

The Bond Ordinance creates and requires the City to maintain the following funds:

- (a) the Revenue Fund;
- (b) the Sinking Fund and therein the following two accounts:
 - (i) Payments Account, and
 - (ii) Debt Service Reserve Account;
- (c) the Renewal and Extension Fund;
- (d) the Rebate Fund; and
- (e) the Project Fund.

Under the terms of the Bond Ordinance, moneys in the funds and accounts established thereunder must be invested in permissible investments under Georgia law which have (or are collateralized by obligations which have) a rating by any rating agency then rating any bonds issued under the Bond Ordinance which is equal to or greater than the third highest long-term rating category or the second highest short-term rating category of such rating agency. Such investments may contain such maturities as are deemed suitable by the City and must be valued at fair market value on each interest payment date.

Revenue Fund. The Bond Ordinance requires the City to deposit and continue to deposit all operating revenues of the System in the Revenue Fund from time to time as and when received. Under the terms of the Bond Ordinance, moneys in the Revenue Fund are to be applied by the City from time to time to the following purposes and, prior to the occurrence and continuation of an event of default under the Bond Ordinance, in the order of priority determined by the City in its sole discretion: (a) to pay Expenses of Operation and Maintenance of the System, (b) to deposit into the Sinking Fund the amounts described below, (c) to deposit into the Rebate Fund the amounts required to make provision for arbitrage rebate payments to the United States government, (d) to pay any amounts due to any issuer (a "Credit Issuer") of a credit facility (such as an insurance policy, letter of credit, guaranty, surety bond, standby bond purchase agreement, or line of credit) providing credit or liquidity support for any Senior Bonds

(as defined herein) or bonds that are junior and subordinate in lien and right of payment to the Senior Bonds ("Subordinate Bonds") issued under the Bond Ordinance, (e) to pay any amounts due any Reserve Account Credit Facility Provider (as defined herein), (f) to make provision for the payment of debt service on Subordinate Bonds and the payment of amounts due to providers of hedge agreements (such as interest rate swap agreements) relating to Subordinate Bonds, and (g) to pay any amounts required to be paid with respect to any other obligations issued by the City to finance or refinance the System.

In addition, the Bond Ordinance allows the City from time to time to deposit into the Renewal and Extension Fund any moneys and securities held in the Revenue Fund in excess of 30 days' estimated Expenses of Operation and Maintenance of the System.

Payments Account. The Bond Ordinance requires the City to deposit sufficient moneys in periodic installments from the Revenue Fund into the Payments Account for the purpose of paying debt service on the Senior Bonds when due and for the purpose of paying amounts (other than termination, indemnity, and expense payments) due to providers of hedge agreements (such as interest rate swap agreements) relating to Senior Bonds.

Debt Service Reserve Account. The Bond Ordinance requires the City to maintain the Debt Service Reserve Account at an amount determined from time to time by the City as a reasonable reserve for the payment of debt service on the Senior Bonds. The City has determined this amount to be the maximum annual Debt Service Requirement (as defined herein) with respect to Senior Bonds in the then current or any succeeding Fiscal Year (the "Current Debt Service Reserve Amount"). Notwithstanding the foregoing, the terms of the Bond Ordinance permit the City, in its sole discretion, to change, reduce, or increase the Current Debt Service Reserve Amount, without the consent of the owners of the Series 2017A Bonds or other Senior Bonds, provided, however, the City may, in no event reduce the Current Debt Service Reserve Amount (a) below the greater of (i) 50% of the average annual Debt Service Requirement with respect to Senior Bonds in the then current or any succeeding Fiscal Year or (ii) the maximum annual Debt Service Requirement with respect to the City's Water and Wastewater Revenue Bonds, Series 1999A Bonds and Water and Wastewater Revenue Bonds, Series 1999B (collectively, the "Series 1999 Bonds") in the then current or any succeeding Fiscal Year (\$40,171,487.50), and (b) unless each rating agency rating the Senior Bonds indicates in writing to the City that such reduction will not, by itself, result in a reduction or withdrawal of its current rating on the Senior Bonds. The City is in compliance with the Bond Ordinance provisions relating to the Debt Service Reserve Requirement and the Debt Service Reserve Account is fully funded at the Current Debt Service Reserve Amount. Upon the issuance of the Series 2017A Bonds, the amount of the Current Debt Service Reserve Amount will be \$_____.

In connection with the issuance of parity bonds, the Bond Ordinance permits the City to fund any increase in the required balance of the Debt Service Reserve Account by making deposits thereto over a period not exceeding 60 months from the date of issuance of such parity bonds in equal monthly amounts. The Bond Ordinance allows the City to satisfy in whole or in part the required balance of the Debt Service Reserve Account by means of a letter of credit, insurance policy, line of credit, or surety bond issued by a provider (a "Reserve Account Credit

Facility Provider") with a credit rating not less than the then current rating on the related series of Senior Bonds.

The status of the Debt Service Reserve Account prior to the issuance and delivery of the Series 2017A Bonds is set forth below.

Source	Value Credited to the Debt Service Reserve Account ⁽¹⁾
FSA GIC ⁽²⁾	\$ 19,122,264.97
Money Market, Mutual Funds and U.S. Treasuries	133,048,593.60
Cash on Deposit in Debt Service Reserve Account ⁽³⁾	74,974,322.82
Total	\$227,145,181.39 ⁽⁴⁾

⁽¹⁾ Values are as of March 30, 2017.

⁽²⁾ Guaranteed investment contract with FSA (now Assured Guaranty Municipal) yielding 4.18%.

⁽³⁾ A portion of the cash on deposit in Debt Service Reserve Account relates to the Repurchase Agreement (as defined herein) which was recently terminated, which termination is discussed in more detail below.

⁽⁴⁾ Includes \$ _____ which will be transferred to the Escrow Fund in connection with the refunding and defeasance of the Refunded Bonds. See "ESTIMATED SOURCES AND USES OF FUNDS" herein.

Source: City of Atlanta, Department of Finance.

It is expected that upon the issuance and delivery of the Series 2017A Bonds and the refunding the Refunded Bonds, \$ _____ will be on deposit in the Debt Service Reserve Account, which amount equals or exceeds the Current Debt Service Reserve Amount required to be maintained in the Debt Service Reserve Account.

Renewal and Extension Fund. In addition to the deposits to be made to the Renewal and Extension Fund described above, the Bond Ordinance requires the City to deposit in the Renewal and Extension Fund all termination payments received under any hedge agreements relating to Senior Bonds or Subordinate Bonds. Whenever, for any reason the amount in the Interest Subaccount or Principal Subaccount is insufficient to pay all interest or principal falling due on the Senior Bonds within the subsequent seven days, the City shall first make up the deficiency by transfers from the Renewal and Extension Fund. Under the terms of the Bond Ordinance, amounts held in the Renewal and Extension Fund must be used first to prevent default in the payment of debt service on the Senior Bonds when due and then will be applied by the City from time to time, as and when the City shall determine, to the following purposes and, prior to the occurrence and continuation of an event of default under the Bond Ordinance, in the order of priority determined by the City in its sole discretion: (a) for the purposes for which moneys held in the Revenue Fund may be applied as described above, (b) to pay any amounts which may then be due and owing under any hedge agreement relating to Senior Bonds or Subordinate Bonds (including termination payments, fees, expenses, and indemnity payments), (c) to pay any governmental charges and assessments against the System or any part thereof which may then be due and owing, (d) to make acquisitions, betterments, extensions, repairs, or replacements or other capital improvements (including the purchase of equipment) to the System deemed necessary by the City (including payments under contracts with vendors, suppliers, and contractors for the foregoing purposes), (e) to acquire Senior Bonds by redemption or by purchase in the open market at a price not exceeding the callable price, and (f) to make optional annual transfers to the General Fund of the City, on or after December 15 of each year, of an amount not to exceed the

sum of (i) 5% of the gross operating revenues of the System for the preceding Fiscal Year of the City and (ii) the ad valorem property taxes that would be due to the City (and not to any other governmental body) in the current calendar year, if title to the System were vested in an entity subject to ad valorem taxation, assuming that the fair market value of the System equaled its book value for purposes of determining the assessed value of the System.

The gross revenues derived by the City from the ownership and operation of the System may be used only in accordance with the provisions of the Bond Ordinance described above and, except as described above, may not be transferred to either the General Fund or any other fund of the City.

Repayment of Amounts Due by General Fund to System Enterprise Fund. As of March 30, 2017, the City's General Fund owed the City's Enterprise Fund relating to the System (the "System Enterprise Fund") \$36,199,000 for expenditures made for General Fund purposes with revenues of the System Enterprise Fund. This obligation is attributable to use of the City's cash pool to address historical operating deficits of the City's Solid Waste, Emergency 911, and the City's capital financing funds. The City has addressed operational issues with the City's Solid Waste and E911 funds and is restructuring financing of the public safety and rolling stock acquisitions. Accordingly, the General Fund has been paying and can reasonably be expected to continue to repay the aggregate principal and simple interest on outstanding balances. To correct this situation, the Department and the City's Department of Finance entered into an Inter-Departmental Memorandum of Understanding (the "MOU") dated December 23, 2008. The City Council ratified the MOU by ordinance on June 1, 2009. Under the original terms of the MOU, the City's General Fund is to repay the System Enterprise Fund in annual installments in the amount of \$10,000,000 per year, bearing interest at 3% per annum, commencing on July 1, 2009 and continuing to be due on each July 1 thereafter, until the obligation described above is fully repaid. Specifically, the terms of the MOU call for principal reduction of \$10 million for an 11-year period and \$6.3 million in Fiscal Year 2021. Under a recent restructuring of the MOU, the Department agreed to reduce the interest rate from 3% to 1.25% for the remainder of the repayment period. Payments equaling these principal amounts plus accrued interest commenced on July 1, 2009 and have since been made consistently in accordance with the terms of the MOU. The Department expects to receive a total of \$47,500,000 from Fiscal Year 2017 through Fiscal Year 2021, at which point the terms of the MOU will be fulfilled and all obligations thereunder terminated.

The MOU does not constitute a binding obligation of the City enforceable by the owners of the Series 2017A Bonds and may be rescinded, repealed, or modified at any time by the City in its sole discretion.

Rebate Fund. The City established the Rebate Fund under the terms of the Bond Ordinance to hold amounts to be paid to the United States government as arbitrage rebate payments.

Project Fund. The City established the Project Fund under the terms of the Bond Ordinance to hold proceeds of the sale of Senior Bonds and Subordinate Bonds. The Bond Ordinance requires amounts held in the Project Fund to be applied to the payment of costs related

to the acquisition, construction, reconstruction, improvement, betterment, extension, or equipping of the System.

Rate Covenant

The City has covenanted in the Bond Ordinance to prescribe, fix, maintain, and collect rates, fees, and other charges for the services, facilities, and commodities furnished by the System fully sufficient at all times to (a) provide for 100% of the Expenses of Operation and Maintenance of the System and for the accumulation in the Revenue Fund of a reasonable reserve therefor, and (b) produce net operating revenues of the System in each Fiscal Year of the City which (together with investment earnings on the funds held under the Bond Ordinance):

(a) will equal at least 110% of the Debt Service Requirement on all Senior Bonds then outstanding for the year of computation and 100% of the Debt Service Requirement on all Subordinate Bonds then outstanding for the year of computation;

(b) will enable the City to make all required payments, if any, into the Debt Service Reserve Account and the Rebate Fund and to any Credit Issuer, any Reserve Account Credit Facility Provider, and any provider of a hedge agreement relating to Senior Bonds or Subordinate Bonds;

(c) will enable the City to accumulate an amount to be held in the Renewal and Extension Fund, which in the judgment of the City is adequate to meet the costs of major renewals, replacements, repairs, additions, betterments, and improvements to the System, necessary to keep the same in good operating condition or as is required by any governmental agency having jurisdiction over the System; and

(d) will remedy all deficiencies in required payments into any of the funds and accounts mentioned in the Bond Ordinance from prior Fiscal Years of the City.

If the City fails to prescribe, fix, maintain, and collect rates, fees, and other charges, or to revise such rates, fees, and other charges, as described above, the Bond Ordinance allows the owners of not less than 25% in aggregate principal amount of the Senior Bonds then outstanding, without regard to whether any event of default thereunder shall have occurred, to institute and prosecute in any court of competent jurisdiction an appropriate action to compel the City to prescribe, fix, maintain, or collect such rates, fees, and other charges, or to revise such rates, fees, and other charges, in accordance with the requirements of the Bond Ordinance described above.

"Debt Service Requirement" is defined in the Bond Ordinance to mean the total principal and interest coming due, whether at maturity or upon mandatory redemption, in any specified period. If any bonds outstanding or proposed to be issued under the Bond Ordinance bear interest at a variable rate, the interest coming due in any specified future period will be determined as if the variable rate in effect at all times during such future period equaled, at the option of the City, either (a) the average of the actual variable rates which were in effect (weighted according to the length of the period during which each such variable rate was in effect) for the most recent twelve-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a twelve-month period), or (b) the current average annual long-term fixed rate of interest on

securities of similar quality having a similar maturity date as certified by a financial advisor to the City. If any compound interest bonds are outstanding or proposed to be issued under the Bond Ordinance, the total principal and interest coming due in any specified period will be determined, with respect to such compound interest bonds, by the supplemental ordinance of the City authorizing such compound interest bonds. With respect to any Senior Bonds or Subordinate Bonds secured by a credit facility, Debt Service Requirement will include (a) any commission or commitment fee obligations with respect to such credit facility, (b) unreimbursed draws or advances on such credit facility and interest thereon, (c) any additional interest owed on Senior Bonds or Subordinate Bonds owned by a Credit Issuer while they are so owned, except that as otherwise permitted by the Bond Ordinance, amounts on deposit in the Debt Service Reserve Account shall not be used to pay Additional Interest or accelerated interest or principal payments on certain Index Rate Bonds, and (d) any Remarketing Agent fees. With respect to any Senior Bonds or Subordinate Bonds hedged by a hedge agreement, the interest on such hedged bonds, for so long as the provider of the related hedge agreement has not defaulted on its payment obligations thereunder, will be calculated by adding (x) the amount of interest payable by the City on such hedged bonds pursuant to their terms and (y) the amounts (other than termination, indemnity, and expense payments) payable by the City under the related hedge agreement and subtracting (z) the amounts (other than termination, indemnity, and expense payments) payable by the provider of the related hedge agreement at the rate specified in the related hedge agreement; provided, however, that to the extent that the provider of any hedge agreement is in default thereunder, the amount of interest payable by the City on the related hedged bonds will be the interest calculated as if such hedge agreement had not been executed. In determining the amounts (other than termination, indemnity, and expense payments) payable or receivable under a hedge agreement which are not fixed (i.e., which are variable), payable or receivable for any future period, such payments or receipts for any period of calculation (the "Determination Period") will be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent twelve-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a twelve-month period). For the purpose of calculating the Debt Service Requirement on Balloon Bonds (as defined herein) (a) which are subject to a commitment to refinance or (b) which do not have a Balloon Date (as defined herein) within 12 months from the date of calculation, such bonds will be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years at an assumed interest rate (which shall be the interest rate certified by a financial advisor to the City to be the interest rate at which the City could reasonably expect to borrow the same amount by issuing bonds with the same priority of lien as such Balloon Bonds and with a 20-year term); provided, however, that if the maturity of such bonds (taking into account the term of any commitment to refinance) is in excess of 20 years from the date of issuance, then such bonds will be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such bonds to maturity (including the commitment to refinance) and at the interest rate applicable to such bonds. For the purpose of calculating the Debt Service Requirement on Balloon Bonds (a) which are not subject to a commitment to refinance and (b) which have a Balloon Date within 12 months from the date of

calculation, the principal payable on such bonds on the Balloon Date will be calculated as if paid on the Balloon Date. The principal of and interest on Senior Bonds and Subordinate Bonds and payments under hedge agreements relating thereto will be excluded from the determination of Debt Service Requirement to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or bond proceeds to be deposited on the date of issuance of proposed bonds) in the Project Fund, the Sinking Fund, or a similar fund for Subordinate Bonds. The Bond Ordinance defines (a) "Balloon Bonds" to mean any series of Senior Bonds or Subordinate Bonds 25% or more of the original principal amount of which (i) is due (whether at maturity or by mandatory redemption) in any 12-month period or (ii) may, at the option of the registered owners, be required to be redeemed, prepaid, purchased directly or indirectly by the City, or otherwise paid in any 12-month period, and (b) "Balloon Date" to mean any date on which more than 25% of the original principal amount of related Balloon Bonds mature or are subject to mandatory redemption or could, at the option of the registered owners, be required to be redeemed, prepaid, purchased directly or indirectly by the City, or otherwise paid.

Additional Parity Obligations

The Series 2017A Bonds will be equally and ratably secured on a parity basis with the Outstanding Senior Bonds and with any additional revenue bonds of the City hereafter issued on a parity basis with the Outstanding Senior Bonds and the Series 2017A Bonds. The Outstanding Senior Bonds, the Series 2017A Bonds and any additional revenue bonds of the City hereafter issued under the Bond Ordinance on a parity basis with the Outstanding Senior Bonds are collectively referred to as the "Senior Bonds" herein.

Limited Obligations

The Series 2017A Bonds are special limited obligations of the City payable solely from and secured by a first priority pledge of and lien on the Pledged Revenues. The Series 2017A Bonds are not payable from and are not secured by a charge, lien, or encumbrance upon any funds or assets of the City other than the Pledged Revenues.

THE SERIES 2017A BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OF THE CITY WITHIN THE MEANING OF ANY CONSTITUTIONAL LIMITATION ON DEBT NOR A PLEDGE OF THE FAITH AND CREDIT OF THE CITY. THE SERIES 2017A BONDS SHALL NOT BE PAYABLE FROM OR A CHARGE UPON ANY FUNDS OTHER THAN THE REVENUES AND AMOUNTS PLEDGED TO THE PAYMENT THEREOF, NOR SHALL THE CITY BE SUBJECT TO ANY PECUNIARY LIABILITY THEREON. NO OWNER OR OWNERS OF THE SERIES 2017A BONDS SHALL EVER HAVE THE RIGHT TO COMPEL ANY EXERCISE OF THE TAXING POWER OF THE CITY TO PAY THE SERIES 2017A BONDS OR THE INTEREST THEREON, NOR TO ENFORCE PAYMENT OF THE SERIES 2017A BONDS AGAINST ANY PROPERTY OF THE CITY; NOR SHALL THE SERIES 2017A BONDS CONSTITUTE A CHARGE, LIEN, OR ENCUMBRANCE, LEGAL OR EQUITABLE, UPON ANY PROPERTY OF THE CITY, EXCEPT FOR THE PLEDGED REVENUES AND ANY OTHER FUNDS PLEDGED TO SECURE THE SERIES 2017A BONDS.

OUTSTANDING SYSTEM OBLIGATIONS

Outstanding Senior Bonds

Prior to the issuance of the Series 2017A Bonds and the refunding of the Refunded Bonds, the following will be the Senior Bonds Outstanding under the Bond Ordinance, all of which are secured by a first priority pledge of, and lien on, the Pledged Revenues (the "Outstanding Senior Bonds"):

Senior Bonds	Original Aggregate Principal Amount	Outstanding Principal Amount
Water and Wastewater Revenue Refunding Bonds, Series 2015 (the "Series 2015 Bonds")	\$1,237,405,000	\$1,236,295,000
Water and Wastewater Revenue Refunding Bonds, Series 2013A (the "Series 2013A Bonds")	328,735,000	326,605,000
Water and Wastewater Revenue Refunding Bonds, Series 2013B	200,140,000	177,005,000
Water and Wastewater Revenue Bonds, Series 2009A	750,000,000	49,545,000
Water and Wastewater Revenue Bonds, Series 2009B	448,965,000	434,480,000 ⁽¹⁾
Water and Wastewater Revenue Bonds, Series 2008 (the "Series 2008 Bonds")	106,795,000	106,795,000
Water and Wastewater Revenue Bonds, Series 2004 (the "Series 2004 Bonds")	849,330,000	134,110,000
Water and Wastewater Revenue Bonds, Series 2001A	415,310,000	85,055,000
Water and Wastewater Revenue Bonds, Series 1999A	1,096,140,000	204,445,000
Total Outstanding Senior Bonds ⁽²⁾	<u>\$5,432,820,000</u>	<u>\$2,754,335,000</u>

⁽¹⁾ Includes the portions which may be refunded by the Series 2017A Bonds.

⁽²⁾ Numbers may not add up due to rounding.

Source: City of Atlanta, Department of Finance.

Subordinate Bonds

As of March 30, 2017, there are no Subordinate Bonds Outstanding under the Bond Ordinance.

Other System Obligations

As of March 30, 2017, the following are the Other System Obligations outstanding under the Bond Ordinance:

Other System Obligations	Original Aggregate Principal Amount	Outstanding Principal Amount
Series 2015 Commercial Paper Notes ⁽¹⁾	\$250,000,000	\$ 58,800,000
GEFA Loans ⁽²⁾	216,088,577	175,337,435
Total Other System Obligations⁽³⁾	\$466,088,577	\$234,137,435

⁽¹⁾ The City authorized the issuance of its Water and Wastewater Revenue Commercial Paper Notes, Series 2015 (the "Series 2015 Commercial Paper Notes"), from time to time in an aggregate principal amount not to exceed \$250,000,000 as Other System Obligations with a lien on Pledged Revenues junior and subordinate to the right of payment on all Senior Bonds Outstanding at any time, \$58,800,000 of which is presently outstanding.

⁽²⁾ The original aggregate principal amount includes a GEFA Loan, the proceeds of which the Department is currently still drawing down to fund certain construction projects.

⁽³⁾ Numbers may not add up due to rounding.

Source: City of Atlanta, Department of Finance.

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Georgia Environmental Facilities Authority Loans. The Georgia Environmental Facilities Authority ("GEFA") is an instrumentality of the State authorized to accept capitalization grants disbursed under the federal Water Pollution Control Act, as amended by the Water Quality Act of 1987 and, with such grants, to establish a revolving fund to assist local governments in the construction of publicly-owned sewer systems and other treatment works. Pursuant to its authority, GEFA established the State Revolving Loan Fund ("SRLF") and entered into a capitalized grant agreement with the United States Environmental Protection Agency (the "EPA").

The City has 11 GEFA loans outstanding as of March 30, 2017 in the aggregate principal amount of \$175,337,435 (the "GEFA Loans"). The GEFA Loans are general obligation debts of the City payable from the Pledged Revenues but are not secured by a pledge of, or lien on, the Pledged Revenues.

Capital Leases. As of March 30, 2017, the City does not have any capital lease obligations outstanding.

Hedge Agreements

On December 5, 2001, the City entered into an ISDA Master Agreement and related Schedule to the Master Agreement and related ISDA Credit Support Annex to the Schedule to the Master Agreement (collectively, the "Series 2001 Swap Agreement") with UBS AG (the "Swap Provider"), as supplemented by: (a) a Confirmation of Swap Transaction dated December 5, 2001 ("Confirmation #3"), relating to \$335,640,000 in aggregate principal amount of the Water and Wastewater Revenue Bonds, Series 2001B maturing on November 1, 2038 (the "Series 2001B Hedged Bonds") and (b) a Confirmation of Swap Transaction dated December 28, 2001 ("Confirmation #5"), relating to \$105,705,000 in aggregate principal amount of the Water and Wastewater Revenue Bonds, Series 2001C maturing on November 1, 2041 (the "Series 2001C Hedged Bonds"). Under the terms of Confirmation #3, on a basis determined by reference to notional amounts corresponding in amount and date to the principal maturities of the Series 2001B Hedged Bonds: (a) the City agreed to pay the Swap Provider a monthly fixed amount based on 4.09% per annum, and (b) the Swap Provider agreed to pay the City a monthly floating amount based on (i) the lesser of the Bond Market Association Municipal Swap Index, now known as the Securities Industry and Financial Market Association Index (the "SIFMA Index") from February 1, 2002 to May 1, 2009 and the actual Series 2001B Bond rates, then (ii) 67% of the London Interbank Offered Rate ("LIBOR") from June 1, 2009 to November 1, 2038. Confirmation #3 originally included a provision whereby the Swap Provider had the right to terminate the transaction at par if the SIFMA Index averaged above 7.0% for 180 days; however, the City terminated this provision in November 2015. Under the terms of Confirmation #5, on a basis determined by reference to notional amounts corresponding in amount and date to the principal maturities of the Series 2001C Hedged Bonds: (a) the City agreed to pay the Swap Provider a monthly fixed amount based on 4.09% per annum, and (b) the Swap Provider agreed to pay the City a monthly floating amount based on the SIFMA Index.

On October 22, 2009, the City used a portion of the proceeds of the Series 2009B Bonds to refund all of the outstanding Series 2001B Hedged Bonds and all of the outstanding Series 2001C Hedged Bonds. At that time, the City substituted the refunded Series 2001B Hedged

Bonds with (a) \$420,000 in aggregate principal amount of the Series 2004 Bonds maturing on November 1, 2009; and (b) \$330,110,000 in aggregate principal amount of the Series 2009B Bonds maturing on November 1, 2010 through and including November 1, 2039 and subject to mandatory redemption on November 1, 2025 through and including November 1, 2038, which then became subject to the terms of the Series 2001 Swap Agreement and Confirmation #3. At that time, the City also substituted the refunded Series 2001C Hedged Bonds with (a) \$25,265,000 in aggregate principal amount of the Series 2004 Bonds maturing on November 1, 2043 and subject to mandatory redemption on November 1, 2040 and November 1, 2041; and (b) \$80,440,000 in aggregate principal amount of the Series 2008 Bonds maturing on November 1, 2041 and subject to mandatory redemption on November 1, 2040 which then became subject to the terms of the Series 2001 Swap Agreement and Confirmation #5 (the "Series 2004/2008 Hedged Bonds"). In connection with the issuance of the Series 2013A Bonds, the City (a) terminated the designation as Hedged Bonds under the Master Bond Ordinance of not to exceed \$328,735,000 in aggregate principal amount of the Series 2009B Bonds maturing November 1, 2013 through November 1, 2038 then associated with the Series 2001 Swap Agreement, as supplemented by Confirmation #3 and (b) designated not to exceed \$328,735,000 in aggregate principal amount of the Series 2013A Bonds as Hedged Bonds pursuant to the Master Bond Ordinance (the "Series 2013A Hedged Bonds"). In connection with the issuance of the Series 2015 Bonds, the City (a) terminated the designation as Hedged Bonds under the Master Bond Ordinance of the Series 2004 Hedged Bonds then associated with the Series 2001 Swap Agreement, as supplemented by Confirmation #5 and (b) designated the Series 2004 Hedged Bonds as Hedged Bonds pursuant to the Master Bond Ordinance (the "Series 2015 Hedged Bonds"). The Series 2008 Hedged Bonds and the Series 2015 Hedged Bonds are hereinafter referred to as the "Series 2008/2015 Hedged Bonds." None of the Refunded Bonds is currently designated or related to the Series 2001 Swap Agreement and none of the Series 2017A Bonds will be designated or related to the Series 2001 Swap Agreement.

The Series 2001 Swap Agreement, Confirmation #3 and Confirmation #5 do not alter the City's obligation to pay the principal of and interest on the Outstanding Hedged Bonds or any other Senior Bonds. LIBOR and SIFMA Index based payments under the Series 2001 Swap Agreement may not match the interest payments due on the related Hedged Bonds. The transactions under the Series 2001 Swap Agreement are subject to certain early or optional termination provisions under which the transactions may be terminated prior to their respective stated expirations. The Swap Provider has the option to terminate either transaction under the Series 2001 Swap Agreement at any time, upon which the City will either receive a termination payment, or the City will receive no payment but will not be obligated to make a termination payment. Additionally, under certain limited circumstances, principally being a default under the Series 2001 Swap Agreement by either party, or significant rating reductions to either party, the transactions under the Series 2001 Swap Agreement may be terminated in whole or in part prior to their respective stated expirations, and the City or the Swap Provider may owe a termination payment to the other, depending upon market conditions and the events that caused the Series 2001 Swap Agreement to terminate. Under certain market conditions, the City could owe termination payments to the Swap Provider that could be material to the City.

The following table summarizes the salient terms of the two remaining components of the Series 2001 Swap Agreement.

Swap	Type	Notional Amount	Effective Date	Maturity Date	Terms
Series 2001 Swap Agreement (Series 2008/2015 Hedged Bonds)	Pay-fixed Interest Rate swap	\$105,705	01/03/2002	11/01/2041	Receive SIFMA Index; pay 4.09%
Series 2001 Swap Agreement (Series 2013A Hedged Bonds)	Pay-fixed Interest Rate swap	\$326,605	01/03/2002	11/01/2038	Receive 67% 1M LIBOR; pay 4.09%

In accordance with the City's Hedge Management Plan, the City has determined that it is in its best interests to attempt to unwind the Series 2001 Swap Agreement prior to its maturity. Consistent with this determination, the City's swap advisor has been monitoring the Series 2001 Swap Agreement against movements in the market and has recommended that the City approve certain amendments, terminations and/or supplements to all or part of the Series 2001 Swap Agreement and associated confirmations and other related documents (collectively, the "Amendments to Transaction") and make certain payments to the Swap Provider. Accordingly, the City Council, based on the recommendation of the City's swap advisor, has authorized the Mayor and the Chief Financial Officer of the City to execute and deliver the Amendments to Transaction and to make certain termination or other payments to the Swap Provider in connection with the Series 2001 Swap Agreement. Notwithstanding this authorization, there is no assurance that the City will execute any such Amendments to Transaction or make any related payments to the Swap Provider.

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PRINCIPAL AND INTEREST REQUIREMENTS

The following table presents the estimated annual debt service obligations of the City on the outstanding long term indebtedness of the System prior to the issuance and delivery of the Series 2017A Bonds and includes the Refunded Bonds. See "OUTSTANDING SYSTEM OBLIGATIONS - Hedge Agreements" herein.

Fiscal Year Ending June 30	Outstanding Senior Bonds Debt Service ⁽¹⁾⁽²⁾	Series 2017A Bonds ⁽¹⁾			Total Senior Bonds Debt Service ⁽¹⁾⁽²⁾	Outstanding GEFA Loan Debt Service ⁽¹⁾	Total System Debt Service ⁽¹⁾⁽²⁾
		Principal	Interest	Debt Service			
2017	\$ 63,787,174					\$ 2,899,747	
2018	204,415,925					11,598,988	
2019	204,464,070					11,598,988	
2020	204,394,801					11,598,988	
2021	204,067,913					11,598,988	
2022	204,087,835					11,598,988	
2023	204,328,389					11,598,988	
2024	202,062,612					11,358,846	
2025	201,879,375					11,278,798	
2026	202,966,597					11,278,798	
2027	203,103,592					11,278,798	
2028	203,243,767					11,278,798	
2029	202,734,565					11,278,798	
2030	202,596,130					11,278,798	
2031	190,751,564					11,278,798	
2032	187,108,597					11,278,798	
2033	187,246,484					10,861,227	
2034	197,730,268					14,136,200	
2035	184,815,886					13,484,253	
2036	185,094,683					11,046,560	
2037	185,264,414					9,185,419	
2038	185,483,085					5,072,798	
2039	185,843,940					-	
2040	189,232,575					-	
2041	77,555,050					-	
2042	84,691,627					-	
2043	38,719,375					-	
2044	38,663,000					-	
	<u>\$4,826,333,296</u>					<u>\$237,782,125</u>	

⁽¹⁾ Numbers may not add up due to rounding.

⁽²⁾ Assumes \$26,355,000 of the 2008 Bonds pay interest at a rate of 1.01% based on the 12 month historical average of SIFMA (0.61%) plus a fixed spread of 40bps. Assumes the remaining \$80,440,000 of the 2008 Bonds pays interest at 4.68% based on the swap rate of 4.09%, plus the 12 month historical average of SIFMA (0.61%), plus a fixed spread of 40bps, less a swap receipt based on the 12 month historical average of 67% of 1 Month LIBOR (0.42%). Assumes that \$178,735,000 of the 2013A-1 Bonds pay interest 5.59% based on the swap rate of 4.09%, plus the 12 month historical average of 67% of 1 Month LIBOR (0.42%), plus a fixed spread of 150bps, less a swap receipt based on the 12 month historical average of 67% of 1 Month LIBOR (0.42%). Assumes that \$147,870,000 of the 2013A-2 Bonds pay interest 4.99% based on the swap rate of 4.09%, plus the 12 month historical average of 67% of 1 Month LIBOR (0.42%), plus a fixed spread of 90bps, less a swap receipt based on the 12 month historical average of 67% of 1 Month LIBOR (0.42%). Assumes \$25,265,000 of the 2015 Bonds pays interest at 8.48% based on their fixed rate of 5.00% plus the swap rate of 4.09% less the 12 month historical average of SIFMA (0.61%). All historical interest rate averages are as of March 31, 2017.

Source: FirstSouthwest, a Division of Hilltop Securities Inc.

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THE CITY

City Administration and Officials

Under the Charter, all legislative powers of the City are vested in the City Council and all executive and administrative powers of the City are vested in the Mayor.

The City Council consists of 15 members who serve four-year terms of office. The City is divided into twelve City Council districts. Twelve members of the City Council are elected by district, and three members of the City Council are elected at-large. The three at-large members of the City Council are required to reside, respectively, in District No. 1, 2, 3 or 4; District No. 5, 6, 7 or 8; and District No. 9, 10, 11 or 12.

The Charter establishes the office of the President of the City Council. The President of the City Council is elected from the City at-large for a term of four years. The President of the City Council presides at meetings, but is not a member of the City Council, and votes only in the case of a tie vote of the City Council. Under the Charter, the President of the City Council exercises all powers and discharges all duties of the Mayor in the case of a vacancy in the Office of the Mayor or during the disability of the Mayor. Under the Charter, the Mayor is elected from the City at-large for a term of four years. The Charter does not allow any Mayor who has been elected for two consecutive terms to be eligible to be elected for the next succeeding term. The Mayor is the chief executive officer of the City and has the power to direct and supervise the administration of all departments of the City. The Charter grants the Mayor the power to veto any ordinance or resolution adopted by the City Council, which veto may be overridden only upon the vote of two-thirds of the total membership of the City Council. The Charter also grants the Mayor the power to veto any item or items of any ordinance or resolution making appropriations, which veto may be overridden only upon the vote of two-thirds of the total membership of the City Council. The current fiscal year of the City is the 12-month period beginning on July 1 and ending on June 30 (the "Fiscal Year").

Pension and Other Post-employment Benefits

The City maintains an agent multiple employer defined benefit pension plan, entitled the General Employees' Pension Plan ("GEPP"), and one single employer defined contribution pension plan, entitled the General Employees' Defined Contribution Plan ("DCP"), in both of which the Department participates.

The City has two other single-employer defined benefit pension plans, the Firefighters' Pension Plan and the Police Officers' Pension Plan. A very small portion of the Department's employees participate in the Police Officers' Pension Plan, and therefore this plan is not considered material to the Department. No employees of the Department participated in the Firefighters' Pension Plan.

As noted above, the employees of the Department are covered by either the GEPP or the DCP (collectively, the "Plans"). The Plans do not provide for measurements of assets for individual units of the City. Such information for the City as a whole is presented in the City's Comprehensive Annual Financial Report.

Complete financial statements for the GEPP can be obtained at the following address:

City of Atlanta
 68 Mitchell Street, S.W., Suite 1600
 Atlanta, Georgia 30335

Separate financial statements have not been prepared for the DCP.

Administration of the Plan. The GEPP is administered as an agent multiple employer defined benefit pension plan by its Board of Trustees (the "Pension Board"). Pension Board membership includes the Mayor or his designee, the City's Chief Financial Officer, a member of the City Council, two active City employee representatives, one retired City representative, one active Atlanta Public School System representative, and one retired Atlanta Public School System representative. All modifications to the GEPP must be supported by actuarial analysis and receive the recommendations of the City Attorney, the Chief Financial Officer, and the Pension Board. Each pension law modification must be adopted by at least two thirds vote of the City Council and approved by the Mayor.

The City's practice is to have actuarial valuations of its defined benefit pension plans performed annually by an enrolled actuary. The following schedule reflects membership data for the GEPP at July 1, 2015, the date of the most recent actuarial valuation.

Inactive plan members or beneficiaries currently receiving benefits	3,897
Inactive plan members entitled to, but not yet receiving benefits	209
Active plan members	2,920
Total plan members	7,026

General Employees' Pension Plan

Contribution requirements. Under the Georgia Legislature principle of Home Rule and the Atlanta Code of Ordinances, Section 6, the Pension Board has the authority to administer the GEPP including establishing and amending contribution requirements. The funding methods and determination of benefits payable were established by the Atlanta Code of Ordinances, Part 1, Section 6 legislative acts creating the GEPP, as amended, and in general, provide that funds are to be accumulated from employee contributions, City contributions, and income from the investment of accumulated funds.

The following table provides the Department's contributions used in the determination of the Department's proportional share of collective pension amounts reported (dollars in thousands).

Plan	Proportionate Share of Contribution	Allocation Percentage of Proportionate Share of Collective Pension Amount
General Employees:		
2016	\$17,768	32.76%
2015	13,807	32.76

During the year ended June 30, 2016 the City contributions were \$54,236,000.

The GEPP Investments. The investments for the GEPP are made within the Public Retirement Systems Investment Authority Law of the Georgia Code (O.C.G.A. 47 20 80). The GEPP Board has been granted the authority by City Ordinance to establish and amend the GEPP investment policy. The GEPP Board is responsible for making all decisions with regard to the administration of the GEPP, including the management of plan assets, establishing the investment policy and carrying out the policy on behalf of the GEPP.

The GEPP's investments are managed by various investment managers under contract with the Pension Board, who have discretionary authority over the assets managed by them and within the GEPP's investment guidelines as established by the Pension Board. The investments are held in trust by the GEPP's custodian in the GEPP's name. These assets are held exclusively for the purpose of providing benefits to members of the GEPP and their beneficiaries.

State of Georgia Code and City statutes authorize the GEPP to invest in U.S. government obligations, U.S. government agency obligations, State of Georgia obligations, obligations of a corporation of the U.S. government, the Georgia Fund 1 (a government investment pool maintained by the State of Georgia), and alternative investments. The Plan invests in repurchase agreements only when they are collateralized by U.S. government or agency obligations. The GEPP is also authorized to invest in collateralized mortgage obligations ("CMOs") to maximize yields. These securities are based on cash flows from interest payments on underlying mortgages. CMOs are sensitive to prepayment by mortgagees, which may result from a decline in interest rates. For example, if interest rates decline and mortgagees refinance their mortgages, thereby prepaying the mortgages underlying these securities, the cash flows from interest payments are reduced and the value of these securities declines. Likewise, if mortgagees pay on mortgages longer than anticipated, the cash flows are greater and the return on the initial investment would be higher than anticipated.

In the development of a current asset allocation plan, the GEPP Board reviews the long term performance and risk characteristics of various asset classes, balancing the risks and rewards of market behavior, and reviewing state legislation regarding investments options. The below asset classes are included in the GEPP's investment objectives: Domestic Equities, International Equities, Domestic Fixed Income, International Fixed Income and Alternative Investments.

The investment policy for the GEPP was revised during the 2014 fiscal year. There were no changes to the policy in fiscal year 2016. The policy may be amended by the Pension Board by a majority vote of its members.

The long term expected rate of return on investments was determined using a building block method in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The asset allocation target assets mix and estimates of real rates of return for each major asset class included in the GEPP's target asset allocation as of June 30, 2016 are summarized in the following table:

General Employees' Pension Plan

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	50%	6.6%
International equity	20	2.2
Fixed income	25	7.1
Alternative investments	5	6.2
	100%	

Changes in Net Pension Liability. The changes in net pension liability of the GEPP for the years ended June 30, 2016 and 2015, are as follows (in thousands):

	Total Pension Liability	Plan Net Position	Net Pension Liability
Balances at June 30, 2015	\$1,832,883	\$1,145,333	\$687,550
Changes for the year:			
Service cost	20,191	-	20,191
Interest expense	133,276	-	133,276
Difference between expected and actual investment earnings	(1,399)	-	(1,399)
Contributions - employer	-	48,015	(48,015)
Contributions - employee	-	16,975	(16,975)
Net investment income	-	56,575	(56,575)
Benefit payments and refunds	(111,738)	(111,738)	-
Administrative expenses	-	(1,445)	1,445
Net changes	40,330	8,382	31,948
Balances at June 30, 2016	\$1,873,213	\$1,153,715	\$719,498

	Total Pension Liability	Plan Net Position	Net Pension Liability
Balances at June 30, 2014	\$1,791,135	\$1,014,429	\$776,706
Changes for the year:			
Service cost	19,644	-	19,644
Interest expense	130,279	-	130,279
Contributions - employer	-	42,145	(42,145)
Contributions - employee	-	17,366	(17,366)
Net investment income	-	188,381	(188,381)
Benefit payments and refunds	(108,175)	(108,175)	-
Administrative expenses	-	(8,813)	8,813
Net changes	41,748	130,904	(89,156)
Balances at June 30, 2015	\$1,832,883	\$1,145,333	\$687,550

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Net Pension Liability. The Department's allocation of the net pension liability in GEPP at June 30, 2016 and 2015 are \$235,708 or 32.76% and 225,241 or 32.76%, respectively. The Department has recorded and disclosed its proportionate share of the net pension liability of the GEPP presented in the table below using a measurement date of June 30, 2015 as determined based on the July 1, 2014 actuarial valuation, projected forward to the measurement date of June 30, 2015 (dollars in thousands).

	2016	2015
Total pension liability	\$1,873,213	\$1,832,883
Plan fiduciary net position	(1,153,715)	(1,145,333)
Net pension liability	<u>\$ 719,498</u>	<u>\$ 687,550</u>
Plan fiduciary net position as a percentage of the total pension liability	61.59%	62.49%

Sensitivity of the Net Pension Liability to Changes in the Discount Rate. The following presents the Department's proportionate share of the net pension liability of the GEPP, calculated using the current discount rate, as well as what the Department's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate (dollars in thousands).

	2016		
	1% Decrease	Current	1% Increase
	6.50%	Discount Rate	8.50%
	7.50%		
Department - net pension liability	\$306,582	\$255,708	\$176,046
	2015		
	1% Decrease	Current	1% Increase
	6.50%	Discount Rate	8.50%
	7.50%		
Department - net pension liability	\$295,800	\$225,241	\$166,598

Discount Rate. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the actuarial determined contribution rates. Based on those assumptions, the GEPP's fiduciary 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. The GEPP discount rate is 7.5%.

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Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of July 1, 2014, with the results rolled forward to the measurement date of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement.

Valuation Date	July 1, 2014
Actuarial Cost Method	Entry Age
Amortization Method	Level
Remaining Amortization Period	26 Years
Asset Valuation Method	Market Value
Inflation Rate	2.75%
Salary Increases	3.50%
Investment Rate of Return	7.50%

Healthy mortality rates were based on the RP-2000 Combined Healthy Table published by the Society of Actuaries. No provision was made for future mortality improvement after the valuation date as the current tables were determined to contain provision appropriate to reasonably reflect future mortality improvement based on the review of mortality experience for the 2003-2011 period. Mortality rates were applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year, throughout their lifetime.

The actuarial assumptions used in the July 1, 2014 valuation were based on the results of an experience study for the period January 1, 2003 to June 30, 2011.

General Employees' Defined Contribution Plan

The City's DCP provides funds at retirement for employees of the City and, in the event of death, provides funds for their beneficiaries, through an arrangement by which contributions are made to the DCP by employees and the City. The current contribution requirement of the City is 6% of employee's payroll. Employees also make a pre-tax contribution of 6% plus have the option to contribute amounts up to the amount legally limited for retirement contributions.

All modifications to the DCP, including contribution requirements, must receive the recommendations and advice from the offices of the Chief Financial Officer and the City Attorney, respectively. Each pension law modification must be adopted by at least two thirds vote of the City Council and approved by the Mayor.

As described earlier, all new, permanent employees hired after July 1, 2001 were eligible to participate in the DCP, while persons employed prior to July 1, 2001 were given the option to transfer to the DCP.

Effective September 1, 2005, classified employees and certain non-classified employees pay grade 18 and below then enrolled in the DCP had the one time option of transferring to the Defined Benefit Pension Plan. Classified employees and certain non-classified employees' pay grade 18 and below hired after September 1, 2005 were required to become participants of the Defined Benefit Pension Plan.

Employees hired on or after September 1, 2011, who are below payroll grade 19 or its equivalent, are required to participate in the DCP which will include a mandatory employee contribution of 3.75% of salary and be matched 100% by the City. Additionally, these employees may voluntarily contribute up to an additional 4.25% of salary which will also be matched 100% by the City. Employees vest in the amount of the City's contributions at a rate of 20% per year and become fully vested in the City's contribution after five years of participation.

As of June 30, 2016 and 2015, there were 1,603 and 1,364 participants, respectively, in the DCP. The covered payrolls for employees in the DCP were approximately \$113,913,000 and \$95,473,000 for the years ended June 30, 2016 and 2015, respectively. Employer contributions for the years ended June 30, 2016 and 2015 were approximately \$9,647,000 and \$8,043,000, respectively, and employee contributions for the years then ended were approximately \$9,727,000 and \$7,487,000, respectively, totaling 17.0% and 16.3% of covered payroll for 2016 and 2015, respectively.

The DCP uses the accrual basis of accounting. Investments are reported at fair value, based on quoted market prices and there were no nongovernmental individual investments that exceeded 5% of the net position of the Plan.

The total employer contributions for the Department were approximately \$1,577,000 and \$1,375,000 for the years ended June 30, 2016 and 2015, respectively.

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Condensed financial statement information for the General Employees' Defined Contribution Plan for the year ended June 30, 2016 is shown below (table shows dollars in thousands):

Current assets:

Investment	
Domestic fixed income securities	\$ 35,965
Domestic equities	23,255
Alternative partnerships	392
Comingled funds	53,125
Other assets	5,893
Total	<u>\$118,630</u>

Additions:

Employer contributions	\$ 10,044
Employee contributions	10,106
Refunds and other	693
Total additions	<u>\$ 20,843</u>

Deductions:

Benefits payments	\$ 6,946
Administrative expenses	59
Total deductions	<u>\$ 7,005</u>

Change in Net Assets held in trust for pension benefits	<u><u>\$ 13,838</u></u>
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Source: City of Atlanta, Georgia Comprehensive Annual Financial Report for the Twelve Months Ended June 30, 2016 and City of Atlanta, Department of Finance.

City of Atlanta Retiree Healthcare Plan. The City of Atlanta Retiree Healthcare Plan (the "Retiree Healthcare Plan") is a single-employer defined benefit healthcare plan which provides other post-employment benefits (OPEB) to eligible retirees, dependents and their beneficiaries. The Retiree Healthcare Plan was established by legislative acts and functions in accordance with existing City laws. OPEB of the City includes health, dental, and vision care and life insurance. Separate financial statements are not prepared for the Retiree Healthcare Plan.

Funding Policy. The City is not required by law or contractual agreement to provide funding for OPEB other than the pay-as-you-go amounts necessary to provide current benefits to retirees, eligible dependents and beneficiaries. For the Fiscal Year ended June 30, 2016 and 2015, the City made \$43,715,000 and \$43,308,000, respectively on behalf of the Retiree Healthcare Plan. For the years ended June 30, 2016 and 2015, eligible retirees receiving benefits contributed approximately \$47,500,000 and \$47,600,000, respectively through their required contributions.

For the fiscal years ended June 30, 2016 and 2015, the Department paid approximately \$7,479,000 and \$7,440,000, respectively, on behalf of the Retiree Healthcare Plan.

Annual OPEB Cost and Net OPEB Obligation. The City's annual OPEB cost (expense) is calculated based on the annual required contribution ("ARC") of the employer; an amount actuarially determined using the "Entry Age Normal Actuarial Method." The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed 30 years.

The following table shows the elements of the Department's OPEB cost, the amount actually contributed on behalf of the Retiree Healthcare Plan, and changes in the Department's net OPEB obligation to the Retiree Healthcare Plan for the years ended June 30, 2016 and 2015 (in thousands):

	2016	2015
Annual Required Contribution	\$ 13,896	\$ 13,348
Interest on Net OPEB Obligation	2,946	2,722
Adjustment to Annual Required Contribution	(3,348)	(2,959)
Annual OPEB Cost (Expense)	13,494	13,111
"Pay As You Go" Payments Made	(7,479)	(7,440)
Increase in Net OPEB Obligation	6,015	5,671
Net OPEB Obligation, Beginning of Year	100,909	95,238
Net OPEB Obligation, End of Year	<u>\$106,924</u>	<u>\$100,909</u>

The Department's annual OPEB costs, the percentage of annual OPEB costs contributed to the Retiree Healthcare Plan, and the net OPEB obligation for the fiscal years ended June 30, 2016, 2015, and 2014 were as follows (in thousands):

Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Paid	Net OPEB Obligation
2016	\$13,494	55.42%	\$106,924
2015	13,111	56.75	100,909
2014	19,511	37.10	95,238

Funded Status and Funding Progress. As of June 30, 2014, the most recent actuarial valuation date, the Retiree Healthcare Plan was not funded, except for "pay-as-you-go" payments. The unfunded actuarial accrued liability (UAAL) for benefits was \$1.12 billion. The covered payroll was \$348 million, and the ratio of the UAAL to the covered payroll was 321.42%.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. The determined actuarial valuations of OPEB provided under the Retiree Healthcare Plan incorporated the use of various assumptions including demographic and salary increases among others. Amounts determined regarding the funded status of the Retiree Healthcare Plan and the annual required contributions of the City are subject to continual revisions as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, shown as required supplementary information following the notes to the financial statements, presents multiyear trend information on the actuarial value of plan assets relative to the actuarial accrued liability for benefits. The result of the OPEB valuation is as of

June 30, 2014. Under the provisions of GASB Statement No. 45 the City elected to use the June 30, 2014, actuarial report as the basis for determining the current year ARC requirement.

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

In the June 30, 2014 actuarial valuation, the Individual Entry Age Normal actuarial cost method was used. It is amortized as a level percent of payroll over a 23 year period and a closed amortization method. The actuarial assumptions included 4 percent investment rate of return (net of administrative expenses) and an annual medical cost trend rate of 9 percent initially, reduced by decrements to an ultimate trend rate of 5 percent after eight years. Both rates include a 3 percent inflation assumption. Currently there are no assets set aside that are legally held exclusively for OPEB.

Deferred Compensation Plan

The City has adopted a deferred compensation plan in accordance with the 1997 revision of Section 457 of the Internal Revenue Code. The plan, available to all Department employees, allows an employee to voluntarily defer receipt of up to 25% of gross compensation, not to exceed certain limits per year. Each participant elects one of three insurance providers to administer the investment of the deferred funds. Administration costs of the plan are deducted from the participants' account. The plan assets are held in custodial accounts for the exclusive benefit of the plan participants and their beneficiaries, and are therefore not included in the Department's financial statements.

The Department

The Department was created in 2002 to oversee the City's comprehensive approach to providing water and wastewater services (including selected watershed protection services) to residential, commercial, industrial and governmental ratepayers across its service area. Between Fiscal Year 2009 and Fiscal Year 2012, the Department was restructured to include the Office of the Commissioner and seven offices: Drinking Water, Wastewater Treatment and Collection, Engineering Services, Financial Administration, Program Performance, Management and Watershed Protection. In Fiscal Year 2013, the Department implemented a reorganization structure to align similar function to gain operational efficiency. In Fiscal Year 2017, the Department is implementing a reorganization that was incorporated into its Fiscal Year 2017 budget and calls for an authorized staffing level of 1,611 positions. As of the beginning of Fiscal Year 2017, the Department had 1,305 filled operating positions and 306 vacancies. The departmental reorganization was undertaken to focus on customer delivery and to substantially improve customer service, as well as to ensure proper attention is given to Consent Decrees and compliance with all regulatory requirements. In addition, the senior team has been enhanced with the creation of the Chief Administrative Officer and Assistant Commissioner positions to

assure dedicated attention to project delivery as well as the Department's daily administrative and operational needs, thereby allowing the Commissioner to be more attentive to strategic planning and policy issues. The functions and staffing of the Department have been structured as follows:

Office of the Commissioner. The Commissioner's Office is responsible for setting the strategic direction for the Department and providing leadership in all areas of operations and management. It has ultimate authority over regulatory compliance, management of the System's infrastructure assets, customer service and management of human and financial resources. Its priorities are provision of high quality customer service, environmental compliance and operational efficiency. The Fiscal Year 2017 budget provides for funding of 102 positions in the Commissioner's Office, inclusive of six distinct functional reporting areas and ten positions within the Commissioner's Office itself (plus fleet and facilities management), as described below:

Communications and Community Affairs. The Communications and Community Affairs functional area coordinates the Department's engagement with key community groups including the City's Neighborhood Planning Units, develops and coordinates publication of informational materials on Department programs and initiatives, and is the designated point of contact with local media. This area also has responsibility for coordinating internal departmental communications through internal newsletters and employee briefings, as well as serving as a liaison to the Mayor's Office. The Fiscal Year 2017 budget provides for funding of 16 positions.

Performance and Accountability. The Performance and Accountability functional area coordinates the development and evaluation of performance measures to institutionalize accountability for System performance and support continuous improvement efforts. This area is responsible for reporting on progress related to the Department's priorities, currently oriented toward improved customer service, workplace safety and loss prevention, regulatory compliance and environmental protection and efficient operations. This area also includes the Department's Internal Audit function responsible for evaluation of internal controls and business processes. The Fiscal Year 2017 budget provides for funding of ten positions.

Office of Safety and Security. The Office of Safety and Security has responsibility for implementing and monitoring compliance with the Department's workplace safety programs, ensuring compliance with U.S. Department of Homeland Security regulations related to system safety and security measures, and emergency preparedness planning and training initiatives. The Fiscal Year 2017 budget provides for funding of 61 positions.

Information Technology Support Services. The Information Technology Support Services functional area is a component of the centralized City-wide Information Technology organization and provides IT solutions and services including application development and support, technology Quality Assurance / Quality Control services, and end user support. The area coordinates acquisition and updating of IT and communication resources across the Department to promote compatibility of applications, facilitate data warehousing and sharing, and promote operating efficiencies. It provides technology support for ongoing business process evaluation and redesign initiatives. The Fiscal Year 2017 budget provides for funding of 61 positions.

Clean Water Atlanta. The Clean Water Atlanta or Consent Decree Compliance Program is responsible for the overall management of the Consent Decrees. The charge of the Consent Decree Compliance Program is to address the operation of the City's wastewater facilities and combined and sanitary sewer overflows within the City. The Consent Decree Compliance Program is responsible for the implementation of planning, design, and construction of improvements to the City's drinking water and wastewater systems, as well as environmental compliance and reporting to comply with the Consent Decrees and Consent Orders.

Policy and Intergovernmental Affairs. The Policy and Intergovernmental Affairs area is responsible for planning, drafting and coordinating legislative, regulatory and strategic initiatives on behalf of the Department to address issues at the municipal, state and national levels. The Policy and Intergovernmental Affairs area coordinates with other municipalities, regulatory agencies, and national and regional industry organizations to guide policy decisions that are in the City's best interest. The Fiscal Year 2017 budget provides for funding of five positions.

Office of Water Treatment and Reclamation. The Office of Water Treatment and Reclamation is responsible for drinking water production and wastewater treatment. Drinking water production involves operation and maintenance of the water supply intakes, three water treatment plants (WTPs), finished water storage and distribution system pumping, including system pressure management and provision of fire flows. Wastewater treatment involves operation and maintenance of four wastewater treatment facilities, six permitted combined sewer discharge sites, and sewage pumping stations. The Office of Water Treatment and Reclamation is responsible for complying with all applicable regulatory requirements including the federal and state Safe Drinking Water Act ("SDWA") and federal Clean Water Act on which it reports to the Georgia Department of Natural Resources Environmental Protection Division (the "EPD"). The Office of Water Treatment and Reclamation also includes a Division of Automation and Sustainability oriented toward enhancing efficiency and environmental performance of Office operations, in part through the implementation of new automation technologies. The Fiscal Year 2017 budget provides for funding of 284 positions.

Office of Engineering Services. The Office of Engineering Services is responsible for the Capital Improvement Program (as defined herein) related to the Department's Consent Decree Compliance Program, as well as in-house project design, construction, project and asset management, GIS, leak detection and water loss programs, inter-governmental agency agreements, surveying, master planning, hydraulic modeling and utility locates. The Fiscal Year 2017 budget provides for funding of 208 positions.

Office of Linear Infrastructure Operations. The Office of Linear Infrastructure Operations is responsible for all aspects of the management, operation and maintenance of the Department's over 2,700 miles of water distribution lines and 2,150 miles of sanitary sewer pipe, including all City-owned storm sewers and structures. The Office of Linear Infrastructure Operations provides 24/7 incident and request response, performs both preventive and reactive maintenance and repairs of System assets (including pipelines, valves, hydrants and other appurtenances) and tests, repairs and replaces service meters throughout the System. The movement of the dispatch function within this Office enables efficient deployment of field service personnel and improved customer service by facilitating "one-stop" field work order resolution. The Fiscal Year 2017 budget provides for funding of 463 positions.

Office of Customer and Business Services. The Office of Customer and Business Services manages the Department's customer service operation, including management of the customer service billing system, call centers and walk-in customer service functions. In addition, the Office of Customer and Business Services coordinates investigation of small metering issues as well as service cuts and repairs. The Fiscal Year 2017 budget provides for funding of 277 positions.

Office of Watershed Protection. The Office of Watershed Protection leads the Department's holistic approach to integrated water resource management. It manages water policy initiatives, leads the development of watershed plans (including: Basin Assessments, Watershed Protection Plans, Watershed Improvement Plans, TMDL Implementation Plans), and guides ecosystem restoration capital improvements. The Office of Watershed Protection performs wastewater flow monitoring, inter-jurisdictional flow metering as well as floodplain modeling and management activities. In addition, the Office of Watershed Protection has responsibility for the Department's stormwater compliance programs; fats, oil and grease management; industrial pre-treatment permitting and inspections, and manages the Department's laboratories, providing analytical services related to treatment plant performance.

The Office of Watershed Protection has designated responsibility for ensuring, monitoring and reporting compliance with all pertinent state and federal environmental regulations. By providing analytical and compliance monitoring services independently of the Department's offices responsible for treatment plant and linear infrastructure operations, a segregation of duties has been put in place to provide improved assurance of compliance with all applicable environmental regulations. The Fiscal Year 2017 budget provides for funding of 168 positions.

Office of Financial Administration. The Office of Financial Administration is responsible for the preparation, evaluation and monitoring of the Department's budget, updating of the Department's strategic financial plan, support of its capital financing program, and capitalization of fixed assets. It is responsible for accounting functions including accurate recording of revenues and expenses, and support of the annual external audit as well as cash collections, payroll, and billing of inter-jurisdictional partners. The Fiscal Year 2017 budget provides for funding of 51 positions.

Management and Personnel. Senior City personnel, including the Chief Operating Officer, the Chief Financial Officer, the City's Department of Finance, the City Attorney and the Chief Procurement Officer, provide financial, legal and other administrative support to the Department. Following are brief resumes of certain key personnel of the City involved in the administration and operation of the System.

Daniel L. Gordon serves as the City's Chief Operating Officer. Mr. Gordon was appointed by Mayor Kasim Reed to directly manage and oversee all operating departments of the City and related agencies including Aviation, Police, Fire, Corrections, Parks, Recreation and Cultural Affairs, Planning and Community Development, Public Works, Watershed Management, Human Resources, Procurement, Information Technology, Sustainability and Enterprise Assets.

Prior to joining the public sector, Mr. Gordon served as the Senior Vice President of Operations at The Home Service Store (HSS), a Roark Capital portfolio company. In this role, Mr. Gordon oversaw roughly 750 team members across the country and 40,000 large ticket installation projects. Before joining HSS, Mr. Gordon was the Chief Operating Officer of Extremity Healthcare, Inc. (EHI), a holding and management services company that supports over 15 entities. Mr. Gordon previously served as the Director of Business Development for AMB Group, the management and support services arm for Arthur M. Blank's diverse businesses and Co-Founder and Vice President of the Atlanta Falcons Physical Therapy Centers (AFPTC) and founded Soleria Development Group, which provided strategy consulting, negotiations and advisory services to select clients across the country, some of which are pro bono startups.

Mr. Gordon graduated from Emory University with a B.A. in International Studies and ran a successful real estate business during his college tenure. He later completed the One-Year MBA Program at Emory University concentrating in Finance and Real Estate. He was awarded the Integrity Award by his peers at graduation and is a published author on leadership. He completed advanced coursework at Harvard University and the London School of Economics as well. Mr. Gordon has been licensed in real estate since the age of 18 and currently holds an active Georgia Broker's License.

J. Anthony "Jim" Beard, CTP serves as the City's Chief Financial Officer. In this capacity Mr. Beard has primary responsibility for the oversight and management of the City's financial condition. Mr. Beard became the Chief Financial Officer in the fall of calendar year 2011 and advises the Mayor and the City Council on issues such as municipal finance, budgeting, treasury activities, accounting, financial policies and pension matters. Mr. Beard has 20 years of experience in investment banking, public finance, financial advisory, treasury, and consulting services in the public and private sectors. Immediately prior to his appointment as Chief Financial Officer, Mr. Beard served as the Deputy Commissioner and Chief Financial Officer for the Department, with oversight over the Department's financial administration and management.

Previously, Mr. Beard served as Treasurer for the Palm Beach County Clerk & Comptroller and was responsible for the management and oversight of a \$2 billion cash and investment portfolio, as well as a \$1.7 billion fixed income debt portfolio which financed the majority of Palm Beach County's infrastructure projects. Prior to this appointment, Mr. Beard served as a Principal, Chief Financial Officer and Investment Banker for one of the nation's largest minority-owned public finance and investment banking firms. Additionally, Mr. Beard has held various finance and management positions at public companies in the financial services and retail sectors.

Mr. Beard received his Master's of Business Administration from the J. L. Kellogg School of Management at Northwestern University. He attended the United States Coast Guard Academy in New London, Connecticut, and received dual bachelor's degrees, with high honors (magna cum laude), in Finance and International Business from Florida International University. Beta Gamma Sigma, an international honor society, inducted Mr. Beard in 2006 recognizing his accomplishment in the study of business. In addition to being the holder of multiple securities industry principal licenses, Mr. Beard is a Certified Treasury Professional (CTP) and holds certifications in international and domestic bank management.

John Gaffney serves as the City's Deputy Chief Financial Officer. Mr. Gaffney has more than 25 years of experience in banking, finance and accounting roles. His experience base includes strategic planning, mergers and acquisitions, business development, financial reporting, budgeting, and accounting across small, midsized, Fortune 50 corporations and large government. Prior to joining the City, Mr. Gaffney worked with BellSouth Corporation in Atlanta where he held roles of progressive responsibility ranging from Accountant to Director of Finance. He has been with the City since 2010 when he was recruited to help with a turn-around of the City's finance department practices and policies and procedures. Mr. Gaffney has served the City as the Director of Financial Reporting, Controller and in his current role as Deputy Chief Financial Officer. Mr. Gaffney earned a Bachelor of Science in Business Administration (Finance) degree from Auburn University and holds an active Certified Public Accountant (CPA) license in the state of Georgia.

Paul H. Kwaw serves as the City's Interim Debt Investment Chief. Mr. Kwaw has spent the majority of his 20 year professional career with municipal governments where he has had investment portfolio oversight, developed a strong financial foundation in capital financing, financial markets and developed economic information and strategies that impact financial markets. Prior to joining the City in 2001, Mr. Kwaw worked with the Office of Budget Review for the New York City Office of Management and Budget and was responsible for helping to balance New York City's annual operating budget which at the time totaled \$4 billion. Currently, Mr. Kwaw has oversight of the City's \$7.1 billion debt portfolio and \$1.9 billion cash and investment portfolio. Mr. Kwaw holds a B.B.A. in Accounting from Pace University in New York City, and an M.B.A. in Finance and Business Management from Georgia State University.

Kishia L. Powell was appointed to serve as Commissioner of the Department by Mayor Kasim Reed in June 2016. With expertise in sustainable infrastructure management and utility operations, she has leveraged 19 years of experience in both the public and private sectors to successfully serve municipalities across the United States and London, England. As Commissioner, she is responsible for oversight of the Department's \$546 million annual operating budget, a five-year capital improvement plan of \$1.2 billion including the Water Supply Program and the Clean Water Atlanta consent decree program. Prior to joining the City of Atlanta, Commissioner Powell served as the Public Works Director for the City of Jackson, Mississippi where she was responsible for developing a programmatic strategy and master plan for Jackson's Municipal Special Sales Tax-funded infrastructure improvements program including the "Greening the Gateways" initiative which led to the City's award of a \$16.5 million TIGER Grant in October 2015. Most notably, she developed revenue recovery strategies for the water and sewer enterprise and developed a plan to tackle water theft resulting in the elimination of more than 1,700 illegal water connections.

In 2008 she was appointed Bureau Head of Water and Wastewater for the City of Baltimore to lead a 1900 person agency with an annual operating budget of \$300 million and a six-year CIP of \$2.2 billion serving 1.8 million customers. Based upon her work in Baltimore she was named the 2010 Maryland Water Environment Federation's Water Hero. Ms. Powell's private sector experience includes time spent as business development lead for an international firm to market services for stormwater program management and other support services in the Chesapeake Bay region to municipalities faced with Chesapeake Bay Total Maximum Daily Load (TMDL) and State watershed implementation plans.

She is a member of the Water Environment Federation and the American Water Works Association. She was most recently elected to serve on the Board of the National Association of Clean Water Agencies, and will be serving on the Metropolitan North Georgia Water Planning District's Governing Board on behalf of Mayor Kasim Reed and the City of Atlanta. Under her leadership as a Global Water Leader, the Department will be recognized in the inaugural class of Leading Utilities of the World in April 2017. Her water sector leadership role includes serving on the management committee for the US Water Alliance Value of Water Campaign. Ms. Powell has been a licensed Professional Engineer in Maryland, Virginia and the District of Columbia and she holds a Bachelor of Science degree in Civil Engineering from Morgan State University's Clarence M. Mitchell, Jr. School of Engineering.

Calvin D. Farr, Jr. serves as the Department's Assistant Commissioner. Mr. Farr is responsible for the general management of the Department's Engineering Services, Water Treatment and Reclamation, Watershed Protection, Linear Infrastructure Operations, and regulatory compliance. He has 20 years of demonstrated success in addressing infrastructure needs, environmental stewardship, and capital improvement investments in the public and private sectors.

Mr. Farr was formerly the Group Leader of the Utility Management Group for the Washington Suburban Sanitary Commission (WSSC), a large water and wastewater service provider for Prince George's County and Montgomery County, MD. He served as Water & Wastewater Leader for the WSSC's Asset Management Program, a program to identify infrastructure needs for the next 30 years. Mr. Farr's maintenance and condition assessment efforts drove capital improvement needs detailed in the Water and Sewer Reconstruction programs at an estimated cost of more than \$1 billion.

Mr. Farr received his Bachelor of Science degree in Civil Engineering from Old Dominion University, his Master of Environmental Engineering degree from the Johns Hopkins University, and his Master of Public Management degree from the University of Maryland, College Park. He also graduated from the NFBPA Executive Leadership Institute and the Water and Wastewater Leadership Center sponsored by collaborating organizations such as the National Association of Clean Water Agencies (NACWA), the American Water Works Association (AWWA), the National Association of Water Companies (NAWC), the Water Environment Federation (WEF), and the Association of Metropolitan Water Agencies. He is a licensed Professional Engineer (P.E.) in Maryland, Virginia, and the District of Columbia.

Andrada Butler serves as the Department's Chief Administrative Officer. Ms. Butler is the advisor to the Commissioner of the Department of Watershed Management. She manages the day-to-day administrative operations of the Department including: the development and implementation of the Department's strategic plan, instructional leadership for department managers and development of administrative policy. In her role, Ms. Butler provides leadership over the Department's Offices of Communications & Community Relations, Performance & Accountability, Assets Management, and Safety, Security and Emergency Management.

Prior to joining Watershed Management, she served as the Deputy Director for the Department of Public Works of the City of Jackson, Mississippi. As Deputy Director, she assisted in the planning, directing, managing and overseeing the day-to-day operations of the

Department of Public Works. Ms. Butler served as a liaison for the Department of Public Works with other departments, divisions and outside agencies in the areas of Human Resources, External Funding, Contract Compliance and Customer Relations.

Before joining the Department of Public Works, Ms. Butler acted as the Assistant Manager for the Department of Planning and Development of the City of Jackson, Mississippi. She also served in the capacity of Senior Planner for the City of Jackson, Mississippi from 2008 until 2014. With more than ten years of experience in governmental operations, she brings a wealth of knowledge, passion, commitment, and experience to the Department of Watershed Management. Ms. Butler has a Bachelor of Science in Criminal Justice and a Master of Public Policy and Administration from Jackson State University.

Mohamed Balla serves as the Department's Deputy Commissioner of the Office of Financial Administration. In his role as Deputy Commissioner of the Office of Financial Administration, Deputy Commissioner Balla provides leadership over the Department's financial services including financial planning, analysis, budgeting and reporting, capital financial management and auditing, revenue operations and management, accounts receivable and collections, accounts payables, fixed asset and inventory management, accounting services, and payroll.

Deputy Commissioner Balla has over 13 years of experience in investment banking, corporate finance, and public finance. Mr. Balla joined the City in April 2011 and has been with the Department since August 2012. Prior to joining the Department, Mr. Balla served as a key member of the City's pension reform team responsible for restructuring the City's \$3 billion pension plan. Mr. Balla also served as the City's Cash and Investment Manager overseeing the City's \$1.5 billion cash and investment portfolio.

Before joining the City, Deputy Commissioner Balla worked as an investment banking professional at Citigroup Corporate and Investment Bank and Wachovia Securities. Mr. Balla has intensive background in debt capital markets, loan portfolio management, syndicated lending, financial modeling and valuation analysis. Mr. Balla earned his B.A. in Business Administration from Morehouse College with a concentration in Finance and an M.B.A from the Stephen M. Ross School of Business at the University of Michigan.

THE SYSTEM

General

The System consists of a Water System and a Wastewater System (all as hereinafter described). The "Water System" is comprised of facilities which include three water treatment plants (WTPs) with a combined treatment capacity of 246.4 million gallons per day (mgd), one of which (along with a raw water intake) is jointly owned with Fulton County. The City's distribution system includes a network of more than 2,800 miles of water distribution pipelines, four finished water pump stations, three re-pump stations, 11 booster pump locations (eight of which are in reserve), two raw water pump stations, one reservoir emergency draw-down pump station, four surge tanks and 12 ground and elevated storage tanks. The "Wastewater System" is comprised of facilities which encompass more than 2,150 miles of sanitary and combined

sewers, three permitted water reclamation centers (WRCs), two permitted combined sewer overflow (CSO) Water Quality Control Facilities (WQCF), four permitted CSO Control Facilities, and 16 pump stations. The Wastewater System has a total treatment capacity of 220 mgd and is permitted to discharge up to 188 mgd, based on a monthly average, under a combined permit.

For more information regarding the Water System and the Wastewater System, see "THE SYSTEM - Water System" and "- Wastewater System" herein and "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Wastewater System and - Water System" attached hereto.

The Water System operates under permits issued by the State of Georgia Department of Natural Resources (the "DNR"), the EPD, requirements of the federal and state SDWAs, and is subject to two Administrative Consent Orders issued in 1997 and 2003 by the EPD related to the water treatment and distribution system (the "Consent Orders"), which require the City to increase the Water System's reliability and to meet the demands of a growing regional population base. The Wastewater System operates pursuant to environmental permits pursuant to the Clean Water Act and the Georgia Water Quality Control Act and is subject to the federally ordered Consent Decrees, which specify operational and capital improvements that the City is required to make within specified timeframes to its wastewater collection and treatment systems and CSO Control Facilities in order to resolve all outstanding requirements of the Consent Decrees.

For more information, see "THE SYSTEM - Water System Regulatory Matters" and "- Wastewater System Regulatory Matters" herein and "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Wastewater System and - Water System" attached hereto.

Service Area

The service area for the Wastewater System is regional and is bordered on the west by the Chattahoochee River and extends into northwest DeKalb County, a small portion of Clayton County and parts of north and south Fulton County. Together, the City's WRCs serve a total area of 225 square miles, with the City's WQCFs and CSO Control Facilities providing supplemental capacity for a total area of approximately 11 square miles.

The retail water service area of the Water System includes the City, unincorporated areas of Fulton County (South of the City), the areas located within the cities of Sandy Springs and Chattahoochee Hills and portions of incorporated areas located in South Fulton. The City's wholesale customers include three cities in Fulton County (Hapeville, Fairburn and Union City) and the counties of Coweta (Coweta County Water and Sewerage Authority), Clayton (Clayton County Water Authority) and Fayette. The City supplies all water needed by the wholesale cities and a limited portion of the total water needed by the wholesale counties; while these customer counties continue to have active wholesale water meters, their water demands are limited to exceptional circumstances reflecting recent demand patterns and their respective development of alternative water supply arrangements. The cities of College Park, East Point and Palmetto are supplied with water independent of the City and Fulton County.

Service area growth through territory acquisition or purchase or new significant wholesale customers is possible but not anticipated.

Water System

The Water System obtains its drinking water from the Chattahoochee River through two raw water intakes located downstream of Lake Lanier, a multi-purpose water reservoir owned and operated by the U.S. Army Corps of Engineers (the "Corps"). The City is currently permitted to withdraw a combined total of approximately 225 mgd. The raw water is treated at the City's three water treatment plants (WTPs), one of which (along with a raw water intake) is jointly owned with Fulton County. The water treatment plants (WTPs) have a combined treatment capacity of 246.4 mgd. The City's distribution system includes more than 2,800 miles of water distribution pipelines, four finished water pump stations, three re-pump stations, 11 booster pump locations (eight of which are in reserve), two raw water pump stations, one reservoir emergency draw-down pump station, four surge tanks and 12 ground and elevated storage tanks. The Water System serves over 150,000 active water accounts. See "THE SYSTEM - Service Area" for a description of the service area of the Water System.

Water Quality. The Water System is in compliance with all of its applicable permits. The water treated and delivered by the Water System meets or exceeds all drinking water standards established by the EPA and no maximum contaminant level has been exceeded. The City meets all current water quality standards of the federal and state SDWA as regulated by the EPA and the EPD, respectively, and has never been cited for a water quality violation.

Water Supply. In Fiscal Year 2016, the average daily water production for the Water System was 96.93 mgd. The City currently is permitted to withdraw 180 mgd (monthly average) of raw water for the Hemphill and Chattahoochee plants, and 45 mgd for the Atlanta-Fulton County Water Treatment Plant. The City currently has a raw water storage capacity of approximately 550 million gallons at the Hemphill facility, 800 million gallons of capacity shared with Fulton County at the Atlanta-Fulton County North Area Water Treatment Plant and a combined finished water storage capacity of approximately 37 million gallons. The Hemphill facility has two raw water reservoirs one of which is currently undergoing repair and will be restored to service by the end of the first quarter of 2017.

The source of supply of raw water for the City is the Chattahoochee River. The Chattahoochee River is regulated by several federal dam projects. The most important of these projects for the City is Buford Dam, which impounds the river to create Lake Lanier. The City's raw water intakes are downstream of this project in the Chattahoochee River. As such, the City depends upon the Corps to operate Buford Dam to regulate the flow of the river to ensure a sufficient water supply is available. The operation of Buford Dam and Lake Lanier were the subject of protracted litigation over 20 years known eventually as the Tri-State Water Rights litigation, which proceeding is discussed in detail under the caption "THE SYSTEM - Water System Regulatory Matters - *Water Supply Litigation*" herein. The City currently withdraws water from the Chattahoochee River under a surface water withdrawal permit issued by the EPD and with a term that runs to November 1, 2021. Future withdrawal permits will be required to be consistent with future regional and State water plans. The City provides return flows of its water

withdrawals to the Chattahoochee River via the City's WRCs and it does not withdraw water from the Flint, Apalachicola, Alabama, Coosa or Tallapoosa River basins.

As mandated under legislation enacted by the Georgia General Assembly in 2004, the EPD adopted a Statewide Water Plan in 2008. Pursuant to the 2008 Statewide Water Plan ten regional water plans were officially adopted in November 2011 which requires basin management plans to be developed. These regional water plans: (a) outline management practices to meet future water needs, (b) address both water quantity and water quality challenges, (c) include forecasts of future water supply and wastewater treatment needs, and (d) identify practices to ensure that future needs can be met. Prior to the statewide efforts, the Metropolitan North Georgia Water Planning District (of which the City is a part) was formed in 2001 and engaged in a comprehensive two year planning process for stormwater, wastewater and water supply and water conservation. The original plans were adopted in September 2003. In 2007, the Metropolitan North Georgia Water Planning District began the process of updating the plans. In May 2009, the Metropolitan North Georgia Water Planning District adopted new plans which replaced the 2003 plans as amended (the "Regional Water Plan"). The Metropolitan North Georgia Water Planning District recently released a draft Water Resource Management Plan for public comment through April 30, 2017, which incorporates the most recent updates to the Regional Water Plan. The three integrated plans offer metro jurisdictions and state officials a set of recommendations for actions, policies, and investment in watershed, wastewater and water supply and conservation management. The plans were developed to meet State laws, local needs and Metropolitan North Georgia Water Planning District goals. The plans will help protect water quality, encourage water conservation, ensure adequate potable water supplies, guard valuable recreational sites and minimize the potential impacts of urban and suburban development of the region on waters in and downstream of the Metropolitan North Georgia Water Planning District.

Water Treatment Plants. The Water System has three water treatment plants (WTPs) serving more than one million people in the metropolitan Atlanta region, providing approximately 100 mgd of water each day within a 650-square-mile service area. The Chattahoochee and Hemphill WTPs obtain water from the City owned Chattahoochee River Intake and Raw Water Pump Station under a combined surface water withdrawal permit for the two treatment plants. The Atlanta-Fulton County North Area WTP also obtains water from the Chattahoochee River, but at a different, jointly owned location and under a separate surface water withdrawal permit. The Chattahoochee River Intake is the source of raw water for the Chattahoochee and Hemphill WTPs and operates under a permit, which was renewed on November 6, 2013, that allows for the withdrawal of up to 180 mgd (monthly average). The Chattahoochee WTP has a maximum capacity of 64.9 mgd and provides approximately 40 percent of the drinking water for the City and parts of Fulton County. The current permitted capacity of the Hemphill WTP is 136.5 mgd. This plant supplies approximately 48 percent of drinking water to retail, residential, commercial, industrial and institutional customers within the City and portions of Fulton County south of the Chattahoochee River, and to the City's wholesale water customers. The Atlanta-Fulton County North Area WTP is a high-rate surface water filtration plant located on the Chattahoochee River in Alpharetta and is permitted to withdraw up to 90 mgd of raw water at this location which is withdrawn at the jointly owned Atlanta-Fulton County Raw Water Intake.

Water Production, Connections, Demand and Revenues. The following tables summarize certain information concerning water production, connections, demand and revenues for the last five Fiscal Years and water connections, percentage water demand and percentage water revenues by customer class for the last five Fiscal Years:

Maximum and Average Daily Water Production⁽¹⁾
(millions of gallons)

	Fiscal Year				
	2012	2013	2014	2015	2016
Maximum Daily Production	133.60	122.38	131.52	118.62	124.50
Average Daily Production	95.32	91.52	90.88	90.90	96.93

⁽¹⁾ The System includes a raw water supply with a permitted withdrawal amount of 225 mgd and a combined treatment capacity of 246.4 mgd as of June 30, 2016.

Source: City of Atlanta, Department of Watershed Management.

Water Connections, Demand and Revenues by Customer Class
Water Connections by Customer Class

Fiscal Year	Residential ⁽¹⁾	Commercial	Industrial	Total ⁽²⁾
2012	138,063	11,914	155	150,132
2013	139,203	11,993	147	151,343
2014	139,690	12,123	149	151,962
2015	139,752	12,243	143	152,138
2016	141,204	12,548	140	153,892

Percentage Water Demand by Customer Class

Fiscal Year	Residential	Commercial	Industrial	Wholesale	Government
2012	56	32	2	5	5
2013	56	33	2	5	4
2014	56	34	2	5	3
2015	55	35	2	4	4
2016	55	35	2	4	4

Percentage Water Revenues by Customer Class

Fiscal Year	Residential	Commercial	Industrial	Wholesale	Government
2012	54	35	2	3	6
2013	53	37	2	3	5
2014	55	38	2	3	2
2015	55	39	2	2	2
2016	55	40	1	2	2

⁽¹⁾ Includes apartment complexes, which are served by single connection.

⁽²⁾ Does not include governments or wholesale customers. In Fiscal Year 2016, there were 1,098 customers in this category.

Source: City of Atlanta, Department of Watershed Management.

Distribution System. Potable drinking water is delivered to the City's retail and wholesale customers through a network of approximately 2,800 miles of water mains and pipelines. Water is piped to customers through pipelines ranging in diameter from two to 96 inches. The City's distribution system contains 12 storage tanks (below ground, ground and elevated) and eleven booster station locations dispersed throughout the System to manage

instantaneous water demand and pressure fluctuations in the service area. In addition, there are four surge tanks protecting the finished water system.

Customers. In Fiscal Year 2016, the City's five largest water customers in the aggregate accounted for approximately 2.87% of the City's Fiscal Year 2016 water billings. The City has experienced a decrease in demand over the last decade in large part due to successful water conservation efforts, including the imposition of water use restrictions. This decrease in demand was more pronounced between 2007 and 2009 as a consequence of a prolonged drought and mandatory outdoor watering restrictions. The following table shows the five largest retail water customer billings for the Fiscal Year 2016. No independent investigation has been made of, and consequently no representation can be made as to, the stability or financial condition of any of the customers listed below or that such customers will continue to maintain their status as major customers of the Water System.

**Five Largest Water Users
(dollars in thousands)**

Customers	Billings⁽¹⁾	% of Total Billings⁽²⁾
QTG Quaker, Tropicana, Gatorade	\$2,042	1.06%
City of Union City	933	0.48
Fulton/DeKalb Hospital Authority	892	0.46
Coca-Cola Company USA	892	0.46
Quality Technology Services	799	0.41

⁽¹⁾ Billings for the period beginning July 1, 2015 and ending June 30, 2016.

⁽²⁾ Based on total billings of \$193,232,443 for the period beginning July 1, 2015 and ending June 30, 2016.

Source: City of Atlanta, Department of Watershed Management.

Wholesale Water and Wastewater Agreements Generally. The City provides water and wastewater service on a wholesale basis to counties and municipalities outside of the City's boundaries. Generally, these services are provided under long-term inter-jurisdictional (IJ) agreements of 30 years or longer. The City is operating under wastewater service agreements with DeKalb and Fulton counties and the municipalities of College Park, East Point and Hapeville. The DeKalb, East Point and Hapeville wastewater agreements expire in 2029 while the Fulton and College Park agreements expire in 2022 and 2028 respectively. The City is operating under wholesale water service agreements with the Coweta County Water and Sewerage Authority, Clayton County Water and Sewer and the City of Hapeville that will expire in 2021, 2020, and 2020, respectively. Wholesale water services are also provided to Fayette County and the cities of Fairburn and Union City under current wholesale rates but the City does not have wholesale water service agreements with these entities.

Under the current terms of the wastewater agreements, the City provides conveyance and treatment services for wastewater flow volumes. The contracting governmental entities ("IJ Partners") pay their share of associated operational costs and are required to implement and enforce sewer use regulations that are no less restrictive than those imposed by the City. The IJ Partners share in capital costs based on the capacity they have reserved in City facilities pursuant to the relevant agreements. Treatment plant monthly operating costs are based on the IJ Partners' proportionate share of flows entering facilities in which they have reserved capacity. In addition,

the IJ Partners are obligated to pay a pro rata share of wastewater transmission and collection operations and maintenance costs based on the portion of the System from which they benefit. Alternatively, some IJ partners can elect to pay a wholesale wastewater rate, as defined in the relevant agreements. Capital cost payments are billed according to IJ partners' share of costs for particular capital projects in the wastewater system. Wholesale water service contracts with IJ customers provide for water sales at bulk wholesale rates set by the City, pursuant to the Rate Ordinance (as defined herein). The City may adjust rates at its discretion; System-wide rate adjustments over the last decade have been applied to wholesale service rates. In Fiscal Year 2015, the Department continued its focused collection strategy with wastewater IJ Partners to resolve questions related to outstanding balances for their cost participation in selected System assets from prior periods. These efforts led to the collection of over \$40 million in past-due IJ capital contributions in Fiscal Year 2015.

Water Supply and Wastewater Treatment Disputes. Georgia law requires coordinated and comprehensive planning and service delivery by counties and municipalities and specifically the execution of local government service delivery strategy agreements ("SDS Agreements") to delineate the responsible governments and/or authorities for the provision of various governmental services within each particular county on a per county basis. One of the primary purposes of the SDS Agreements is to minimize the inefficiencies resulting from duplication of services and competition among local governments. Further, among the criteria for such SDS Agreements are that they remediate or avoid overlapping and unnecessary competition and duplication of service delivery. The City is located primarily within Fulton County and is a party to a current SDS Agreement dated October 27, 2005 ("Fulton County SDS Agreement"). The Fulton County SDS Agreement delineates the retail and wholesale service areas of the City for water treatment and distribution services and for wastewater treatment and collection services. Many issues were resolved between the parties following mediation. The SDS statutory scheme in Georgia Official Code of Georgia, § 36-70-20 through § 36-70-28) (the "SDS Act") requires an update, if necessary, upon the creation of several new municipalities within Fulton County.

Several services under the SDS Agreements have been disputed by the parties, which are currently part of on-going litigation in the matter of Fulton County Georgia v. City of Alpharetta, Civil Action File No. 2009-CV-17723. Several disputes were resolved between the parties after a lengthy mediation process. Specifically, a dispute was resolved over the definition of the drinking water service areas of the City and several municipalities located in the South Fulton Area. Service areas of the cities of Fairburn, Palmetto and Union City generally reflect the current municipal boundaries of the respective cities, as of May 25, 2012, while recognizing that existing retail customers of the respective cities remain unchanged (including the City's retail customers located within the cities as a result of annexation).

A dispute over water service issues between the City of Sandy Springs and the City was voluntarily dismissed by the City of Sandy Springs without prejudice.

The City has affirmed its commitment to deliver services within its currently designated water and wastewater service areas, and the City has no plans to accept any proposal to reduce or amend its current retail or wholesale service areas, unless ordered otherwise in the on-going litigation of the Fulton County SDS Agreement. Except for the wholesale water service to the cities of Fairburn and Union City, the City's financial plans reflect the assumption that it will

retain the water and wastewater service areas to which it currently delivers services and for which it has made and will continue to make major infrastructure investments.

Water Restrictions. In November 2016, EPD declared a Level 2 drought in 52 counties, including those served by the City. Among other restrictions mandated during a Level 2 drought limits, daily outdoor watering for purposes of planting, growing, managing, or maintaining ground cover, trees, shrubs, or other plants is restricted every other day using an odd-even system based on street address and only between the hours of 12:00 a.m. to 10:00 a.m. and 4 p.m. to 12:00 pm designated days. Odd-numbered addresses can water on Tuesdays, Thursdays and Sundays. Even numbered and unnumbered addresses are allowed to water on Mondays, Wednesdays and Saturdays. Other outdoor water use restrictions include a ban on most exterior building and sidewalk washing, prohibition of hand washing personal vehicles, and discontinuation of ornamental water features such as fountains and reflecting pools by customers that receives their water supply from a public water system permitted by the Georgia EPD. There are exceptions to the restrictions, such as for commercial uses, water reuse applications and use of water for private gardens and from private wells.

On June 2, 2010, the Georgia Water Stewardship Act went into effect statewide. The Georgia Water Stewardship Act is complemented by regulations promulgated by EPD which allow the EPD to require graduated increases in restrictions based upon the level of severity of a drought. In 2014, the EPD Watershed Protection Branch held a stakeholder meeting to inform and solicit input from the public and impacted organizations and received comments from stakeholders regarding the possible development of water use efficiency rules. On August 4, 2015, EPD adopted Drought Management Rules that replaced former rule provisions relating to outdoor water use as well as the 2003 Drought Management Plan. The Drought Management Rules, Chapter 391-3-30, require specific drought response strategies during specified levels of drought, as declared by the EPD, that may limit or restrict some of the outdoor water uses.

Water System Regulatory Matters

General Water, Water Treatment, and Water Distribution Regulatory Framework. Operation of the water treatment and distribution system is subject to several federal and State environmental laws and regulations. Some of the key areas covered by these regulations include: the quality and safety of drinking water; standards and limitations on water and air pollutants to the environment; availability of water as a resource; handling and disposal of solid waste; and health and safety standards for personnel. Compliance with these laws and regulations in the ordinary course of operations requires significant operating and capital expenditures. Failure to comply with these regulations also could have material adverse effects, including, among others, the imposition of civil liability or fines by regulatory agencies or liability to private parties.

The City entered into the Consent Orders related to the water treatment and distribution system in 1997 and 2003. Most of the work required to achieve compliance with the Consent Orders is complete. The City has five projects remaining to be completed to fulfill the requirements of the Consent Orders including: construction of the Fairburn Road Transmission Main, construction of the Koweta Road Pump Station & Water Main, construction of the Hemphill Reservoir #1 Embankment Repair, construction of River Intake Erosion Control

Improvements, and construction of the Northside Pump Station to Sandy Springs Pressure Zone Interconnection. All of these projects are either already underway, or are included in the Capital Improvement Program.

In general, the Consent Orders for the water system define performance requirements rather than specific projects that must be completed by a defined date. The transmission main projects are being re-evaluated due to slower than expected demand increases and to assure that the design intent not only meets the requirements of the Consent Orders, but also meets revised future distribution system requirements. Nonetheless, the City continues to monitor completion of these projects to ensure compliance with the Consent Orders.

Water Supply Litigation. The Chattahoochee River, the source of supply of raw water for the City, is regulated by several federal dam projects. The most important of these projects for the City is Buford Dam, which impounds the river to create Lake Lanier and is operated by the Corps. The City's raw water intakes sit downstream of this project in the Chattahoochee River. As such, the City depends upon the Corps to operate Buford Dam and control the flow of the river to ensure a sufficient water supply is available.

The Corps' authority to operate Buford Dam and Lake Lanier for water supply was once disputed. However, the United States Court of Appeals for the Eleventh Circuit issued a final decision in 2011 holding that water supply is a fully authorized purpose of the project, and giving the Corps one year to reevaluate a request submitted by the State in 2000, which seeks the reallocation of enough storage in Lake Lanier to meet the long-term water supply needs of the City and the surrounding metropolitan Atlanta region. *See In re MDL-1824 Tri-State Water Rights Litig.*, 644 F.3d 1160 (11th Cir. 2011), *cert. denied* 133 S. Ct. 25 (2012). In June 2012, the Corps issued a legal memorandum concluding that it is legally authorized to grant 100 percent of the State's water supply request. The Corps is now in the process of conducting environmental studies to determine whether to grant the entire request. A final decision is expected in 2017.

Separately, on November 3, 2014, the United States Supreme Court granted a motion by the State of Florida for leave to file an original "equitable apportionment" action against the State relating to the waters of the Apalachicola-Chattahoochee-Flint River Basin (ACF Basin). *See State of Florida v. State of Georgia*, No. 22o142 ORG, --- S. Ct. ---- (2013). Florida's complaint against Georgia requests that the Court enter an order equitably apportioning the waters of the ACF Basin and capping Georgia's overall depletive water uses at the level then existing on January 3, 1992. Note that this original action by Florida is not directly related to the 2011 decision of the Eleventh Circuit relating to the Corps' authority to operate Lake Lanier for water supply.

It is too early to predict how Florida's original action against Georgia will proceed, whether the Court will ultimately issue a decree apportioning the waters of the ACF Basin, or whether any such decree will have a material impact on the City's water supply. The City will actively assist the State to mount a vigorous defense.

In addition, it may be noted that the City has several additional options for meeting water demand and public health and safety needs. For example, the City owns the Bellwood Quarry

property, the development of which as a 2.4 billion gallon drinking water reservoir would extend its drinking water supply. Furthermore, the City has a long-standing commitment to effective and efficient water resource management and careful use of inherently limited water supplies. The City is practiced in management of its water and wastewater systems under uncertainty (e.g., drought, national credit crisis), and is actively engaged in examining options for water supply augmenting improvements.

The City currently withdraws water from the Chattahoochee River under a surface water withdrawal permit issued by the EPD and with a term that runs to November 1, 2021. Future withdrawal permits will be required to be consistent with future regional and State water plans. The City does not withdraw water from the Alabama, Coosa or Tallapoosa River basins. The Capital Improvement Program revisions discussed herein under the caption "CAPITAL IMPROVEMENT PROGRAM" reflect the Department's proposed project re-scheduling given revisions to revenue forecasts, reprioritization of capital project spending and conservative projections of operation and maintenance expense requirements. These revisions anticipate a transition to an on-going asset management approach in order to prioritize capital projects required to ensure operational integrity of its water resource system and to complete wastewater projects related to the Consent Decrees as planned under the recently approved schedule extension. In the event that water supply challenges presented by the Tri-State Water Rights litigation suggest revisions to the Capital Improvement Program, such revisions will be effected under a protocol that largely preserves the annual project encumbrances delineated in the Department's financial plan for which financial feasibility is demonstrated. This "zero-sum" protocol requires that, in the event that selected project milestones are accelerated, other projected deferrals will be instituted to ensure that net capital financing requirements will be constrained within the Department's finances.

For more information on regulatory matters impacting the System, see "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Wastewater System and - Water System" attached hereto.

Wastewater System

The City's Wastewater System encompasses more than 2,150 miles of sanitary and combined sewers, two permitted combined sewer overflow (CSO) Water Quality Control Facilities (WQCF), four permitted Combined Sewer Overflow Control Facilities, three permitted water reclamation centers (WRCs) and 16 pump stations. Each WRC receives wastewater from one or more pump stations and multiple trunk sewers. The R.M. Clayton WRC is one of the largest wastewater treatment plants in the southeast region of the United States and provides wastewater treatment for a service area that encompasses the City (primarily north of Interstate 20), a portion of Sandy Springs and most of northern DeKalb County. The Utoy Creek WRC provides wastewater treatment for the wastewater service area that encompasses portions of southwest Atlanta, northwest Atlanta, East Point and Fulton County. The South River WRC provides wastewater treatment for the South River wastewater service area that encompasses Hapeville and portions of Atlanta, East Point, College Park, DeKalb County and Clayton County. The South River WRC also treats partially treated effluent from the Intrenchment Creek WRC that serves portions of Atlanta and a small portion of DeKalb County. All three of the permitted WRCs discharge treated effluent to the Chattahoochee River. The Intrenchment Creek

WRC sends partially treated effluent to the South River WRC where it receives further treatment. Since all effluent from the Intranchment Creek WRC is discharged via the National Pollutant Discharge Elimination System (NPDES) permitted outfall for the South River WRC, the Intranchment Creek WRC does not have a NPDES permit. See "THE SYSTEM - Service Area" for a description of the service area of the Wastewater System.

Wastewater from a small portion of northeast Atlanta is treated at the R.L. Sutton Wastewater Treatment Plant, which is owned by Cobb County. Wastewater from a small portion of southwest Atlanta is treated at the Camp Creek WRC, which is owned by Fulton County.

For Fiscal Year 2016, the Wastewater System served more than 89,000 active retail wastewater accounts in the City (and also billed wastewater service provided by Fulton County for accounts that receive water service from the City). In addition, the Wastewater System treats flows from wholesale customers including DeKalb and Fulton counties, and the cities of College Park, East Point and Hapeville.

Maximum Monthly Flow. The following table shows the maximum monthly flow treated at each of the WRCs (the Intranchment Creek WRC's flow being included within the flow of South River WRC) for the last five fiscal years.

	Maximum Monthly Flow (mgd)				
	Fiscal Year				
	2012	2013	2014	2015	2016
R.M. Clayton	72	83	92	85	97
Utoy Creek	24	28	25	19	28
South River	27	30	29	30	33
Total	123	141	146	134	158

Source: City of Atlanta, Department of Watershed Management.

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Wastewater Connections and Demand. The following tables summarize certain information concerning wastewater connections, percentage wastewater demand for the last five Fiscal Years and percentage wastewater revenues by customer class for the last five Fiscal Years:

Wastewater Connections, Demand and Revenues by Customer Class

Wastewater Connections by Customer Class

Fiscal Year	Residential⁽¹⁾	Commercial	Industrial	Total⁽²⁾
2012	82,003	6,528	119	88,650
2013	82,301	6,558	116	88,975
2014	82,380	6,502	116	88,998
2015	81,925	6,466	115	88,506
2016	82,412	6,389	111	88,912

Percentage Wastewater Demand by Customer Class

Fiscal Year	Residential⁽¹⁾	Commercial	Industrial	Government
2012	59	34	2	5
2013	55	38	3	4
2014	55	39	2	4
2015	58	36	2	4
2016	57	37	2	4

Percentage Wastewater Revenues by Customer Class

Fiscal Year	Residential⁽¹⁾	Commercial	Industrial	Government
2012	54	38	2	6
2013	53	39	2	6
2014	58	36	2	4
2015 ⁽³⁾	55	41	2	2
2016	54	42	2	2

⁽¹⁾ Includes apartment complexes, which are served by single connection.

⁽²⁾ Does not include governments or wholesale customers. In Fiscal Year 2016, there were 484 customers in these two categories.

⁽³⁾ Prior period adjustment for residential and commercial.

Source: City of Atlanta, Department of Watershed Management.

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Customers. In Fiscal Year 2016, the City's five largest wastewater customers in the aggregate accounted for approximately 1.33% wastewater billings. For Fiscal Year 2016, there were over 88,000 active wastewater accounts serving residential, industrial, commercial and general customers. The following table shows the five largest retail wastewater customer billings for Fiscal Year 2016. No independent investigation has been made of, and consequently no representation can be made as to, the stability or financial condition of any of the customers listed below or that such customers will continue to maintain their status as major customers of the System.

**Five Largest Wastewater Users
(dollars in thousands)**

Customers	Billings⁽¹⁾	% of Total Billings⁽²⁾
Fulton DeKalb Hospital Authority	\$2,272	0.89%
Federal Penitentiary	1,804	0.70
Fulton County Jail	1,545	0.60
PPF RTL Atlantic Tower Center, LLC	1,270	0.50
Coca-Cola Company USA	1,265	0.49

⁽¹⁾ Billings for the period beginning July 1, 2016 and ending June 30, 2016

⁽²⁾ Based on total billings of \$256,053,723 for the period beginning July 1, 2016 and ending June 30, 2016.

Source: City of Atlanta, Department of Watershed Management.

Service Agreement. A small portion of the Wastewater System is located outside the topographic area served by the Utoy Creek WRC. Wastewater from this area is taken to Fulton County's Camp Creek Treatment Plant. The City pays a share of the operating costs of such plant based on use by City residents and capital improvements based on reserve capacity. In addition, costs at the Long Island Pumping Station owned and operated by Fulton County are similarly shared. That facility pumps wastewater from the area of the City north of the Nancy Creek Basin for treatment by Cobb County. Currently, the City pays Cobb County \$4.22 per thousand gallons for wastewater services.

Collection System. The City's collection and transmission system is comprised of approximately 2,150 miles of combined and separate sewer pipe. The system consists of lateral, collection and trunk sewers that convey wastewater from homes, businesses and institutional and industrial facilities to a treatment facility. This includes an estimated 62 miles of combined sewers, 1,659 miles of separate sanitary sewers (exclusive of sewer lines serving the Hartsfield-Jackson Airport), and 430 miles of lines of service laterals in public rights-of-way. The collection system also includes the wastewater pumping stations, force mains and tunnels which convey flow to pump stations, the WRCs and CSO facilities. Effluent transmission mains include force mains, tunnels and gravity flow pipelines that are used to convey treated wastewater from a WRC to a receiving stream or river. The City's collection system includes 16 remote pump stations that are used throughout the system to pump wastewater to high points, after which the wastewater flows by gravity to the next pump station or a WRC.

The City's wastewater collection and transmission system, with a few exceptions, is geographically located within the City's corporate limits. This system collects wastewater from the City and is also used to convey wastewater from portions of Clayton County, College Park, DeKalb County, East Point, Fulton County and Hapeville to the City's WRCs for treatment.

CSO Facilities. The combined sewer system is located in a 15-square-mile area of the City, which is centered in downtown Atlanta. Under dry weather conditions, flows from the combined areas are transported to a WRC for treatment. During most storm events, the flows from the combined sewer areas continue to be transported to the WRCs for treatment. However, if the flow volumes increase to a level that exceeds the WRC treatment capacity, a portion of the flow is diverted to a WQCF for treatment prior to being discharged into the receiving stream. Combined sewer flows are typically treated in this manner until such time as their respective collection tunnels are reaching storage capacity. When the heaviest rain events occur, flow volumes can exceed the combined treatment capacities of the WRCs and the WQCFs and tunnel storage. In these instances, the four individual CSO Control Facilities are brought online as needed to provide additional treatment capacity prior to discharge to their respective receiving streams.

The City owns and operates eight combined sewage facilities, two WQCFs and four CSO Control Facilities which operate under two separate NPDES permits; one for the East Area Facilities which discharge into the South River basin; and a separate permit for the West Area Facilities which discharge into the Chattahoochee River basin. The East Area Facilities include the Boulevard Regulator, the Custer Avenue CSO Control Facility, and the Intrinishment Creek CSO Water Quality Control Facility (WQCF). When activated, these facilities discharge to receiving streams located in the South River Basin, which generally flows to the east and are tributaries to the Ocmulgee River. As the City completed its CSO improvement plan under the requirements of the CSO Consent Decree, two East Area CSO Control Facilities (McDaniel Branch and Stockade), along with the Confederate Avenue Regulator, were decommissioned following separation of the combined sewer system in these areas. The West Area Facilities include the Clear Creek, North Avenue and Tanyard CSO Control Facilities. Flows from the corresponding sub-basins are conveyed to the RM Clayton WRC via the West Area Tunnel. During some wet weather events, flows from the West Area Tunnel are diverted to the West Area WQCF to provide additional treatment capacity. Both the RM Clayton WRC and the West Area WQCF discharge to receiving streams located in the Chattahoochee River Basin, which generally flows to the south and the west.

Wastewater System Regulatory Matters

General Wastewater System Regulatory Framework. Operation of the wastewater system is subject to several federal and State environmental laws and regulations. Some of the key areas covered by these regulations include: the quality and safety of drinking water; standards and limitations on water and air pollutants to the environment; availability of water as a resource; handling and disposal of solid waste; and health and safety standards for personnel. Compliance with these laws and regulations in the ordinary course of operations requires significant operating and capital expenditures. Failure to comply with these regulations also could have material adverse effects, including, among others, the imposition of civil liability or fines by regulatory agencies or liability to private parties.

The WRCs and CSO facilities are authorized to discharge treated effluent into the Chattahoochee River and South River pursuant to NPDES permits issued by the EPD. Each WRC is also subject to the conditions of the federal Clean Water Act and the Georgia Water Quality Control Act. The NPDES permit program, authorized by the federal Clean Water Act

and delegated to the State, regulates point sources that discharge pollutants into waters of the United States. The EPD administers the NPDES program in the State.

The Wastewater System is also operating pursuant to the requirements of judicial orders and the Consent Decrees. In 1998, the City entered into a Federal Consent Decree (the "CSO Consent Decree") which required the City to achieve full compliance with environmental permits, the federal Clean Water Act and the Georgia Water Quality Control Act with regard to the CSS Control Facilities. The City completed all work under the CSO Consent Decree in October 2008. It then completed a two-year post-compliance evaluation period and successfully avoided substantial noncompliance, as defined by the CSO Consent Decree, during that timeframe. As a result, the City is currently eligible for, and is seeking termination of, the CSO Consent Decree.

In 1999, the City entered into a second Federal Consent Decree (the "First Amended Consent Decree"), which required the City to achieve, by 2014, full compliance with the City's environmental permits, the federal Clean Water Act and the Georgia Water Quality Control Act with regard to the City's WRCs, collection system and pump stations, to eliminate all unpermitted discharges, and to eliminate all sanitary sewage overflows (SSOs). Numerous improvement projects designed to achieve these objectives have been completed. These improvement projects include upgrades to treatment facilities, system-wide inspection and rehabilitation of the collections system, and additional tunnel construction. In addition, the Capital Improvement Program has been developed to meet the objectives described above as well as ensure the renewal and operational efficiency and reliability of the System. Based on the work completed, the provisions of the First Amended Consent Decree applicable to the City's WRCs were terminated in 2012 as part of a second amendment to the First Amended Consent Decree (which together with the CSO Consent Decree and the First Amended Consent Decree, are collectively referred to herein as the "Consent Decrees").

In April 2010, the City submitted a Financial Capability-Based Schedule Extension Request Report seeking an extension of the completion date required for improvements to the Wastewater System pursuant to the First Amended Consent Decree (the "Extension Request"). On September 24, 2012, an order providing for important modifications to the First Amended Consent Decree, including the extension of the final completion date from July 1, 2014 to July 1, 2027 was filed in United States District Court, Northern District of Georgia. The Capital Improvement Program reflects the schedule revisions agreed-upon pursuant to the Extension Request.

For further information on regulatory matters impacting the System, see "MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Wastewater System and - Water System" attached hereto as Appendix B.

Compliance with Existing Phosphorus Requirements at R.M. Clayton, Utoy Creek and South River WRCs. Among the stringent effluent limitations with which the City must comply is one set by a Georgia statute establishing limitations on the amount of phosphorus that the City may discharge into the Chattahoochee River. While the City has paid fines and penalties, in the past, to the EPD to settle enforcement actions regarding incidences of exceeding the phosphorus limit, the phosphorus issue has been addressed through implementation of specific plant

upgrades and phosphorus removal technologies. More recently, the City completed a \$630 million Phosphorus Reduction Program (frequently identified as the Senate Bill 500 Improvements) whereby the City's WRCs were upgraded to comply with new limits on the amount of phosphorus the City may discharge to the Chattahoochee River. These improvements included upgrades to many processes as well as the addition of new processes such as disinfection using ultraviolet light and odor control. Based on the upgrades to the WRCs and modified operating procedures, the City expects that it will be able to reliably achieve compliance with the current phosphorous limitation in the future.

Flow Limitations on the R.M. Clayton, Utoy Creek and South River WRCs' Discharges. Draft permits issued in 2005 for each of the City's WRCs included more restrictive limits on pollutants such as phosphorus, ammonia, biological oxygen demand, total suspended solids and dissolved oxygen. Between 2005 and 2010, the Department worked with the EPD regarding consideration of mass loadings to be applied collectively to all of the WRCs rather than applying specific effluent concentration limits to the individual plants.

New NPDES permits were issued to the City's WRCs on September 15, 2010. The final NPDES permits issued by the EPD reduced the Department's discharge limits from its hydraulic capacity of 220 mgd to the current 188 mgd limits to address the assimilative capacity of the Chattahoochee River. In addition, the new permit included revised discharge limits for several pollutants and introduced mass loading limits. The mass loading limits were established for each WRC as well as combined limits for the cumulative discharge from the three WRCs during each month. Weekly concentration and mass loading limits were also included in the new NPDES permits. The City submitted an NPDES permit renewal request for each of the three WRCs in March 2015, as required per the current NPDES Permit (No. GA 00039012). A draft permit was issued on September 15, 2015, for a 30-day public comment period by the EPD. However, the EPD is considering state-wide revisions to the General Conditions section of its NPDES permits and has not reissued a new permit. The City will continue to operate in accordance with the existing permit until the EPD issues the new NPDES permit.

The effluent discharge records for the three WRCs from 2014 through 2016 are good to excellent. The South River and Utoy Creek WRCs have excellent compliance records that demonstrate 99.12% and 99.89% compliance for their effluent parameters, respectively. The RM Clayton WRC has been challenged for the last three years with an overall compliance record of 88.72%, which has had some influence on the consolidated effluent limits (96.98% compliance). However, the primary cause of the violations is being addressed by the RMC Headworks Expansion and Restoration Project, which was undergoing design in 2014 and is due to be completed and online by the end of 2017.

For more information on regulatory matters impacting the System, see "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Wastewater System and - Water System" attached hereto.

Watershed Protection Services

The Department's Office of Watershed Protection delivers services in collaboration with the City's Department of Public Works, which services include a variety of activities required

under the Department's NPDES wastewater discharge permits and other water-quality related regulatory requirements. The two departments also continue to work collaboratively to perform a number of stormwater management and drainage functions.

The Department's restructuring and creation of the Office of Watershed Protection places heightened emphasis on these aspects of the Department's responsibilities in response to emerging regulatory trends and infrastructure development opportunities. These regulatory changes, aspects of which have been incorporated into wastewater treatment plant permit requirements, reflect a focus on water quality improvement that requires effective management of both point source and non-point discharges to receiving waters. Although stormwater management activities are a fundamental requirement of the Department's wastewater NPDES permit requirements, such activities may not be included within the definition of "System" under the Bond Ordinance for which Revenues of the System may be spent. A review of the Department's recent historic and budgeted expenditures was conducted in 2013 to assess the extent of expenditure on primarily stormwater management measures outside of the CSO area and required for the City's compliance with MS4 stormwater management regulations (often performed by General Fund departments in other jurisdictions). The results of the analysis showed that, these expenditures represented less than one percent of the Department's annual service revenues or less than 0.75 percent of overall System revenue requirements. As a consequence, stormwater management expenditures, to the extent that they may not be required for NPDES permit compliance, are not currently a material component of the Department's revenue requirements.

While revenues of the System historically deployed to ensure compliance with these aspects of the Wastewater System regulatory requirements have been relatively limited, the Department anticipates new opportunities with emerging "green infrastructure" approaches and embrace of integrated planning by the EPA. For a more complete description of the Department's watershed protection services and the regulatory requirements related thereto, see "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY" attached hereto.

Contemplated Stormwater Utility Program

As part of its efforts to develop a stormwater action plan, the Department recently commissioned an update to a Stormwater Utility Feasibility Study initiated in 2009. This study will assess the need for and implementation steps required to establish a dedicated sustainable funding source to support the City's stormwater management program. The study will address the cost of service associated with operation and maintenance (personnel costs, equipment, drainage system routine/preventive/emergency maintenance); capital improvements (infrastructure repair/replacement and green infrastructure, stream restoration and other watershed based improvements); and compliance (costs associated with our municipal separate storm sewer system program and clean water act compliance).

The Department estimates that the City receives over 1,300 customer service requests to address stormwater issues impacting most every neighborhood in the City. Although up to ten percent of the proceeds of the Sales Tax will continue to be allocated to address stormwater issues, such proceeds are not estimated to be sufficient to provide adequate funding to address the most pressing needs for stormwater services. Consequently, the Department is considering

introducing legislation which will authorize the creation of a stormwater utility and a stormwater enterprise fund. The utility would impose a stormwater utility fee on all developed properties, including single family residential property, dedicated to the provision of stormwater services, and to fix the stormwater fee based on measured square feet of impervious area. It is contemplated that the stormwater fee would be charged to all property owners within the corporate limits of the City and the proceeds thereof will be deposited in a Stormwater Enterprise Fund dedicated to the provision of stormwater services in the City.

The proposed stormwater program levels of service would be focused on the City's municipal separate storm sewer system infrastructure maintenance and repair but would also step up stormwater management activities to proactively address regulatory requirements, watershed protection, and long-term capital improvements to aging infrastructure. A credit program would also be implemented to enable customers to reduce stormwater management fees through property owner actions that either reduce the property's stormwater runoff or reduce the cost of the overall stormwater management plan. As contemplated, the program would begin no earlier than January 1, 2018 to allow time for implementation of billing systems, credit policies and other items necessary for launching the stormwater utility.

There is no assurance that the legislation, if introduced, will be passed by the City Council in substantially the form summarized above and, if passed, will survive any legal challenges thereto.

Insurance

The City self-insures the System for property damage and for bodily injury resulting from operations. Claims for property damage and bodily injury are forwarded to the City's Law Department where they are reviewed and recommendations are made for their ultimate disposition and are litigated as necessary by the City's Law Department. In addition, the City currently maintains a property insurance policy in the amount of \$300,000,000, which insures against property damage to the facilities in the System. The City has settled claims for property damage and bodily injury against the System for the calendar years and in amounts as follows:

<u>Calendar Year</u>	<u>Amount of Claims</u>
2012	\$1,988,350
2013	3,765,755
2014	1,204,710
2015	1,293,800
2016 ⁽¹⁾	1,301,372

⁽¹⁾ Reflects claims through December 30, 2016.

Source: City of Atlanta.

System Security

By direction of the EPA, a vulnerability assessment of the security of the City's drinking water supply, treatment and distribution was completed in 2004. The Department's emergency response plan was updated with provisions for mitigating physical attack and contamination.

The vulnerability assessment identified capital improvements, estimated to cost a total of \$28 million, to enhance system security. In January 2004, in conjunction with the system-wide water and wastewater service rate increases, the Mayor and City Council approved a \$0.15/ccf surcharge for a seven year term to "harden" existing facilities with new facilities to be designed with compliant security measures. As a result of the vulnerability assessment and the capital improvements funded by the surcharge the City established the Office of Safety and Security whose responsibility is to maintain compliance of the System with the mandates of the EPA, including vulnerability assessments, corrective actions and emergency response planning and implementation.

In 2012, the Department retained Atkins, NA Security Group to perform a "high level" security assessment of the System. This assessment resulted in the publication of the 2012 Security Master Plan (the "Master Security Plan"). The Master Security Plan provides an organized approach to the development and enhancement of security requirements, security system technology and implementation needs. The Master Security Plan breaks down the various System facilities into three categories which are Priority 1 - Critical; Priority 2 - Urgency; and Priority 3 - Important. In January 2015, under the direction of the newly hired and current Director of the Office of Safety, Security & Emergency Management, the Master Security Plan was established as the roadmap to enhance the level of security on System facilities. This process includes adding a surveillance system which currently employs 518 cameras throughout the System. An additional 200 cameras are currently being added to the System. All cameras are monitored in the Security Operations Center and available for viewing by the Atlanta Police Department in their Video Integration Center. In addition, access control has been enhanced through the addition of card readers and an overhaul of the badging system. Currently, all Department employees are issued a blue background badge while all contractors are issued a red background badge. All other visitors must be escorted.

September 2009 Flood Event

On September 21, 2009, the City received between 6 and 15 inches of rain, depending on location, which raised the Chattahoochee River 12 feet over its normal flood level. This flood level is the highest on record and the U.S. Geological Survey has characterized the event as a 500-year flood.

The City's Wastewater System was impacted in a number of ways, perhaps most notably flooding at the R.M. Clayton WRC, which took the facility out of service for a period of time. Upon loss of service, the Department immediately notified regulatory authorities and the media. By roughly 6:00 p.m. on Thursday, September 24, 2009, the Department had restored primary and partial tertiary treatment by scavenging spare parts from other treatment facilities. The Department subsequently completed other emergency repairs and obtained temporary equipment to allow secondary treatment to be brought back into service as of September 29, 2009. Throughout the situation, the Department has been in contact with regulatory authorities who have indicated their satisfaction with the Department's response.

Immediately after the flood, plant managers evaluated the damage and undertook emergency efforts to make the plant operational. The plant was back on line within 36 hours of the event and, with implementation of remedial measures, achieved complete permit compliance

by the month of February 2010. Over the next several months, the City conducted its own damage assessments. The City estimated approximately \$56 million of damage at R.M. Clayton WRC. It also worked with FEMA, and the Georgia Emergency Management Agency and developed a large number of project worksheets describing the damage and defining the scope of repairs eligible for reimbursement by FEMA. The City's insurance carrier provided \$10.5 million to the City for damage to R.M. Clayton WRC. Notably, the City is continuing to pursue additional recovery from both its insurance carrier and FEMA.

While major repairs to damaged equipment and structures were completed in 2011, some backup treatment capabilities, such as post-treatment chemical feed, were not replaced and some repairs, such as for aeration basin mixers, have not provided the anticipated service life extension. This has reduced the plant's treatment capability. Mixer replacement and chemical feed systems improvements are included in the projects scheduled in the Capital Improvement Program.

The City does not expect these expenditures to materially impact the Capital Improvement Program and the related financial plan presented in the Feasibility Study attached hereto as Appendix B.

SYSTEM REVENUES

Water and wastewater rates are set by the Mayor or the Commissioner of the Department, subject to adoption by the City Council and approval by the Mayor.⁽¹⁾ The City's practice is to set rates every four years at a time which does not coincide with municipal election cycles but does occur after scheduled referenda to renew the Sales Tax. The latest rate ordinance which was adopted by the City Council on July 2, 2012 and approved by the Mayor (the "Rate Ordinance") holds rates constant through June 30, 2016, provides for continued financing of the Clean Water Atlanta program and successful operations and management of the Department while providing rate stability to the City's water and sewer customers after nine consecutive years of substantial rate increases.

Rates and Charges

Pursuant to the Rate Ordinance, the City Council approved a 4-year rate plan designed to provide for continued financing of the Clean Water Atlanta program and successful operations and management of the Department. This rate plan was developed to ensure the Department meets its financial performance targets, most notably targeted debt service coverage, under assumptions of the persistence of drought conditions over the forecast period. The previous rate plan provided for increases to all water and wastewater service rates and charges of 27.5% in Fiscal Year 2009, 12.5% in Fiscal Year 2010, 12.5% in Fiscal Year 2011 and 12% in Fiscal Year 2012.

Assuming the Sales Tax is reauthorized beyond Fiscal Year 2021, no changes to the above-referenced rate plan are anticipated through Fiscal Year 2021. However, given the possibility that the Sales Tax extension could fail to gain either State legislative or local voter

⁽¹⁾ A mayoral veto may be overridden by a two-thirds majority vote of the City Council.

approval, the Department has developed an alternative financial plan for the expiration of MOST funding, which would require higher rate increases earlier in the forecast period to replace the lost revenue stream from the Sales Tax. See "SYSTEM REVENUES - Municipal Option Sales Tax Revenues" herein and "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Financial Performance - Planning Scenario for MOST Expiration" attached hereto.

The following table presents the current rates which became effective on July 2, 2012:

Water and Wastewater System Service Rates	
Water System Service Rates⁽¹⁾	
Base Charge⁽²⁾	\$6.56
Inside-City - Retail	
1 - 3 CCF Usage	\$2.58/CCF
4 - 6 CCF Usage	\$5.35/CCF
7 CCF and Above Usage	\$6.16/CCF
Outside - City Retail	
1 - 3 CCF Usage	\$3.51/CCF
4 - 6 CCF Usage	\$6.48/CCF
7 CCF and Above Usage	\$7.47/CCF
Wholesale	
All Usage	\$3.70/CCF
Wastewater System Service Rates⁽¹⁾	
Base Charge⁽²⁾	\$6.56
1 - 3 CCF Usage	\$9.74/CCF
4 - 6 CCF Usage	\$13.64/CCF
7 CCF and Above Usage	\$15.69/CCF

⁽¹⁾ Rates are for water usage metered approximately monthly.

⁽²⁾ Base charges are applicable monthly per unit.

Source: Municipal Advisor's Feasibility Study attached hereto as Appendix B.

Senior Discounts. On January 5, 2004, the City adopted an ordinance which provides for a waiver of 30% of the water and wastewater rates charged to domestic customers, age 65 years and older, with a maximum household income of \$25,000. Eligible ratepayers are required to apply for the waiver with the Department's Office of Business and Customer Service. Approximately, 6,225 customers are currently receiving the senior citizen discount.

Other Service Revenues

Other service revenues of the Department include operating plant charges and other operating revenues of the System.

Operating Plant Charges. Operating plant charges are revenues recovered through the Department's inter-jurisdictional service agreements and recover operations and maintenance

costs incurred to provide wastewater treatment and conveyance services to the City's wholesale wastewater customers.

Other Operating Revenues. Other service revenues of the Department include operating plant charges, grease permits, land and building rentals, and other miscellaneous revenues. Operating plant charges are revenues recovered through the Department's inter-jurisdictional service agreements and recover operations and maintenance costs incurred to provide wastewater treatment and conveyance services to the City's wholesale wastewater customers. During the last three fiscal years, operating plant charges have averaged \$20.3 million per annum. The Department conservatively expects revenues from this source to be \$16.0 million in Fiscal Year 2017 and increase to \$16.2 million by Fiscal Year 2022. In aggregate, including minor fees and charges, other service revenues are expected to increase 1.2 percent, from \$16.9 million in Fiscal Year 2017 to \$17.1 million in Fiscal Year 2022.

Municipal Option Sales Tax Revenues

Under the authorizing legislation, the Sales Tax (commonly referred to as the MOST) was initially placed into effect for a four-year term beginning on October 1, 2004, and may be renewed for three additional four-year terms. In March 2008, voters elected to renew the Sales Tax for an additional four-year period by a nearly 3-to-1 margin. Voters again renewed the Sales Tax in March 2012 with 85 percent of the vote. In March 2016, voters approved the extension of the Sales Tax for an additional four years until October 2020. Additional extensions of the Sales Tax beyond 2020 will require approval of legislation by the State of Georgia General Assembly as well as subsequent voter approval through a Citywide referendum. If the Sales Tax is not extended beyond Fiscal Year 2021, the City would likely elect to raise rates or build a rate stabilization fund to replace the Sales Tax revenues. See "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Financial Performance - Planning Scenario for MOST Expiration - Projected Debt Service Coverage, MOST Expiration Scenario" attached hereto for a summary of proposed rate increases under a scenario in which the Sales Tax is extended but proceeds are reduced by five percent per annum and another scenario in which the Sales Tax expires in Fiscal Year 2021 as currently scheduled under the enabling legislation.

From implementation of the Sales Tax in 2004 through Fiscal Year 2016, the Sales Tax has provided approximately \$1.4 billion to support the Department's operation and maintenance of the System and fund the costs of the compliance program associated with the Consent Decrees and Consent Orders regionally.

The Sales Tax is imposed on the retail purchase, retail sale, rental, storage, use, or consumption of tangible personal property and on services within the City, subject to numerous exemptions, including sales to certain governmental entities and to certain non-profit organizations, professional, insurance, and personal service transactions, sales of motor vehicles, sales of certain agricultural products, sales to and by certain agricultural enterprises, sales of certain types of manufacturing equipment, the sale or use of certain types of industrial materials, sales of prescription drugs, certain medical devices and equipment, and lottery tickets, and as previously described, possibly the sale of energy used in manufacturing if Georgia House Bill 386 is passed.

The Sales Tax is generally imposed on the purchaser of tangible personal property or services and is generally collected by the seller of tangible personal property or services from the purchaser at the time of sale. Sellers of tangible personal property or services are generally required to file tax returns with the Revenue Commissioner on or before the 20th day of each month, showing taxable sales during the preceding calendar month, and to remit the Sales Tax shown due on the return with the return. Sellers of tangible personal property or services are allowed the following deductions from Sales Taxes timely remitted to the Revenue Commissioner: (a) 3% of the first \$3,000 of Sales Tax reported due on each monthly return (other than Sales Tax on motor fuel), (b) 0.5% of Sales Tax in excess of \$3,000 reported due on each monthly return (other than Sales Tax on motor fuel), and (c) 3% of Sales Tax on motor fuel reported due on each monthly return. When any seller fails to make any return or to pay the full amount of the Sales Tax, there will be imposed a penalty to be added to the Sales Tax in the amount of 5% or \$5, whichever is greater, if the failure is for not more than 30 days and an additional 5% or \$5, whichever is greater, for each additional 30 days or fraction of 30 days during which the failure continues. The penalty for any single violation will not exceed 25% or \$25 in the aggregate, whichever is greater.

Georgia law provides that the Sales Tax shall be exclusively administered and collected by the Revenue Commissioner for the use and benefit of the City. The proceeds of the Sales Tax collected by the Revenue Commissioner must be disbursed to the City as soon as practicable after collection, after deducting one percent of the amount collected for the State Treasury in order to defray the costs of administration.

Georgia law provides that the proceeds received by the City from the Sales Tax shall be used by the City exclusively for the purpose or purposes specified in the resolution calling for imposition of the Sales Tax. Such proceeds are required by Georgia law to be kept in a separate account from other funds of the City and may not in any manner be commingled with other funds of the City prior to expenditure.

Pursuant to the Bond Ordinance, Pledged Revenues do not include the proceeds from the Sales Tax, but such proceeds will be taken into account for purposes of determining compliance with the City's rate covenant and additional bonds test under the Bond Ordinance. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2017A BONDS - Rate Covenant" herein.

The financial plan summarized in the Feasibility Study anticipates State legislative and local voter approval of extension of the Sales Tax beyond Fiscal Year 2021. As part of the City's strategy to reduce the Department's reliance on Sales Tax proceeds, and for purposes of this report, it is anticipated that the share of Sales Tax proceeds available to the Department will decline by five percent per year over the renewal period. The Sales Tax has consistently received strong local voter support in renewal referendums, in part, because extensive public communication has highlighted the significant water and wastewater rate adjustments that would be required in the event of immediate withdrawal of the Sales Tax funding support.

Given the possibility that the Sales Tax extension could fail to gain either State legislative or local voter approval, the Department has developed an alternative financial plan that anticipates the expiration of the Sales Tax in 2020 as stipulated under the enabling legislation.

As expected, this alternative financial plan requires higher rate increases earlier in the forecast period to replace the lost revenue stream from the Sales Tax. The revised funding plan under this scenario, including adjustments to the schedule of proposed capital encumbrances, is presented in "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Financial Performance" attached hereto.

Inter-jurisdictional Capital Contributions

Inter-jurisdictional capital contributions reflect reimbursements to the Department under its agreements for capital costs incurred by the Department to provide wastewater system capacity. Contributions are estimated by project for each IJ Partner and include payments for previously constructed, ongoing, and future capital projects. The timing of these reimbursements is based on the Department's current expectations of project completion timeframes, and allows for a 12-month collection period from IJ Partners. The Department expects to collect \$157.4 million in reimbursements from IJ Partners between Fiscal Year 2014 and Fiscal Year 2019 as part of its regional water delivery strategy. The City is in the process of completing collection efforts with respect to \$12.8 million of delinquent reimbursements from an IJ Partner, which the City expects to be resolved and paid within the next six months.

Other Revenues

Other Department revenues include loan repayment obligations from the General Fund and interest revenues from various reserve accounts and operating funds. Interest revenues are comprised primarily of interest earnings in the Renewal and Extension Fund, the 2001 Bond Fund, the 2004 Bond Fund, the 2009A Bond Fund, and various debt service reserve accounts. Interest revenues are projected at levels lower than those observed in recent years as a result of the anticipated drawdown of bond fund balances and persistence of historically low interest rates. Annual interest revenues are conservatively projected to be \$4.0 million per year throughout the forecast period.

Billing and Collection Procedures

The City has successfully converted 99% of the System's service meters to an automated meter reading technology. In addition, the City implemented an upgrade of its billing system to enQuesta 4 in Fiscal Year 2015. This upgrade will refine the Department's billing system reports and customer classification codes to increase the accuracy and quality of the reports generated for revenue forecasting purposes.

Historical and Comparative Information

A national rate survey of combined water and wastewater bills across major metropolitan areas is published bi-annually, with the most recent data available for 2014. This survey demonstrates that as of 2014, the City's water and wastewater rates were among the highest in the United States among major metropolitan communities that responded to the rate survey. The Department recognizes that these bill impacts may impose hardships, particularly for low-income ratepayers. For ratepayers that may fall behind on bill payments, the Department provides opportunities to establish payment plans. The Department's Care & Conserve program also provides assistance to low-income customers through limited payments of their water and

wastewater bills, plumbing repairs and retrofit, installation of water-saving conservation devices, and conservation counseling. The program is available to customers whose incomes fall below 150 percent of the federal poverty index. See "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Financial Performance - 2014 Water and Wastewater Bill Comparisons" attached hereto.

SYSTEM FINANCE MATTERS

General

The following table summarizes the historical operating results of the System for Fiscal Years 2012 through 2016 and the debt service requirement for the Outstanding Senior Bonds for such period.

Historical Operating Results of the System (dollars in millions)⁽¹⁾

	Fiscal Year				
	2012	2013	2014	2015	2016
Service Revenue	\$466.05	\$448.16	\$436.64	\$459.67	\$466.93
Sales tax (MOST) Revenue ⁽²⁾	115.10	118.47	124.27	131.58	132.65
Other Revenue ⁽³⁾	15.53	9.84	14.74	9.96	15.05
Total Operating Revenue	\$596.68	\$576.47	\$575.65	\$601.21	\$614.63
Total Operating Expense ⁽⁴⁾	192.18	205.52	210.26	202.63	224.95
Net Revenue Available for Debt Service	\$404.50	\$370.95	\$365.39	\$398.58	\$389.68
Total Senior Debt Service	\$226.98	\$227.19	\$210.26	\$178.09	\$211.55
Debt Service Coverage Ratio	1.78	1.63	1.74	2.24	1.84

⁽¹⁾ Numbers may not add due to rounding.

⁽²⁾ Pursuant to the Bond Ordinance, Pledged Revenues do not include the proceeds from the Sales Tax, but such proceeds are included as transfer-in.

⁽³⁾ Includes investment income.

⁽⁴⁾ Total Operating Expenses less depreciation. Franchise and pilot payments are no longer reported in operating expenses as of Fiscal Year 2013; reported in transfer-out.

Source: City of Atlanta, Department of Watershed Management.

Management's Discussion and Analysis

As depicted in the table below, total revenues for the Fiscal Year ended June 30, 2016, increased by \$12.3 million or 2.63% compared to the Fiscal Year ended June 30, 2015. Total operating revenues increased by \$7.3 million or 1.58%, which primarily consists of water and wastewater charges, licenses and permits fees, and intergovernmental revenue. The increase is due to a continued increase in consumption as a result of economic recovery. Non-operating revenues increased by \$5.1 million or 51.14%, which was due primarily to investment income gains recognized during the period.

Revenues (in thousands)	Fiscal Year 2016	Fiscal Year 2015	% Change	Fiscal Year 2014	% Change
Operating Revenues:					
Water and Wastewater Service	\$445,718	\$435,128	2.43%	\$418,534	3.96%
Sewer Service Charges from other governmental units	20,030	23,619	-15.20	17,372	35.96
Other	1,181	926	27.54	738	25.47
Total Operating Revenues	\$466,929	\$459,673	1.58	\$436,644	5.27
Non-Operating Revenues:					
Investment income	15,051	9,958	51.14	12,626	-21.13
Total Revenues	\$481,980	\$469,631	2.63	\$449,270	4.53

Source: City of Atlanta, Department of Watershed Management.

The Department's total revenues for the Fiscal Year ended June 30, 2015, increased by \$20.4 million or 4.53% compared to the Fiscal Year ended June 30, 2014. Total operating revenues, which primarily consists of water and wastewater fees, licenses and permits, and intergovernmental revenue increased by \$23.0 million or 5.27%. The increase is due to an increase in consumption as a result of economic recovery and a decrease in the allowance for non-collectable water and wastewater receivables. Non-operating revenues decreased by \$2.7 million or 21.13%, which was due to a lower gain on investments.

As depicted in the table below, total expenses for the Fiscal Year ended June 30, 2016 increased by \$7.6 million or 1.71% as compared to the Fiscal Year ended June 30, 2015. The primary reason for the increase was due to an increase in depreciation, consultant fees and indirect-cost expenses for the period.

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Total expenses decreased by \$12.3 million or -2.71% for the Fiscal Year ended June 30, 2015 compared to June 30, 2014. The primary reason for the decrease was due to a decrease in interest expense for the period.

Expenses (in thousands)	Fiscal Year 2016	Fiscal Year 2015	% Change	Fiscal Year 2014	% Change
Operating Expenses:	\$324,042	\$296,420	9.32%	\$301,957	-1.83%
Non-Operating Expenses:					
Interest	123,733	139,532	-11.32	150,592	-7.34
Loss on Derivative Instrument	-	-	-	887	-100.00
Other Expenses	3,121	7,348	-57.33	2,193	235.07
Non-Operating Expenses	<u>\$126,854</u>	<u>\$146,880</u>	-13.63	<u>\$153,672</u>	-4.42
Total Expenses	\$450,896	\$443,300	1.71	\$455,629	-2.71

Source: City of Atlanta, Department of Watershed Management.

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CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Statements of Net Position
June 30, 2016 and 2015
(Dollars in Thousands)

	2016	2015
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 18,831	\$ 18,828
Restricted cash and cash equivalents	115,589	121,773
Equity in cash management pool	747,159	710,076
Accounts receivable, net of allowance for doubtful accounts of \$92,238 in 2016 and \$87,193 in 2015	66,125	62,568
Interest receivable	426	-
Due from other governmental units, net of allowances	11,570	56,909
Due from other funds of the City of Atlanta	11,910	12,033
Advance to other funds of the City of Atlanta - current portion	10,000	10,000
Materials and supplies, net of allowance for obsolescence of \$527 in 2016 and \$557 in 2015	11,148	10,514
Total current assets	\$ 992,758	\$1,002,701
Noncurrent assets:		
Restricted cash and cash equivalents	\$ 86,059	\$ 136,161
Restricted investments	212,557	141,763
Advance to other funds of the City of Atlanta, less current portion	36,199	46,198
Investment in joint venture	77,480	79,582
Due from other parties	24,000	24,000
Capital assets:		
Land	124,045	119,116
Land improvements	12,195	12,195
Water collection and distribution system	4,276,723	4,270,169
Water and wastewater plant and treatment facilities	1,933,499	1,794,699
Other property and equipment	215,209	206,775
Construction in progress	587,322	561,771
	7,148,993	6,964,725
Less accumulated depreciation	(2,240,339)	(2,142,775)
Capital assets, net	4,908,654	4,821,950
Total noncurrent assets	5,344,949	5,249,654
Total assets	\$6,337,707	\$6,252,355
DEFERRED OUTFLOWS OF RESOURCES		
Pension related deferred outflows	\$ 17,768	\$ 15,715
Accumulated decrease in fair value of hedging derivative instruments	85,958	33,533
Accumulated losses on debt refunding	151,841	138,902
Total assets and deferred outflows of resources	\$6,593,274	\$6,440,505

(CONTINUED)

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Statements of Net Position
June 30, 2016 and 2015
(Dollars in Thousands)

	2016	2015
LIABILITIES		
Current liabilities payable from operating assets:		
Accounts payable	\$ 32,730	\$ 20,296
Accrued liabilities, vacations and compensatory pay	5,340	8,384
Claims payable	6,675	6,675
Customer deposits	7,476	6,963
Current portion of other debt	6,002	5,798
Current maturities of capital leases obligations	1,304	1,536
Accrued workers' compensation	1,087	1,706
Total current liabilities payable from operating assets	<u>\$ 60,614</u>	<u>\$ 51,358</u>
Current liabilities payable from restricted assets:		
Accounts payable restricted	\$ 24,592	\$ 28,053
Accrued interest payable	22,843	32,694
Contract retention	8,034	4,716
Current maturities of revenue bond payable	60,120	56,310
Total current liabilities payable from restricted assets	<u>\$ 115,589</u>	<u>\$ 121,773</u>
Total current liabilities	<u>\$ 176,203</u>	<u>\$ 173,131</u>
Noncurrent liabilities		
Revenue bonds payable and other debt, less current maturities	\$3,126,240	\$3,185,386
Capital lease obligations, less current maturities	-	1,188
Claims payable, less current portion	6,111	5,755
Accrued workers' compensation, less current portion	7,474	8,447
Pension liability	235,708	225,241
Other post-retirement benefits	106,924	100,909
Derivative instruments - interest rate swaps	182,976	138,425
Total noncurrent liabilities	<u>\$3,665,433</u>	<u>\$3,665,351</u>
Total liabilities	<u>\$3,841,636</u>	<u>\$3,838,482</u>
DEFERRED INFLOWS OF RESOURCES		
Deferred inflows-pension related	\$ 15,629	\$ 29,996
Total liabilities and deferred inflows of resources	<u>\$3,857,265</u>	<u>\$3,868,478</u>
NET POSITION		
Net investment in capital assets	\$2,148,323	\$1,991,656
Unrestricted	587,686	580,371
Total net position	<u>\$2,736,009</u>	<u>\$2,572,027</u>

Source: City of Atlanta, Department of Watershed Management.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Statements of Revenues, Expenses and Changes in Net Position
For the Fiscal Years Ended June 30, 2016 and 2015
(Dollars in Thousands)

	2016	2015
Operating revenues		
Water and wastewater service charges	\$ 445,718	\$ 435,128
Sewer service charges from other governmental units	20,030	23,619
Rentals, admission and concessions	66	102
Other	1,115	824
Total operating revenues	<u>\$ 466,929</u>	<u>\$ 459,673</u>
Operating expenses:		
Salaries and employee benefits	\$ 94,823	\$ 94,235
Utilities	20,571	22,213
Supplies and materials	19,231	16,564
Repairs, maintenance and other contractual services	13,444	11,880
Motor equipment services	6,302	6,891
Engineering and consultant fees	32,214	24,926
General services	38,369	25,924
Depreciation	99,088	93,787
Total operating expenses	<u>\$ 324,042</u>	<u>296,420</u>
Operating income	<u>\$ 142,887</u>	<u>\$ 163,253</u>
Non-operating revenues (expenses):		
Investment income, net of capitalized interest	\$ 15,051	\$ 9,958
Interest expense	(123,733)	(139,532)
Other revenue (expenses)	(3,121)	(7,348)
Total non-operating revenues (expenses)	<u>(\$ 111,803)</u>	<u>(\$ 136,922)</u>
Change in net position before capital contributions and transfers	31,084	26,331
Capital contribution	19,639	20,010
Transfers in	132,653	131,579
Transfers out	(19,394)	(22,440)
Change in net position	163,982	155,480
Net position, beginning of year	<u>2,572,027</u>	<u>2,416,547</u>
Net position, end of year	<u><u>\$2,736,009</u></u>	<u><u>\$2,572,027</u></u>

Source: City of Atlanta, Department of Watershed Management.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Statements of Cash Flow
For the Fiscal Years Ended June 30, 2016 and 2015
(Dollars in Thousands)

	2016	2015
Cash flows from operating activities		
Cash received from customers	\$496,769	\$434,898
Cash received from interfund services provided	12,455	12,043
Cash paid to employees for services	(97,805)	(89,654)
Cash paid to suppliers for goods and services	(84,823)	(86,866)
Cash paid for interfund services received	(18,766)	(13,206)
Net cash provided by operating activities	<u>\$307,830</u>	<u>\$257,215</u>
Cash flows from investing activities		
Purchase of investment	(\$ 70,489)	(\$ 74,201)
Proceeds from sale of investments	-	72,452
Investment income	6,597	10,202
Change in pooled investments	(37,083)	(77,210)
Net cash used in investing activities	<u>(\$100,975)</u>	<u>(\$ 68,757)</u>
Cash flows from capital and related financing activities		
Capital contributions	\$ 19,639	\$ 20,010
Capital contributions paid to joint venture		
Principal repayment of debt and capital lease obligations	(63,943)	(1,378,630)
Acquisition, construction and improvement of capital assets	(189,689)	(129,376)
Proceeds from issuance of debt	5,592	1,238,423
Premium from issuance of debt	14,361	190,931
Interest paid	(159,236)	(261,583)
Net cash used in capital and related financing activities	<u>(\$373,276)</u>	<u>(\$320,225)</u>
Cash flows from noncapital financing activities		
Transfers from other funds	\$132,736	\$131,579
Transfers to other funds	(19,477)	(22,440)
Other revenues (expenses)/noncapital contributions (distributions)	(3,121)	(7,348)
Net cash provided by noncapital financing activities	<u>\$110,138</u>	<u>\$101,791</u>
Decrease in cash and cash equivalents	<u>(56,283)</u>	<u>(29,976)</u>
Cash and cash equivalents:		
Beginning of year	276,762	306,738
End of year	<u>\$220,479</u>	<u>\$276,762</u>

(CONTINUED)

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Statements of Cash Flow
For the Fiscal Years Ended June 30, 2016 and 2015
(Dollars in Thousands)

	2016	2015
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$142,887	\$163,253
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	99,088	93,787
Changes in assets and liabilities		
Accounts receivables - net of allowance	(3,557)	(3,476)
Due from other funds of the City of Atlanta	10,122	9,261
Due from other governmental units - net of allowances	45,339	(9,868)
Materials and supplies - net of allowance	(634)	650
Investment in joint venture	2,102	610
Accounts payable and accrued expenses	11,614	1,866
Claims payable	356	520
Customer deposits	513	612
Net cash provided by operating activities	<u>\$307,830</u>	<u>\$257,215</u>
Schedule of noncash capital and related financing activity:		
Acquisition of capital assets in accounts payable	\$ 24,592	\$ 28,053
Amortization of bond discount and premium, net	\$ 12,562	\$ 20,829

Source: City of Atlanta, Department of Watershed Management.

Projected Revenues, Expenses and Coverage

The following table presents the forecasted performance of the Department relative to its targeted debt service coverage metric, including forecasted net operating revenues, expenses, debt service, and debt service coverage if the Sales Tax is not re-authorized beyond Fiscal Year 2021. Without the Sales Tax proceeds to offset operating expense, and despite higher rate increases, net revenues available for debt service decreases \$52.8 million over the forecast period. The decrease in net revenues is especially evident in Fiscal Year 2021 and Fiscal Year 2022, after the Sales Tax expires. In Fiscal Year 2022, net revenues for debt service drops to \$277.3 million compared with \$324.5 million under the Department's base case planning scenario. The resulting change in annual net operating revenues is -14.7 percent. Forecasted senior lien debt service coverage, evaluated in terms of the System as a whole (combined water and wastewater), is estimated to range from 1.24x in Fiscal Year 2022 to 1.62x in Fiscal Year 2017. Projected senior lien coverage is above the minimum parity coverage requirement (1.10x) as well as the Department's targeted coverage level (1.2x). As indicated in the Feasibility Study attached hereto as Appendix B, revenues were forecasted on a conservative basis and expenses were estimated based on historical spending patterns, adjusted for anticipated inflation.

**Projected Senior Debt Service Coverage, Sales Tax Expiration Planning Scenario
For the Fiscal Years Ended June 30, 2017 through 2022⁽¹⁾
(dollars in millions)**

Item	Fiscal Year					
	2017	2018	2019	2020	2021	2022
Water & Wastewater Service Revenue	\$433.9	\$433.1	\$445.8	\$458.7	\$488.2	\$519.5
Other Service Revenue	16.9	16.9	16.9	17.0	17.0	17.1
MOST Revenue	125.0	125.0	125.0	125.0	31.3	-
Other Revenue	4.0	4.0	4.0	4.0	4.0	4.0
Non-Service Revenue	10.5	21.2	31.7	26.1	10.3	3.5
- IJ Capital Contributions ⁽²⁾	-	(10.8)	(21.4)	(15.9)	(4.1)	(3.5)
- Repayment from General Fund ⁽²⁾	(10.5)	(10.4)	(10.3)	(10.2)	(6.3)	-
Total Operating Revenue	\$579.8	\$579.0	\$591.7	\$604.7	\$540.5	\$540.6
Operating Expenses	216.4	214.9	209.7	212.1	213.8	217.9
+ Direct and Indirect Charges	39.1	38.5	39.6	40.8	42.0	43.3
+ OPEB	19.1	19.7	20.3	20.9	21.5	22.2
- Capitalized Expense	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.2)
Total Operating Expense	\$254.6	\$253.1	\$249.6	\$253.8	\$257.3	\$263.3
Net Revenue Available for Debt Service	\$325.1	\$325.9	\$342.1	\$350.9	\$283.1	\$277.3
Existing Senior Debt Service ⁽³⁾	200.0	202.7	202.8	202.7	202.4	202.2
Series 2018 Debt Service ⁽⁴⁾	-	-	20.9	20.9	20.9	20.9
Total Senior Debt Service	\$200.0	\$202.7	\$223.7	\$223.6	\$223.3	\$223.2
Projected Senior Lien Coverage Ratio	1.62	1.60	1.52	1.56	1.26	1.24

⁽¹⁾ Slight calculation discrepancies may exist due to rounding.

⁽²⁾ Non-Service Revenue includes loan repayments from the General Fund related to the MOU and IJ capital contributions which are adjusted out of Operating Revenues in order to establish the projected debt service coverage ratio.

⁽³⁾ Reflects the anticipated impact of the refunding of the Refunded Bonds with the proceeds of the Series 2017A Bonds.

⁽⁴⁾ Anticipated debt service associated with the Department's repayment of the Series 2015 Commercial Paper Notes.

⁽⁵⁾ Debt service coverage metrics rounded to the second significant digit.

Source: Municipal Advisor's Feasibility Study attached hereto as Appendix B.

See "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Financial Performance - Planning Scenario for MOST Expiration - Projected Debt Service Coverage, MOST Expiration Scenario" attached hereto for a summary of proposed rate increases under a scenario in which the Sales Tax is extended but proceeds are reduced by five percent per annum and another scenario in which the Sales Tax expires in Fiscal Year 2021 as currently scheduled under the enabling legislation.

CAPITAL IMPROVEMENT PROGRAM

In order to effectively prioritize the Department's capital project investments in light of prevailing financial constraints and in support of the implementation of the Clean Water Atlanta Program and the Water Supply Program, the City has developed a revised capital improvement program to define the capital needs of the System from Fiscal Year 2017 through Fiscal Year 2022 providing for total project encumbrances of approximately \$882.9 million (the "Capital Improvement Program") which reflect (a) the prioritization of investment in water infrastructure

improvements to coincide with the City's investment in infrastructure improvements under the Renew Atlanta Bond Program, (b) the reduction in the percentage of non-revenue water, (c) the broader investment in green infrastructure projects facilitated by the adoption by the City Council of an ordinance permitting the dedication of up to the percent of Sales Tax proceeds for stormwater management projects, (d) the prioritization of energy management and resource recovery investments to yield both operating efficiencies and advance sustainability objectives. In connection with the issuance of the Series 2017A Bonds, the City has commissioned that certain Municipal Advisor's Feasibility Study dated April, 2017, prepared by the Feasibility Consultant and attached hereto as Appendix B (the "Feasibility Study") to, among other things, (a) report on the financial feasibility of the Series 2017A Bonds, (b) to update the City's strategic financial plan for the City's prospective capital improvement program financing and (c) reports on revised revenue forecasts, operations and maintenance expense projections and the Capital Improvement Program and (d) summarizes a comprehensive analysis of the financial projections for the System.

As revised, the Capital Improvement Program contemplates encumbrance requirements of approximately \$290.3 million for water related projects, \$399.6 million wastewater related projects, \$119.4 million for general projects, \$64.1 million for stormwater related projects, and \$9.5 million for projects related to the CSO facilities. Projected capital expenditures will be funded through four sources: the Series 2015 Commercial Paper Notes (\$120.9 million), re-programmed Capital Improvement Program encumbrances (\$83.7 million), GEFA loan proceeds (\$245.0 million), and operating revenues and other operating reserves of the Department (\$433.3 million).

Unspent proceeds from various Outstanding Senior Bonds in the amount of \$83.7 million will be re-programmed to fund higher-priority projects identified through recent integrated planning efforts. It is anticipated that loans from GEFA, totaling \$245.2 million, will be available to fund a portion of the Capital Improvement Program over the forecast period. The Department typically initially funds costs for eligible projects through the Renewal and Extension Fund and once contractor invoices have been paid, the Department submits reimbursement requests to GEFA and deposits proceeds from the GEFA loans back into the Renewal and Extension Fund. Currently, the Department is working on GEFA eligible projects totaling \$51.4 million. As of March 2017, the Department received loan proceeds of \$17.2 million based upon GEFA approved invoices and expects to receive the remainder of the loan proceeds in Fiscal Year 2017 and Fiscal Year 2018. The financial plan assumes that the Department will continue to take advantage of this low-interest funding from GEFA, with anticipated annual loan approvals of \$50.0 million throughout the forecast period.

In addition, the Department expects to rely on transfers from the Renewal and Extension Fund and other operating revenues to contribute \$565.8 million for cash financing of the Capital Improvement Program. The Department expects reimbursements from IJ Partners to contribute \$55.7 million towards the Capital Improvement Program as part of its regional water delivery strategy. Under these inter-jurisdictional agreements, the Department manages the construction of inter-jurisdictional projects and pays contractor invoices. The IJ Partners are then invoiced based on their pro-rata share of each project. The timing of these reimbursements is based on the Department's current expectations of project completion timeframes, and allows for a 12-month collection period from IJ Partners. In addition to capital contributions from IJ Partners,

\$24.2 million of the operating revenues total is attributed to tap fees that are established to recover capacity-increasing costs necessary to provide service to new development. Approximately \$47.5 million over the forecast period will be received from the City's General Fund as repayment for an existing inter-fund loan which is the subject of the MOU. The remaining \$438.4 million will largely be available as a consequence of previously adopted rate increases, operating reserves available at the beginning of Fiscal Year 2017, and the Department's efforts to implement operational efficiencies. As programmed, transfers from operating revenues will result in a balance of more than \$130 million in capital reserves at the end of Fiscal Year 2022, which funds will enable the Department to maintain annual Capital Improvement Program encumbrances of approximately \$94 million per year (in current dollars) beyond the reporting period, even as the Sales Tax proceeds continue to decline.

The Capital Improvement Program is subject to frequent review and modification based on evolving priorities of the System. To the extent that actual encumbrances are less than projected encumbrances in a given forecast year, the Department will reduce cash financing amounts of the Capital Improvement Program and/or reschedule and re-program previously deferred capital project spending.

For a more detailed discussion of the revised Capital Improvement Program, the funding requirement forecasts and the revised capital funding plan, see "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Capital Improvement Program and - Financial Performance" attached hereto.

MUNICIPAL ADVISOR'S FEASIBILITY STUDY

In connection with the proposed issuance of the Series 2017A Bonds, the City has retained Galardi Rothstein Group (the "Feasibility Consultant"), along with a team of municipal consultants to develop the Feasibility Study. The Feasibility Study provides, among other things, an analysis of the System, the Capital Improvement Program and certain financial matters, including forecasted financial results for the System through Fiscal Year 2022, particularly, the forecast sufficiency of Revenues of the System to pay debt service on the Series 2017A Bonds. The Feasibility Study is included herein as Appendix B in reliance upon the knowledge and experience of the Feasibility Consultant as experts in utility systems, feasibility analyses, revenue forecasting, and related financial matters.

The Feasibility Consultant has assembled financial forecasts of Revenues of the System available for debt service through Fiscal Year 2022 based upon assumptions and estimates concerning future events and circumstances which the City and the Department believe to be reasonable. Sources of Revenues of the System and forecast debt service coverage ratios are contained in the Feasibility Study.

The Feasibility Study should be read in its entirety for a discussion of historical and forecast financial results of the System, and an understanding of all of the assumptions and rationale underlying the forecasts and the conclusions contained therein. See "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Key Assumptions" attached hereto. No assurances can be given that the assumptions on which the forecasts in the

Feasibility Study are based will materialize. Inevitably, some assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances will occur. Therefore, actual results achieved during the forecast period will vary from those set forth in Feasibility Study and the variations may be material. Further, the forecast period covered by the Feasibility Study does not cover the entire period through maturity of the Series 2017A Bonds. See "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY" attached hereto.

Notably, the Feasibility Report incorporates certain key assumptions including: (a) the extension of the Sales Tax beyond its scheduled expiration in October 2020, (b) the implementation of modest service rate adjustments in the final two years of the forecast period, coincident with the planned renewal of the Sales Tax and subsequent annual reductions in proceeds dedicated to the Department's operation and maintenance cost requirements, (c) the issuance of approximately \$250 million of revenue bonds in Fiscal Year 2018 to repay the outstanding amounts due under the Series 2015 Commercial Paper Notes and (d) revisions to the Capital Improvement Program based on changes to select project cost estimates, the Department's assessment of prospective regulatory requirements and the ordinance enabling application of up to ten percent of the Sales Tax proceeds to address stormwater infrastructure needs. See "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY - Financial Performance" attached hereto.

LITIGATION

The City, like other similar bodies, is subject to a variety of suits and proceedings arising in the ordinary conduct of its affairs. The City, after reviewing the current status of all pending and threatened litigation with the City's Department of Law, believes that, while the outcome of litigation cannot be predicted, the final settlement of all lawsuits which have been filed and of any actions or claims pending or, to the knowledge of the City, threatened against the City or its officials in such capacity are adequately covered by insurance or sovereign immunity or will not have a material adverse effect upon the financial position or results of operations of the System, except as noted under the captions "THE SYSTEM - Water System - *Water Supply*," "*Water Supply and Wastewater Treatment Disputes*," "THE SYSTEM - Water System Regulatory Matters" and "THE SYSTEM - Wastewater System Regulatory Matters - *General Wastewater System Regulatory Framework*" herein which provide a discussion of the Tri-State Water Rights litigation and a discussion of the relevant Consent Decrees and Consent Orders.

There is no litigation now pending or, to the knowledge of the City, threatened against the City which restrains or enjoins the issuance or delivery of the Series 2017A Bonds or the use of the proceeds of the Series 2017A Bonds or which questions or contests the validity of the Series 2017A Bonds or the proceedings and authority under which they are to be issued, executed and delivered. Neither the creation, organization nor existence of the City, nor the title of the present members or other officials of the City to their respective offices, is being currently contested or questioned to the knowledge of the City.

VALIDATION

The City received an order and final judgment by the Superior Court of Fulton County, Georgia on April 5, 2017 confirming and validating the Series 2017A Bonds and the security therefor. Under State law, the judgment of validation is final and conclusive with respect to the validity of the Series 2017A Bonds and the security therefor, and is not subject to collateral attack from other parties.

TAX MATTERS

Legal Opinion

Bond Counsel's opinion represents its legal judgment based in part upon the representations and covenants referenced therein and its review of current law, but is not a guarantee of result or binding on the Internal Revenue Service ("IRS") or the courts. Bond Counsel assumes no duty to update or supplement its opinion to reflect any facts or circumstances that may thereafter come to Bond Counsel's attention or to reflect any changes in law or the interpretation thereof that may thereafter occur or become effective.

Customary practice in the giving of legal opinions includes not detailing in the opinion all the assumptions, exclusions, conditions and limitations which are a part of the conclusions therein. See *Statement on the Role of Customary Practice in the Preparation and Understanding of Third-Party Legal Opinions* in The Business Lawyer, Volume 63, Page 1277 (2008) and *Legal Opinion Principles* in The Business Lawyer, Volume 53, Page 831 (1998). Purchasers of Series 2017A Bonds should seek advice or counsel concerning such matters as they deem prudent in connection with their purchase of Series 2017A Bonds, including with respect to the Bond Counsel opinion.

The form of Bond Counsel's Opinion with respect to the Series 2017A Bonds is attached hereto as Appendix D.

Series 2017A Bonds

Opinion of Bond Counsel. In the opinion of Bond Counsel, under current law, interest, including original issue discount ("OID"), on the Series 2017A Bonds (a) will not be included in gross income for Federal income tax purposes, (b) will not be an item of tax preference for purposes of the Federal alternative minimum income tax imposed on individuals and corporations; however, with respect to corporations (as defined for Federal income tax purposes) subject to the alternative minimum income tax, such interest is taken into account in determining adjusted current earnings for purposes of computing such tax, and (c) will be exempt from income taxation by the State of Georgia. Except as described hereafter in "Original Issue Discount" and "Original Issue Premium," no other opinion is expressed by Bond Counsel regarding the tax consequences of the ownership of or the receipt or accrual of interest on the Series 2017A Bonds.

Bond Counsel's opinion will be given in reliance on (a) computations provided to Terminus Analytics, LLC, verification agent, the mathematical accuracy of which has been

verified by them, relating to the sufficiency of the investments in the Escrow Fund established pursuant to the Escrow Agreement to pay the amounts due on the Refunded Bonds, the yield on such investments and the yields on the Series 2017A Bonds and the Refunded Bonds, and (b) certifications by representatives of the City and other parties as to certain facts relevant to both the opinion and requirements of the Internal Revenue Code of 1986, as amended (the "Code"), and is subject to the condition that there is compliance subsequent to the issuance of the Series 2017A Bonds with all requirements of the Code that must be satisfied in order for interest thereon to remain excludable from gross income for federal income tax purposes. The City has covenanted to comply with the current provisions of the Code regarding, among other matters, the use, expenditure and investment of the proceeds of the Series 2017A Bonds and the timely payment to the United States of any arbitrage rebate amounts with respect to the Series 2017A Bonds. Failure by the City to comply with such covenants, among other things, could cause interest on the Series 2017A Bonds, including accrued OID, to be included in gross income for Federal income tax purposes retroactively to their date of issue.

Original Issue Discount. The initial public offering prices of certain of the Series 2017A Bonds may be less than their stated principal amount (the "OID Bonds"). In the opinion of Bond Counsel, under current law, the difference between the stated principal amount and the respective initial offering price of each maturity of OID Bonds to the public (excluding bond houses and brokers) at which a substantial amount of such maturity is sold will constitute OID. The respective offering prices set forth on the inside cover of this Official Statement are expected to be the initial offering prices to the public at which a substantial amount of each maturity of Series 2017A Bonds are sold.

Under the Code, for purposes of determining a holder's adjusted basis in an OID Bond, OID will be treated as having accrued while the holder holds the OID Bond and will be added to the holder's basis therein. OID will accrue on a constant yield to maturity method based on regular compounding. The adjusted basis will be used to determine taxable gain or loss upon the sale or other disposition (including redemption or payment at maturity) of such OID Bond.

Prospective purchasers of Series 2017A Bonds should consult their own tax advisors with respect to the calculation of accrued OID, the accrual of OID in the case of owners purchasing OID Bonds after the initial offering, and the state and local tax consequences of owning or disposing of OID Bonds.

Original Issue Premium. Series 2017A Bonds purchased, whether upon issuance or otherwise, for an amount (excluding any amount attributable to accrued interest) in excess of their principal amount will be treated for federal income tax purposes as having amortizable bond premium. A holder's basis in such a Series 2017A Bond must be reduced by the amount of premium which accrues while such Series 2017A Bond is held by the holder. No deduction for such amount will be allowed, but it generally will offset interest on the Series 2017A Bonds while so held. Purchasers of such Series 2017A Bonds should consult their own tax advisors as to the calculation, accrual and treatment of amortizable bond premium and the state and local tax consequences of holding such Series 2017A Bonds.

Other Tax Matters. In addition to the matters addressed above, prospective purchasers of Series 2017A Bonds should be aware that the ownership of tax-exempt obligations may result

in collateral Federal income tax consequences to certain taxpayers, including without limitation financial institutions, property and casualty insurance companies, S corporations, foreign corporations subject to the branch profits tax, recipients of Social Security or Railroad Retirement benefits and taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry tax-exempt obligations. Prospective purchasers of Series 2017A Bonds should consult their tax advisors as to the applicability and impact of such consequences.

Current and future legislative proposals, if enacted into law, may cause interest on the Series 2017A Bonds to be subject, directly or indirectly, to federal income taxation by, for example, changing the current exclusion or deduction rules to limit the aggregate amount of interest on state and local government bonds that may be treated as tax exempt by certain individuals.

The IRS has a program to audit state and local government obligations to determine whether the interest thereon is includible in gross income for federal income tax purposes. If the IRS does audit the Series 2017A Bonds, under current IRS procedures, the IRS will treat the City as the taxpayer and the owners of the Series 2017A Bonds will have only limited rights, if any, to participate.

There are many events which could affect the value and liquidity or marketability of the Series 2017A Bonds after their issuance, including but not limited to public knowledge of an audit of the Series 2017A Bonds by the IRS, a general change in interest rates for comparable securities, a change in Federal or state income tax rates or treatment, Federal or state legislative or regulatory proposals affecting state and local government securities and changes in judicial interpretation of existing law. In addition, certain tax considerations relevant to owners of Series 2017A Bonds who purchase such bonds after their issuance may be different from those relevant to purchasers upon issuance. Neither the opinion of Bond Counsel nor this Official Statement purport to address the likelihood or effect of any such potential events or such other tax considerations and purchasers of the Series 2017A Bonds should seek advice concerning such matters as they deem prudent in connection with their purchase of Series 2017A Bonds.

Prospective purchasers of Series 2017A Bonds should consult their own tax advisors as to the status of interest on the Series 2017A Bonds, including accrued OID, under the laws of any state other than Georgia.

CONTINUING DISCLOSURE

In order to assist the Underwriters in complying with the Rule, simultaneously with the issuance of the Series 2017A Bonds, the City will enter into the Disclosure Agreement for the benefit of the holders of the Series 2017A Bonds, substantially in the form attached hereto as "APPENDIX E - FORM OF CONTINUING DISCLOSURE AGREEMENT." The City, as an "obligated person" under the Rule, will undertake in the Disclosure Agreement to provide: (a) certain financial information and operating data relating to the System and the Series 2017A Bonds in each year (the "Annual Report"); and (b) notice of the occurrence of certain enumerated events (each a "Listed Event Notice"). The Annual Report and each Listed Event

Notice, if applicable, will be filed by DAC, on behalf of the City, on the Electronic Municipal Market Access system, a service of the Municipal Securities Rulemaking Board. The specific nature and timing of filing the Annual Report and each Listed Event Notice, and other details of the City's undertakings are more fully described in "APPENDIX E - FORM OF CONTINUING DISCLOSURE AGREEMENT" attached hereto.

The following disclosure is being provided by the City for the sole purpose of assisting the Underwriters in complying with the Rule: The City previously entered into continuing disclosure undertakings, as an "obligated person" under the Rule (the "Undertakings"). In the previous five year period beginning on March 30, 2012 and ending on March 30, 2017 (the "Compliance Period"), the City has, on several instances during the Compliance Period, failed to comply with certain provisions of the Undertakings, including: (a) failing to timely file certain annual financial information and/or operating data, (b) failing to provide certain required annual financial information and operating data in its annual filings, and (c) failing to file or timely file certain notices.

LEGAL MATTERS

Certain legal matters incident to the authorization, issuance, validity, sale and delivery of the Series 2017A Bonds are subject to the approving opinion of Hunton & Williams LLP, Atlanta, Georgia, Bond Counsel, whose approving opinion in substantially the form attached hereto as "APPENDIX D - FORM OF OPINION OF BOND COUNSEL" will be delivered concurrently with the issuance of the Series 2017A Bonds. The legal opinion of Bond Counsel will speak only as of its date and subsequent distribution of it by recirculation of this Official Statement or otherwise will not create any implication that subsequent to the date of the legal opinion Bond Counsel has affirmed its opinion. The proposed text of the legal opinion of Bond Counsel is attached hereto as "APPENDIX D - FORM OF OPINION OF BOND COUNSEL." The actual legal opinion to be delivered may vary from the text of Appendix D, if necessary, to reflect facts and law on the date of delivery of the Series 2017A Bonds.

Certain legal matters will be passed upon for the City by the City's Department of Law. Greenberg Traurig, LLP and Riddle & Schwartz, LLC, both of Atlanta, Georgia, are serving as Co-Disclosure Counsel. Certain legal matters will be passed upon for the Underwriters by the Haley Law Firm LLC, Atlanta, Georgia.

The legal opinions to be delivered concurrently with the delivery of the Series 2017A Bonds express the professional judgment of the attorneys rendering the opinions regarding the legal issues expressly addressed therein. By rendering a legal opinion, the attorneys providing such opinion do not become insurers or guarantors of the result indicated by that expression of professional judgment, of the transaction on which the opinion is rendered, or of the future performance of parties to the transaction. Nor does the rendering of an opinion guarantee the outcome of any legal dispute that may arise out of the transaction.

VERIFICATION OF CERTAIN CALCULATIONS

Terminus Analytics, LLC, (the "Verification Agent"), a firm of independent public accountants, will deliver to the City, on or before the issuance of the Series 2017A Bonds, its verification report indicating that it has verified, in accordance with attestation standards established by the American Institute of Certified Public Accountants, the arithmetical accuracy of (a) the computation of the adequacy of the amounts to be deposited in the Escrow Fund to be held by the Escrow Agent to pay, at maturity or upon redemption prior to maturity, all principal of, and accrued interest for each of the Refunded Bonds, as applicable and as provided in the Escrow Deposit Agreement, and (b) the computation of the yield on the Series 2017A Bonds and the Refunded Bonds and the amounts to be deposited in the Escrow Fund.

The verification performed by the Verification Agent will be solely based upon assumptions and information provided to the Verification Agent by the Underwriters and the Co-Financial Advisors on behalf of the City. The Verification Agent has restricted its procedures to examining the arithmetical accuracy of certain computations and has not made any study or evaluation of the assumptions and information upon which the computations are based, and accordingly, has not expressed an opinion on the data used, the reasonableness of the assumptions or the achievability of the forecasted outcome.

FINANCIAL STATEMENTS

The financial statements of the Department as of and for the Fiscal Years ended June 30, 2016 and 2015 have been audited by KPMG LLP, independent auditors (the "Auditor"). The report of the Auditor, together with the management's discussion and analysis, financial statements, and notes to the financial statements for Fiscal Year ended June 30, 2016 are attached hereto as "APPENDIX A - DEPARTMENT OF WATERSHED MANAGEMENT FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED JUNE 30, 2016 AND 2015." The Auditor has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. The Auditor also has not been engaged to perform and has not performed any procedures relating to this Official Statement.

CO-FINANCIAL ADVISORS

FirstSouthwest, a Division of Hilltop Securities, Inc., Dallas, Texas and Grant & Associates LLC, Marietta, Georgia are serving as Co-Financial Advisors to the City. The Co-Financial Advisors assisted in matters related to the planning, structuring and issuance of the Series 2017A Bonds and provided other advice. The Co-Financial Advisors did not engage in any underwriting activities with regard to the issuance and sale of the Series 2017A Bonds.

RATINGS

Moody's Investors Service, Inc. ("Moody's"), S&P Global Ratings ("S&P") and Fitch Inc. ("Fitch," and together with Moody's and S&P, the "Rating Agencies") have assigned underlying ratings of "Aa2," "AA-" and "A+," respectively, to the Series 2017A Bonds.

The ratings, including any related outlook with respect to potential changes in such ratings, reflect only the respective views of the Rating Agencies, and an explanation of the significance of such ratings may be obtained from the Rating Agencies furnishing the ratings. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies, and assumptions of its own. There is no assurance that such ratings will remain unchanged for any given period of time or that they will not be revised downward or withdrawn entirely by the rating agency furnishing the same, if, in its judgment, circumstances so warrant. Any such downward revision or withdrawal of such ratings or other actions by the Rating Agencies or either of them, may have an adverse effect on the liquidity and/or market price of the affected Series 2017A Bonds. The City has not undertaken any responsibility to oppose any such revision, suspension or withdrawal.

UNDERWRITING

Siebert Cisneros Shank & Co., L.L.C. (the "Representative"), on behalf of itself and the other underwriters listed in the cover page of this Official Statement (collectively, the "Underwriters") have agreed jointly and severally, pursuant to a Bond Purchase Agreement between the Representative and the City (the "Bond Purchase Agreement") to purchase the Series 2017A Bonds at a price equal to \$ _____ (representing the principal amount of the Series 2017A Bonds of \$ _____, less an underwriting discount of \$ _____ plus/minus a net original issue discount/bond premium of \$ _____). The Bond Purchase Agreement provides that the obligations of the Underwriters to accept delivery of the Series 2017A Bonds are subject to various conditions of the Bond Purchase Agreement, but the Underwriters will be obligated to purchase all of the Series 2017A Bonds, if any are purchased. The Underwriters reserve the right to join with dealers and other underwriters in offering the Series 2017A Bonds to the public.

The prices and other terms with respect to the offering and sale of the Series 2017A Bonds may be changed from time to time by the Underwriters after such Series 2017A Bonds are released for sale, and the Series 2017A Bonds may be offered and sold at prices other than the initial offering prices, including sales to dealers whom may sell the Series 2017A Bonds into investment accounts.

The Underwriters have provided the following information for inclusion in this Official Statement:

Certain of the Underwriters have entered into distribution agreements with other broker-dealers (that have not been designated by the City as underwriters with respect to the Series 2017A Bonds) for the distribution of the Series 2017A Bonds at the original issue prices set forth on the inside front cover page hereof. Such agreements generally provide that the

Underwriters will share a portion of its underwriting compensation or selling concession with such broker-dealers.

FORWARD LOOKING STATEMENTS

Any statements made in this Official Statement, including in the appendices, involving estimates, forecasts or matters of opinion, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates, forecasts or matters of opinion will be realized.

Use of the words "shall" or "will" in this Official Statement or in summaries of documents to describe future events or continuing obligations is not intended as a representation that such event or obligation will occur but only that the document contemplates or requires such event to occur or obligation to be fulfilled.

The statements contained in this Official Statement, including in the appendices, that are not purely historical, are "forward looking statements." Such statements generally are identifiable by the terminology used, such as "plan," "expect," "estimate," "budget" or other similar words. Such forward looking statements include but are not limited to certain statements contained in the information set forth under "THE SYSTEM," "SYSTEM REVENUES," "SYSTEM FINANCE MATTERS," CAPITAL IMPROVEMENT PROGRAM," and "LEGAL MATTERS" herein and in "APPENDIX B - MUNICIPAL ADVISOR'S FEASIBILITY STUDY" attached hereto. Readers should not place undue reliance on forward looking statements. All forward looking statements included or incorporated by reference in this Official Statement are based on information available on the date hereof and the City assume no obligation to update any such forward looking statements. It is important to note that the actual results could differ materially from those in such forward looking statements.

The forward looking statements herein are necessarily based on various assumptions and estimates and are inherently subject to various risks and uncertainties, including risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in social, economic, business, industry, market, legal and regulatory circumstances and conditions and actions taken or omitted to be taken by third parties, including customers, suppliers, business partners and competitors, and legislative, judicial and other governmental authorities and officials. Assumptions related to the foregoing involve judgments with respect to, among other things, future economic, competitive, and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the control of the City. Any of such assumptions could be inaccurate and, therefore, there can be no assurance that the forward looking statements included in this Official Statement, including in the appendices attached hereto, will prove to be accurate.

MISCELLANEOUS

The references, excerpts and summaries of all documents referred to herein do not purport to be complete statements of the provisions of such documents and reference is directed

to all such documents for full and complete statements of all matters of fact relating to the Series 2017A Bonds, the security for and the source for repayment for the Series 2017A Bonds and the rights and obligations of the Bondholders. Copies of such documents may be obtained as specified under the section "INTRODUCTION - Other Information" herein.

The appendices attached hereto, are integral parts of this Official Statement and should be read together with all other parts of this Official Statement.

Any statements made in this Official Statement involving matters of opinion or of estimates or forecasts, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates or forecasts will be realized. Neither this Official Statement nor any statement which may have been made verbally or in writing is to be construed as a contract with the Holders of the Series 2017A Bonds.

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CERTIFICATION

The execution and delivery of this Official Statement, and its distribution and use by the Underwriters in connection with the original public offer, sale and distribution of the Series 2017A Bonds by the Underwriters, have been duly authorized and approved by the City.

CITY OF ATLANTA

By: _____
Kasim Reed,
Mayor

By: _____
J. Anthony "Jim" Beard,
Chief Financial Officer

By: _____
Kishia L. Powell,
Commissioner of Watershed Management

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APPENDIX A

**DEPARTMENT OF WATERSHED MANAGEMENT
FINANCIAL STATEMENTS AS OF AND FOR THE YEARS
ENDED JUNE 30, 2016 AND 2015**

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KPMG LLP
Suite 2000
303 Peachtree Street, N.E.
Atlanta, GA 30308-3210

Independent Auditors' Report

Honorable Mayor and Members of the City Council
City of Atlanta, Georgia:

Report on the Financial Statements

We have audited the accompanying financial statements of the Department of Watershed Management (the Department) of the City of Atlanta, Georgia (the City), a major enterprise fund of the City, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the Department'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 U.S. generally accepted accounting principles; 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 audits. We conducted our audits 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 the Department as of June 30, 2016 and 2015, and the changes in its financial position and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.



Emphasis of Matter

As discussed in note 1 to the basic financial statements, the financial statements present only the Department and do not purport to, and do not, present fairly the financial position of the City of Atlanta, Georgia, as of June 30, 2016 and 2015, the changes in its financial position, or, where applicable, its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles. Our opinion is not modified with respect to this matter.

As discussed in note 1 to the basic financial statements, in 2016 the Department adopted Governmental Accounting Standards Board Statement No. 72, *Fair Value Measurement and Application*. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 3-15 and schedules of funding progress for other postemployment benefits and proportionate share of net pension liability on page 64, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary and Other Information

Our audit was conducted for the purpose of forming an opinion on the Department's basic financial statements. The introductory section and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 16, 2016 on our consideration of the Department'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 Department's internal control over financial reporting and compliance.

KPMG LLP

Atlanta, Georgia
December 16, 2016

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Management's Discussion and Analysis (Unaudited)
June 30, 2016 and 2015

The following discussion and analysis of the financial performance and the activity of the City of Atlanta, Georgia (the City) Department of Watershed Management (the Department) is to provide an introduction and understanding of the basic financial statements of the Department for the fiscal years ended June 30, 2016 and 2015, with selected comparative information for the year ended June 30, 2014. This discussion has been prepared by management and should be read in conjunction with the financial statements and the notes thereto, which follow this section.

The City owns and operates a drinking water supply, a treatment and distribution system, and a wastewater collection and treatment system. The Department is reported as an enterprise fund of the City. The Department is supported using revenues derived from a mix of wholesale and retail rates and charges for water and wastewater services and Municipal Option Sales Tax (MOST) receipts. The City historically set rates and charges for water and wastewater service at levels sufficient to pay the current expenses of operations and maintenance and debt service on borrowings with respect thereto. From 2005, service rates have been set to pay for these expenses net of MOST receipts. The Capital Improvement Program (CIP) is funded by a combination of Georgia Environmental Finance Authority loans, water and wastewater system revenue bonds and amounts held in the Renewal and Extension Fund (R&E Fund), a separate fund wherein the City, from time to time, deposits funds in excess of 60 days of estimated expenses for operations and maintenance.

The Department is dedicated to providing the highest-quality drinking water and wastewater services to the City's residents, businesses and wholesale customers at costs reflective of the value of service provided, while protecting urban waterways, conserving natural resources, and ensuring clean, safe water is available for withdrawal by downstream users.

Required Financial Statements

The Department's financial report includes three financial statements: The Statement of Net Position, the Statement of Revenue, Expenses and Changes in Net Position and the Statement of Cash Flows. The financial statements are prepared in accordance with U. S. generally accepted accounting principles as promulgated by the Governmental Accounting Standards Board (GASB). The Department is structured as a single enterprise fund with revenues recognized when earned and expenses recognized when incurred. Capital asset related costs are capitalized and (with the exception of land) depreciated over industry standard depreciation schedules. Certain net position balances are restricted for debt service and capital activities.

GASB Statement No. 34 (as amended) requires that the equity section of the Statement of Net Position be combined to report total net position displayed in three broad components - net investment in capital assets, restricted, and unrestricted. The net position component - net investment in capital assets consists of capital assets including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any outstanding debt that is attributable to the acquisition, construction or improvements of those assets. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Department is improving or deteriorating.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Management's Discussion and Analysis (Unaudited)
June 30, 2016 and 2015

The Statement of Revenue, Expenses and Changes in Net Position reports the operating and non-operating revenues and expenses of the Department, with the difference – the change in net position – being combined with any capital contributions to determine the total change in net position for the fiscal year. This statement is one measure of the results of the Department's operations over the past year and can be used to determine whether the Department has successfully recovered all of its costs (net of the offsets provided by MOST receipts) through users' rates and other charges.

The Statement of Cash Flows provides information about the Department's cash receipts and payments during the reporting period. This Statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and capital and related financing activities and provides insight as to the activity from which the cash was provided or used.

In fiscal 2015, the Department implemented GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, as of July 1, 2014. While the net position at the beginning of fiscal year 2015 was adjusted for the impact of GASB Statement No. 68, the following tables throughout management's discussion and analysis reflect comparative data for fiscal year 2014 as it was originally reported prior to the implementation of GASB Statement No. 68.

Activity Highlights

The Atlanta City Council approved the creation of the Department of Watershed Management on September 16, 2002 (Ordinance 02-0-1450) pursuant to the laws of the State of Georgia and ordinances enacted by the City of Atlanta. The Department Commissioner reports directly to the Mayor and the Chief Operating Officer of the City. The Department manages its relationships with other municipalities and counties through inter-jurisdictional agreements. The Department's financial transactions are accounted for in a single independent enterprise fund. This initiative was completed to combine all water-related governmental functions into a single department. This consolidation reflected, in part, industry and regulatory acknowledgement of the benefits of management of water resources on a holistic, watershed basis. Mayor Kasim Reed supports the initiative and pledges to continue improving the water and wastewater services to residents within the City's service areas and surrounding communities.

The Department includes all functions that involve the use and management of the City's water resources – the Offices of Linear Infrastructure Operation, Water Treatment and Reclamation (including Sewer Operations), and Watershed Protection (including Storm Water Management). The functions that support these operations and provide customer service are housed in the Offices of Financial Administration and Customer & Business Services. Capital projects to expand and upgrade Atlanta's water resource systems as needed are overseen by the Office of Engineering Services. The Department has responsibility for approximately 2,100 miles of wastewater pipes, 2,800 miles of drinking water pipes, four water reclamation centers, and two drinking water treatment plants, as well as pumping stations, combined sewer overflow (CSO) treatment facilities, and fire hydrants.

The Department owns a water supply, treatment, and distribution system that supplies an area of approximately 650 square miles, including the entire City and most of Fulton County. In FY 2016, the Department served 154,990 residential, industrial, commercial and general accounts and met an average water demand of approximately 96.63 million gallons per day (mgd). The Department operates and maintains three water treatment plants, one of which is jointly owned with Fulton County, and three initial pumping stations, one of which is jointly owned with Fulton County. The Department sells water on a wholesale basis to other jurisdictions in the Atlanta area, including Coweta and Fayette counties and the cities of Fairburn, Hapeville, and Union City.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Management's Discussion and Analysis (Unaudited)
June 30, 2016 and 2015

The Department owns and operates a wastewater collection and treatment system, including four treatment plants that serve an area of approximately 225 square miles, approximately 54% of which is within the corporate limits of the City. In FY 2016, the Department served 89,396 residential, industrial, commercial and general accounts and treated an average daily flow of approximately 132.3 million gallons per day (mgd).

Retail wastewater services are provided to customers located within the corporate limits of the City and in Fulton and DeKalb counties. Wholesale wastewater treatment is provided to the cities of East Point, College Park and Hapeville and portions of DeKalb and Fulton counties (the Governments). The City has long-term contracts directly or indirectly with each of these jurisdictions. These contracts require that the City reserve capacity in the City's treatment plants for each of these Governments. In consideration of such reserved capacity, the Governments pay the City their pro rata share of operating costs, based on flow contributions, and their pro rata share of capital improvements, based on reserved capacity. A small portion of the City is located outside the topographical area served by the Department's facilities. In these instances, Fulton County provides wastewater treatment services for which the City pays Fulton County the associated pro rata share of Fulton County's operating costs.

The water system is subject to and operates under a Consent Order, dated December 9, 1997, that was entered into with the State of Georgia's Environmental Protection Division (EPD) to resolve certain issues regarding noncompliance and to identify capital projects needed to ensure compliance with future regulations. The City has satisfied a majority of the requirements of the Consent Order and the remaining requirements will be satisfied with capital improvement projects that are either currently in design or under construction. These projects will further enhance water system reliability, ensure compliance with the Consent Order and facilitate compliance with future regulations.

The wastewater system operates under two related court-ordered Consent Decrees. On September 24, 1998, the City entered into the Combined Sewer Overflow Consent Decree (the CSO Consent Decree) with the Upper Chattahoochee Riverkeeper Fund, the U.S. Environmental Protection Agency (EPA) and the EPD. This CSO Consent Decree settled allegations that the City violated terms of certain of its National Pollutant Discharge Elimination Systems permits relating to discharges from its CSO facilities. The capital projects and other provisions required by the CSO Consent Decree were completed in November 2008, in compliance with all established milestone dates (as amended to provide for a one-year extension for completion of the West Area CSO Tunnel project).

On December 20, 1999, the City entered into the First Amended Consent Decree (the FACD) covering wastewater treatment facilities, pretreatment requirements, and its sewage collection and transmission system. The First Amended Consent Decree lists specific capital improvement projects, upgrades, and repairs that initially were required to be completed by July 1, 2014.

On September 24, 2012, the court entered an amendment to the FACD. This amendment contained five changes: (1) it extended the deadlines on the work to rehabilitate and provide capacity relief in the City's sewerage collection and transmission system with the final deadline for this work under the FACD extended from 2014 to 2027; (2) it eliminated the requirement that sewer lines that were merely surcharging as opposed to overflowing be upgraded; (3) it required that the City complete one major project -- the Peachtree Creek Storage and Pump Station by July 1, 2014; (4) it required that the City reassess its financial capability on July 1, 2020 and accelerate remaining projects if financial conditions substantially improve; and (5) it changed how often the City reports certain performance metrics to federal and state environmental protection agencies to a semi-annual basis as opposed to a quarterly basis. This amendment will allow the City to continue to improve the financial condition of its water and wastewater system, balance its competing system needs, and prevent a substantial increase in the burden on its ratepayers.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Management's Discussion and Analysis (Unaudited)
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The Department successfully reached its latest federal consent decree milestone with the recent completion of two major wastewater infrastructure improvements. The Peachtree Creek Capacity Relief Project and the citywide sewer rehabilitation were completed in June 2014 and both collectively finished under budget by \$50 million and ahead of the deadline imposed by the EPA.

The CIP details all of the improvements needed to meet the aforementioned objectives through 2027 are broadly summarized as follows:

<u>Project Types</u>	Total 2006-2027 CIP <u>(In millions)</u>	Remaining Cost 2017-2027 CIP <u>(In millions)</u>
Wastewater Projects:		
Consent Decree Program (CSO)	\$ 714	\$ 2
First Amended Consent Decree Program (SSO)	1,694	658
Regulatory	96	10
Renewal & Extension Fund Projects	829	644
	<u>3,333</u>	<u>1,314</u>
Water Projects:		
Consent Order	80	37
Non-Consent Order	2,017	1,541
	<u>2,097</u>	<u>1,578</u>
	<u>\$ 5,430</u>	<u>\$ 2,892</u>

In their 2007 letter of approval of the West Area CSO Tunnel deadline extension, the regulatory agencies (EPA and EPD) noted that: "The City's work under both the CSO and First Amended Consent Decrees has been very conscientious overall. The quality and positive results of that work are evident from recent water quality monitoring data of streams in the Atlanta area, which demonstrate substantial environmental improvements since work began under the Consent Decree." With respect to the combined sewer overflow (CSO) consent decree, the Department has completed all construction projects on or ahead of schedule and is currently in compliance with the Consent Decree.

System Security

By direction of the EPA under the provisions of Public Law 107-188 (June 12, 2002), a Vulnerability Assessment of the security of the City's drinking water supply, treatment and distribution was conducted during 2003. The Department's Emergency Response Plan was updated with provisions for mitigating physical attack and contamination. The assessment identified capital improvements, which enhanced the system security.

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Activity Information

Revenues from water and wastewater service charges are a function of the demand for water, rate structures, and other factors. In turn, water demands are driven by population and economic growth, weather conditions, price elasticity of demand, water conservation practices, and other factors. Billable wastewater flows are generally based on metered water use.

	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Water Demand					
Average Daily Demand (mdg)	96.93	92.93	4.30%	90.88	2.26%
Maximum Daily Demand (mdg)	124.50	118.62	4.96%	131.52	-9.81%

	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Water Rates (per CCF)					
Base Charges	\$6.56	\$6.56	- %	\$6.56	- %
In City (1 - 3)	\$2.58	\$2.58	- %	\$2.58	- %
In City (4 - 6)	\$5.35	\$5.35	- %	\$5.35	- %
In City (7 and above)	\$6.16	\$6.16	- %	\$6.16	- %
Outside City (1 - 3)	\$3.51	\$3.51	- %	\$3.51	- %
Outside City (4 - 6)	\$6.48	\$6.48	- %	\$6.48	- %
Outside City (7 and above)	\$7.47	\$7.47	- %	\$7.47	- %
Wholesale	\$3.70	\$3.70	- %	\$3.70	- %

	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Sewer Rates (per CCF)					
Base Charges	\$6.56	\$6.56	- %	\$6.56	- %
Sewer Rate (1 - 3)	\$9.74	\$9.74	- %	\$9.74	- %
Sewer Rate (4 - 6)	\$13.64	\$13.64	- %	\$13.64	- %
Sewer Rate (7 and above)	\$15.69	\$15.69	- %	\$15.69	- %

	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
System Connections					
Water	154,990	152,787	1.44%	153,047	-0.17%
Wastewater	89,396	88,983	0.46%	89,478	-0.55%

Annual Collection					
Collections Rate	101.80%	99.25%		98.16%	

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Financial Summary and Highlights

The tables below show the composition of assets and deferred outflows of resources, liabilities and deferred inflows of resources, net position, revenues, expenses and change in net position as of and for the years ended June 30, 2016, June 30, 2015 and June 30, 2014.

	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Assets and deferred outflows of resources					
(in thousands):					
Capital assets	\$ 4,908,654	4,821,950	1.80%	4,779,223	0.89%
Current and other assets	<u>1,429,053</u>	<u>1,430,405</u>	-0.09%	<u>1,378,680</u>	3.75%
Total assets	<u>6,337,707</u>	<u>6,252,355</u>	1.37%	<u>6,157,903</u>	1.53%
Pension related deferred outflows	17,768	15,715	13.06%	-	100%
Accumulated decrease in fair value of hedging derivative instruments	85,958	33,533	156.34%	16,707	100.71%
Deferred losses on debt refunding	<u>151,841</u>	<u>138,902</u>	9.32%	<u>30,825</u>	350.61%
Total deferred outflows of resources	<u>255,567</u>	<u>188,150</u>		<u>47,532</u>	
Total assets and deferred outflows of resources	<u><u>6,593,274</u></u>	<u><u>6,440,505</u></u>	2.37%	<u><u>6,205,435</u></u>	3.79%

The total assets for the year ended June 30, 2016 compared to June 30, 2015 increased by \$85.4 million or 1.37%. During the period, capital assets increased from the year ended June 30, 2015 compared to the year ended June 30, 2016 in the amount of \$86.7 million or 1.80%, which was due to increases in the capital construction cost. Current and other assets decreased by \$1.4 million or -0.09% due primarily to a reduction in the amount of outstanding receivable due from other governments. The change in deferred outflows of resources between the years ended June 30, 2016 and 2015 was primarily a result of a change in the fair value of derivative instruments..

The total assets for the year ended June 30, 2015 compared to June 30, 2014 increased by \$94.5 million or 1.53%. During the period, current and other assets increased by \$51.7 million or 3.75% due to an increase in the amount of cash from operating activities. Capital assets increased from the year ended June 30, 2014 compared to the year ended June 30, 2015 in the amount of \$42.7 million or 0.89%. The change in deferred outflows of resources between the years ended June 30, 2015 and 2014 was primarily a result of refunding debt and impacts from the recognition of a net pension liability during FY 2015.

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	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Liabilities and deferred inflows of resources (in thousands):					
Long-term portion of bonds and other debt	\$ 3,126,240	3,185,386	-1.86%	3,158,330	0.86%
Other liabilities	<u>715,396</u>	<u>653,096</u>	9.54%	<u>389,915</u>	67.50%
Total liabilities	3,841,636	3,838,482	0.08%	3,548,245	8.18%
Deferred inflows-pension related	<u>15,629</u>	<u>29,996</u>	-47.90%	<u>-</u>	100%
Total liabilities and deferred inflows of resources	<u>\$ 3,857,265</u>	<u>3,868,478</u>	-0.29%	<u>3,548,245</u>	9.03%

At June 30, 2016, total liabilities increased by \$3.2 million, or 0.08%, from the prior year. The decrease in long-term bonds and other debt outstanding of \$59.1 million, or 1.86%, was due to the pay down of principal on bonds in fiscal year 2016. Other liabilities increased by \$62.3 million, or 9.54%, primarily due to the activity of the Department's interest rate swaps liability position, vendors' payable accounts and the pension liability for the period.

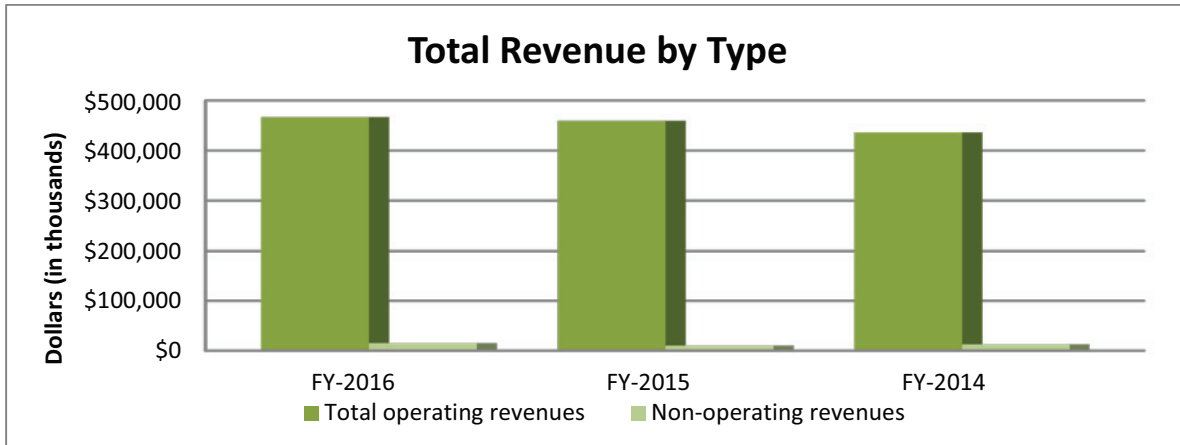
At June 30, 2015, total liabilities increased by \$290.2 million, or 8.18%, from the prior year. The increase in long-term bonds and other debt outstanding of \$27.1 million, or 0.86%, was due to refunding of revenue bonds in fiscal year 2015. Other liabilities increased by \$263.2 million, or 67.50%, and were primarily due to the implementation of GASB Statement No. 68.

	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Net Position (in thousands):					
Net invested in capital assets	\$ 2,148,323	1,991,656	7.87%	1,936,843	2.83%
Unrestricted	<u>587,686</u>	<u>580,371</u>	1.26%	<u>720,346</u>	-19.43%
Total net position	<u>\$ 2,736,009</u>	<u>2,572,027</u>	6.38%	<u>2,657,189</u>	-3.20%

The Department's total net position increased for the year ended June 30, 2016 by \$164.0 million or 6.38% compared to the year ended June 30, 2015. The increase was due primarily to the decrease in net non-operating expenses of the Department and an increase in the municipal option sales taxes collected and remitted.

The Department's total net position decreased for the year ended June 30, 2015 by \$85.2 million or -3.20% as compared to June 30, 2014. The decrease was due primarily to the implementation of GASB Statement No. 68. The impact to the Department in implementing the pronouncement was the recording of a \$225 million pension liability.

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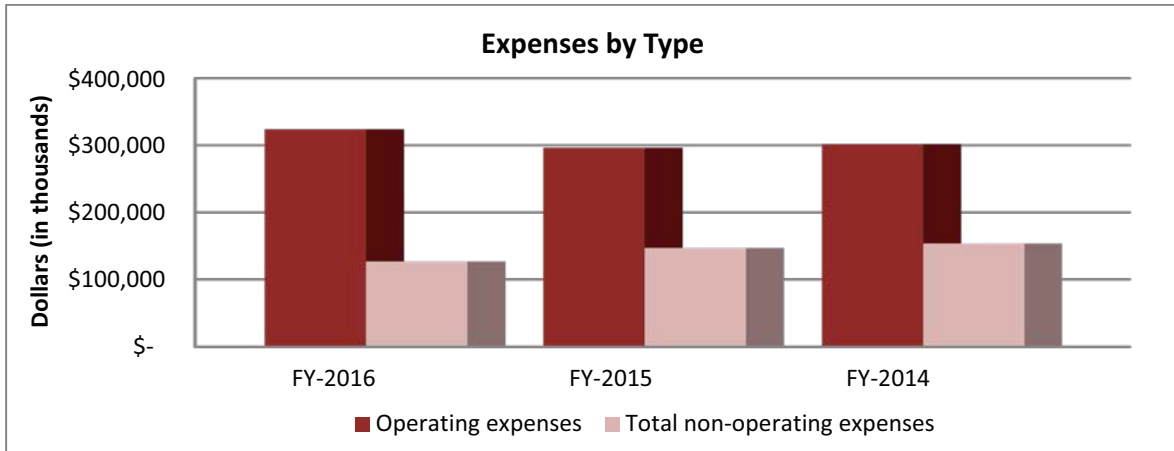


	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Revenues (in thousands):					
Operating revenue:					
Water and wastewater service charges	\$ 445,718	435,128	2.43%	418,534	3.96%
Sewer service charges from other governmental units	20,030	23,619	-15.20%	17,372	35.96%
Other	1,181	926	27.54%	738	25.47%
Total operating revenues	<u>466,929</u>	<u>459,673</u>	1.58%	<u>436,644</u>	5.27%
Non-operating revenue:					
Investment income	<u>15,051</u>	<u>9,958</u>	51.14%	<u>12,626</u>	-21.13%
Total revenues	<u>\$ 481,980</u>	<u>469,631</u>	2.63%	<u>449,270</u>	4.53%

The Department's water and wastewater service charges revenue for the year ended June 30, 2016 increased by \$10.6 million or 2.43% as compared to June 30, 2015. Total operating revenues, which primarily consists of water and wastewater fees, licenses and permits, and intergovernmental revenue increased by \$7.3 million or 1.58%. The increase is due to a continued increase in consumption as a result of economic recovery. Non-operating revenue increased by \$5.1 million or 51.14%, which was due primarily to investment income gains recognized during the period.

The Department's total revenue for the year ended June 30, 2015 increased by \$20.4 million or 4.53% compared to June 30, 2014. Total operating revenue, which primarily consists of water and wastewater fees, licenses and permits, and intergovernmental revenue increased by \$23.0 million or 5.27%. The increase is due to an increase in consumption as a result of economic recovery and a decrease in the allowance for non-collectable water and waste water receivables. Non-operating revenue decreased by \$2.7 million or 21.13%, which was due to a lower gain on investments.

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	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Expenses (in thousands):					
Operating expenses	<u>\$ 324,042</u>	<u>296,420</u>	9.32%	<u>301,957</u>	-1.83%
Non-operating expenses:					
Interest expense	123,733	139,532	-11.32%	150,592	-7.34%
Loss on derivative instrument	-	-	-	887	-100%
Other expenses	<u>3,121</u>	<u>7,348</u>	-57.53%	<u>2,193</u>	235.07%
Total non-operating expenses	<u>\$ 126,854</u>	<u>146,880</u>	-13.63%	<u>153,672</u>	-4.42%
Total expenses	<u>\$ 450,896</u>	<u>\$ 443,300</u>	1.71%	<u>\$ 455,629</u>	-2.71%

Total expenses increased by \$7.6 million or 1.71% for the year ended June 30, 2016 compared to June 30, 2015. The primary reason for the increase was due to an increase in depreciation, consultant fees, and indirect-cost expenses for the period.

Total expenses decreased by \$12.3 million or -2.71% for the year ended June 30, 2015 compared to June 30, 2014. The primary reason for the decrease was due to a decrease in interest expense for the period.

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	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Capital contributions and transfers (in thousands):					
Capital contributions	\$ 19,639	20,010	-1.85%	17,171	16.53%
Transfers in (out)	<u>113,259</u>	<u>109,139</u>	3.78%	<u>89,709</u>	21.66%
	<u>\$ 132,898</u>	<u>129,149</u>	2.90%	<u>106,880</u>	20.84%

The Department's change in total capital contributions and transfers for the year ended June 30, 2016 is \$3.7 million which is an increase as compared to the year ended June 30, 2015. The increase is due primarily due to an increase in improved sales tax collection during the fiscal period.

The Department's change in total capital contributions and transfers for the year ended June 30, 2015 is \$22.3 million, which is an increase as compared to the year ended June 30, 2014. The increase is due primarily to a decrease in in the amount of transfers-out cost during the period.

Change in net position (in thousands):

	<u>FY-2016</u>	<u>FY-2015</u>	<u>% Change</u>	<u>FY-2014</u>	<u>% Change</u>
Net position at beginning of year	\$ 2,572,027	2,416,547	6.43%	2,556,668	-5.48%
Change in net position	<u>163,982</u>	<u>155,480</u>	5.47%	<u>100,521</u>	54.67%
Net position at end of year	<u>\$ 2,736,009</u>	<u>2,572,027</u>	6.38%	<u>2,657,189</u>	-3.20%

The Department's change in net position for the year ended June 30, 2016 is \$164.0 million, which is \$8.5 million higher as compared to the year ended June 30, 2015. The increase is due primarily to an increase in consumption activity and improvement in sales tax remittance.

The Department's change in net position for the year ended June 30, 2015 is \$155.5 million, which is \$54.9 million higher as compared to the year ended June 30, 2014. The increase is due primarily to an increase in consumption as a result of economic recovery and a decrease in the allowance for non-collectable water and waste water receivables.

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Capital Assets and Debt Administration

Capital Assets

Major capital asset events during the years ended June 30, 2016, 2015 and 2014 are summarized below:

- Land, land improvements, water and wastewater infrastructure, and equipment, net of accumulated depreciation, increased by \$86.7 million and \$42.7 million, respectively, for the years ended June 30, 2016 and 2015. The growth is primarily due to continued increase in capital project spending.
- Depreciation expense was \$99.1 million and \$93.8 million, respectively, for the years ended June 30, 2016 and 2015.

Capital assets, net of depreciation for the fiscal years ended June 30, 2016, 2015 and 2014 are:

Capital Assets, net (in thousands)

	FY-2016	FY-2015	FY-2014
Land	\$ 124,045	119,116	118,295
Land improvements	2,617	3,135	3,670
Water collection and distribution system	2,788,102	2,838,253	2,883,150
Water and wastewater plant and treatment facilities	1,384,972	1,282,506	1,277,570
Machinery, equipment and other	21,596	17,169	9,517
Construction-in-progress	587,322	561,771	487,021
Total capital assets, net	<u>\$ 4,908,654</u>	<u>4,821,950</u>	<u>4,779,223</u>

Additional information about the Department's capital assets can be found in note 6 to the financial statements.

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Debt

Long-term bonds and Georgia Environmental Finance Authority (GEFA) notes payable outstanding at June 30, 2016, 2015, and 2014 totaled \$3.13 billion, \$3.19 billion, and \$3.16 billion, respectively.

A summary of long-term debt, net of current portion is presented below:

	<u>FY-2016</u>	<u>FY-2015</u>	<u>FY-2014</u>
Long-term Debt (in thousands):			
Water and Wastewater Revenue Bonds	\$ 2,814,455	2,870,765	3,006,165
GEFA Notes Payable	168,222	168,842	172,445
Net deferred premiums and discounts, and current maturities	<u>143,563</u>	<u>145,779</u>	<u>(20,280)</u>
Total long-term debt	<u>\$ 3,126,240</u>	<u>3,185,386</u>	<u>3,158,330</u>

Maturity dates on the bonds range from 2022 to 2043, and interest rates at June 30, 2016 range from 0.81% to 6.00%. Both principal and interest are payable solely from operating revenues pursuant to the restated and amended master bond ordinance. The revenue bonds do not constitute debt of the City of Atlanta or a pledge of the full faith and credit of the City. At June 30, 2016, the Department's underlying ratings for its bond issues were: A1 by Moody's Investors Service, A by Standard & Poor's and A by Fitch.

Additional information about the Department's outstanding debt obligations can be found in note 9 in the notes to the financial statements.

Cash Management

The Department is continually attempting to maximize investment income through an aggressive program of cash and investment management, within constraints imposed by Statutes and City Ordinances. Wherever legal requirements permit, cash is pooled in order to achieve maximum cash yield on short-term investments of otherwise idle cash. Cash and cash equivalents are considered highly liquid investments with an original maturity of three months or less.

Economic Factors Outlook

There were no increases in the water and sewer rates during fiscal years 2016 and 2015. The most recent rate increase effective July 1, 2011 reflected the final year of a four-year rate package approved by City Council. Additionally, in fiscal year 2017, the Department anticipates that the amount of revenue collected from the Municipal Option Sales Tax will increase as compared to fiscal year 2016.

CITY OF ATLANTA, GEORGIA
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Management's Discussion and Analysis (Unaudited)
June 30, 2016 and 2015

Request for Information

This financial report is designed to provide our citizens, customers, investors, and creditors with a general overview of the Department's finances and to demonstrate the Department's accountability. If you have questions about this report, or need additional financial information, please contact the Department:

Deputy Commissioner of Financial Administration
72 Marietta Street, 9th Floor
Atlanta, Georgia 30303

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
 Statements of Net Position
 June 30, 2016 and 2015
 (In Thousands)

	<u>2016</u>	<u>2015</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 18,831	18,828
Restricted cash and cash equivalents	115,589	121,773
Equity in cash management pool	747,159	710,076
Accounts receivable, net of allowance for doubtful accounts of \$92,238 in 2016 and \$87,193 in 2015	66,125	62,568
Interest receivable	426	-
Due from other governmental units,	11,570	56,909
Due from other funds of the City of Atlanta	11,910	12,033
Advance to other funds of the City of Atlanta - current portion	10,000	10,000
Materials and supplies, net of allowance for obsolescence of \$527 in 2016 and \$557 in 2015	11,148	10,514
Total current assets	<u>992,758</u>	<u>1,002,701</u>
Noncurrent assets:		
Restricted cash and cash equivalents	86,059	136,161
Restricted investments	212,557	141,763
Advance to other funds of the City of Atlanta, less current portion	36,199	46,198
Investment in joint venture	77,480	79,582
Due from other parties	24,000	24,000
Capital assets:		
Land	124,045	119,116
Land improvements	12,195	12,195
Water collection and distribution system	4,276,723	4,270,169
Water and wastewater plant and treatment facilities	1,933,499	1,794,699
Other property and equipment	215,209	206,775
Construction in progress	587,322	561,771
	<u>7,148,993</u>	<u>6,964,725</u>
Less: accumulated depreciation	<u>(2,240,339)</u>	<u>(2,142,775)</u>
Capital assets, net	<u>4,908,654</u>	<u>4,821,950</u>
Total noncurrent assets	<u>5,344,949</u>	<u>5,249,654</u>
Total assets	6,337,707	6,252,355
DEFERRED OUTFLOWS OF RESOURCES		
Pension related deferred outflows	17,768	15,715
Accumulated decrease in fair value of hedging derivative instruments	85,958	33,533
Deferred losses on debt refunding	<u>151,841</u>	<u>138,902</u>
Total assets and deferred outflows of resources	<u>\$ 6,593,274</u>	<u>6,440,505</u>

(Continued)

See accompanying notes to the financial statements.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Statements of Net Position
June 30, 2016 and 2015
(In Thousands)

	<u>2016</u>	<u>2015</u>
LIABILITIES		
Current liabilities payable from operating assets:		
Accounts payable	\$ 32,730	20,296
Accrued liabilities, vacations, and compensatory pay	5,340	8,384
Claims payable	6,675	6,675
Customer deposits	7,476	6,963
Current portion of other debt	6,002	5,798
Current maturities of capital lease obligations	1,304	1,536
Accrued workers' compensation	1,087	1,706
	60,614	51,358
Current liabilities payable from restricted assets:		
Accounts payable	24,592	28,053
Accrued interest payable	22,843	32,694
Contract retention	8,034	4,716
Current maturities of revenue bonds payable	60,120	56,310
	115,589	121,773
Total current liabilities	176,203	173,131
Noncurrent liabilities:		
Revenue bonds payable and other debt, less current maturities	3,126,240	3,185,386
Capital lease obligations, less current maturities	-	1,188
Claims payable, less current portion	6,111	5,755
Accrued worker's compensation, less current portion	7,474	8,447
Pension liability	235,708	225,241
Other post-retirement benefits	106,924	100,909
Derivative instruments - interest rate swaps	182,976	138,425
	3,665,433	3,665,351
Total non-current liabilities	3,665,433	3,665,351
Total liabilities	3,841,636	3,838,482
DEFERRED INFLOWS OF RESOURCES		
Deferred inflows-pension related	15,629	29,996
	3,857,265	3,868,478
Total liabilities and deferred inflows of resources	3,857,265	3,868,478
NET POSITION		
Net investment in capital assets	2,148,323	1,991,656
Unrestricted	587,686	580,371
	2,736,009	2,572,027
Total net position	\$2,736,009	2,572,027

See accompanying notes to the financial statements.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Statements of Revenue, Expenses, and Changes in Net Position
For the Years Ended June 30, 2016 and 2015
(In Thousands)

	<u>2016</u>	<u>2015</u>
Operating revenues:		
Water and wastewater service charges	\$ 445,718	435,128
Sewer service charges from other governmental units	20,030	23,619
Rentals, admissions and concessions	66	102
Other	1,115	824
	<hr/>	<hr/>
Total operating revenues	466,929	459,673
Operating expenses:		
Salaries and employee benefits	94,823	94,235
Utilities	20,571	22,213
Supplies and materials	19,231	16,564
Repairs, maintenance and other contractual services	13,444	11,880
Motor equipment services	6,302	6,891
Engineering and consultant fees	32,214	24,926
General services	38,369	25,924
Depreciation	99,088	93,787
	<hr/>	<hr/>
Total operating expenses	324,042	296,420
Operating income	<hr/>	<hr/>
	142,887	163,253
Non-operating revenues (expenses):		
Investment income	15,051	9,958
Interest expense	(123,733)	(139,532)
Other revenues (expenses)	(3,121)	(7,348)
	<hr/>	<hr/>
Total non-operating revenues (expenses)	(111,803)	(136,922)
Change in net position before capital contributions and transfers	31,084	26,331
Capital contributions	19,639	20,010
Transfers in	132,653	131,579
Transfers out	(19,394)	(22,440)
	<hr/>	<hr/>
Change in net position	163,982	155,480
Net position, beginning of year	<hr/>	<hr/>
	2,572,027	2,416,547
Net position, end of year	<hr/> <hr/>	<hr/> <hr/>
	\$ 2,736,009	2,572,027

See accompanying notes to the financial statements.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Statements of Cash Flows
For the Years Ended June 30, 2016 and 2015
(In Thousands)

	<u>2016</u>	<u>2015</u>
Cash flows from operating activities:		
Cash received from customers	\$ 496,769	434,898
Cash received from interfund services provided	12,455	12,043
Cash paid to employees for services	(97,805)	(89,654)
Cash paid to suppliers for goods and services	(84,823)	(86,866)
Cash paid for interfund services received	(18,766)	(13,206)
Net cash provided by operating activities	<u>307,830</u>	<u>257,215</u>
Cash flows from investing activities:		
Purchase of investment	(70,489)	(74,201)
Proceeds from sale of investments	-	72,452
Investment income	6,597	10,202
Change in pooled investments	(37,083)	(77,210)
Net cash provided by (used in) investing activities	<u>(100,975)</u>	<u>(68,757)</u>
Cash flows from capital and related financing activities:		
Capital contributions	19,639	20,010
Principal repayment of debt and capital lease obligations	(63,943)	(1,378,630)
Acquisition, construction, and improvement of capital assets	(189,689)	(129,376)
Proceeds from issuance of debt	5,592	1,238,423
Premium from issuance of debt	14,361	190,931
Interest paid	(159,236)	(261,583)
Net cash used in capital and related financing activities	<u>(373,276)</u>	<u>(320,225)</u>
Cash flows from noncapital financing activities:		
Transfers from other funds	132,736	131,579
Transfers to other funds	(19,477)	(22,440)
Other expenses noncapital contributions distributions	(3,121)	(7,348)
Net cash provided by noncapital financing activities	<u>110,138</u>	<u>101,791</u>
Increase (decrease) in cash and cash equivalents	<u>(56,283)</u>	<u>(29,976)</u>
Cash and cash equivalents:		
Beginning of year	276,762	306,738
End of year	<u>\$ 220,479</u>	<u>276,762</u>

(Continued)

See accompanying notes to the financial statements.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
 Statements of Cash Flows
 For the Years Ended June 30, 2016 and 2015
 (In Thousands)

	<u>2016</u>	<u>2015</u>
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 142,887	163,253
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	99,088	93,787
Changes in assets and liabilities:		
Accounts receivable - net of allowances	(3,557)	(3,476)
Due from other funds of the City of Atlanta	10,122	9,261
Due from other governmental units - net of allowance	45,339	(9,868)
Materials and supplies - net of allowances	(634)	650
Investment in joint venture	2,102	610
Accounts payable and accrued expenses	11,614	1,866
Claims payable	356	520
Customer deposits	513	612
	<u>\$ 307,830</u>	<u>257,215</u>
Net cash provided by operating activities		
Schedule of noncash capital and related financing activity:		
Acquisition of capital assets in accounts payable	\$ 24,592	28,053
Amortization of bond discount and premium, net	\$ 12,562	20,829

See accompanying notes to the financial statements.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 1 – Reporting Entity and Summary of Significant Accounting Policies

Reporting Entity

The City of Atlanta, Georgia - Department of Watershed Management (Department) accounts for all activities associated with the provision and management of clean water, wastewater and stormwater systems, and water pollution control services to individuals, organizations, and other governmental units within and around the City of Atlanta, Georgia (City). All revenue from sources applicable to such operations and all costs and expenses incurred in the provision of such services are recorded in this fund. The accompanying financial statements include only the financial activities of the Department. The Department is an integral part of the City's government reporting entity and its results are included in the Comprehensive Annual Financial Report (CAFR) of the City as a proprietary fund. The most recent available CAFR is as of and for the year ended June 30, 2015. The CAFR should be read in conjunction with these financial statements.

The accounting policies of the Department conform to U.S. generally accepted accounting principles (GAAP) as applied to governmental units. The Department's most significant accounting policies are summarized below.

Basis of Accounting

As required by various City ordinances, the financial activities of the Department are accounted for in separate funds established by such ordinances and are combined for financial reporting purposes and presented as a single proprietary fund. Proprietary fund financial statements are prepared on the accrual basis of accounting, whereby revenue is recognized as earned and expenses are recognized as incurred.

Revenue Recognition

Substantially all revenues are accrued and recognized as earned. Revenue for water and sewer service charges is billed based on cycle billings sent to customers. Service charges, including amounts not yet billed as of year-end, are pro-rated based on days applicable to the financial reporting period.

Grants which finance either capital or current operations are reported as non-operating revenue. The Department recognizes receivables and revenue when the applicable eligibility requirements, including time requirements, are met. Resources transmitted before the eligibility requirements are met are reported as unearned revenue by the Department.

Cash and Cash Equivalents

The Department considers all highly liquid debt securities with an original maturity of no more than three months to be cash equivalents.

At June 30, 2016 and 2015, cash and cash equivalents included the following (in thousands):

	<u>2016</u>	<u>2015</u>
Unrestricted cash and cash equivalents	\$ 18,831	\$ 18,828
Restricted cash and cash equivalents	<u>201,648</u>	<u>257,934</u>
	<u>\$ 220,479</u>	<u>\$ 276,762</u>

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 1 – Reporting Entity and Summary of Significant Accounting Policies, continued

Investments

Investments are reported at fair value, based on quoted market prices, and include any accrued interest.

The City maintains a pooled investment fund in which the Department participates. Investment income of this pooled fund is allocated to each participating fund based on that fund's recorded equity in the pooled fund. Debt service and construction project funds of the Department are held as restricted assets and are not included in the pooled investment fund.

Materials and Supplies

Materials and supplies are stated at the lower of average cost or market and are reduced by an allowance for obsolescence.

Customer Deposits

Deposits made on customer accounts will be refunded, provided no action to terminate service has been taken, after five years of uninterrupted water service. When accounts are closed, the deposit credited to such accounts is applied to any unpaid balance. Any credit remaining after unpaid balances are satisfied may, at the customer's request, be refunded without interest or transferred without interest to another account to serve as a deposit or a portion of the required deposit for such new account.

Water main deposits are typically collected from developers of new businesses and residential buildings. Deposits are only refundable when the water mains are laid within the City limits, a request has been made by the developer, the project is complete, and water meters have been installed and activated. If a request for refund is not made by the developer after 10 years of the approval date of the contract, all rights to a refund by the developer are relinquished.

Restricted Assets

Restricted assets represent amounts required to be maintained pursuant to City ordinances relating to bonded indebtedness (construction, renewal and extension, escrow, and sinking funds) and funds received for specific purposes pursuant to U.S. government grants (see note 3).

When costs are incurred for purposes for which there are both restricted and unrestricted assets available, it is the Department's policy to apply those costs to restricted assets to the extent such are available and then to unrestricted assets.

Interfund Transactions

During the course of normal operations, transactions take place between the funds comprising the Department and other funds within the City. These interfund transactions are not eliminated and are classified as "due from other funds of the City of Atlanta" and "advance to other funds of the City of Atlanta" on the statements of net position (see note 4).

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 1 – Reporting Entity and Summary of Significant Accounting Policies, continued

Capital Assets

Capital assets are recorded at cost, if purchased and at fair value at date of gift, if donated. The Department capitalizes plants and facilities, systems, machinery and equipment with a cost of \$5,000 or more. Depreciation is provided on the straight-line method over the following estimated useful lives:

<u>Classification</u>	<u>Range of Lives</u>
Water and wastewater plant and treatment facilities	50-75 years
Water collection and distribution system	75 years
Wastewater system	67 years
Stormwater drainage systems	75 years
Machinery, equipment, and other	4-10 years
Land improvements	20 years

Capitalization of Interest

Net interest costs incurred during construction of system lines, plant facilities, and other structures are capitalized as part of the historical cost of acquiring these assets. The interest earned on investments acquired with proceeds from tax-exempt borrowings (where such borrowings are restricted to the acquisition of assets) is offset against the related interest costs in determining either the amount of interest to be capitalized or limitations on the amount of interest costs to be capitalized.

Compensated Absences

Department employees can accrue a maximum of 25 to 45 days of annual leave, depending upon the length of service. Vested or accumulated vacation leave and the related employee benefits are recorded as an expense and liability as the benefits accrue to employees.

Employees can accrue unlimited amounts of sick leave. Sick leave can be taken only due to personal illness or, in certain cases, illness of family members. Sick leave is not intended to be paid out except under special circumstances where the City Council has given approval and the necessary funds are available. Consequently, the Department does not record an accrued liability for accumulated sick pay.

Net Position

Net investment in capital assets - Consists of capital assets including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, notes, or other borrowings that are attributable to the acquisition, construction or improvement of those assets. Included are the deferred outflows of resources and deferred inflows of resources that are attributed to acquisition, construction, or improvement of those assets or related debt. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 1 – Reporting Entity and Summary of Significant Accounting Policies, continued

Net Position, continued

Restricted - Consists of net position with constraints placed on use either by (1) external groups, such as creditors, grantors, contributors, or laws or regulations of other governments or (2) law through constitutional provisions or enabling legislation reduced by liabilities and deferred inflows of resources related to those assets.

When an expense is incurred for purposes for which there is both restricted and unrestricted net position available, it is the Department's policy to apply those expenses to restricted net position, to the extent such are available, and then to unrestricted net position.

Unrestricted - All other net position that does not meet the definition of "restricted" or "net investment in capital assets."

Classification of Revenues and Expenses

Operating revenues and expenses consist of those revenues and expenses that result from the ongoing principal operations of the Department. Operating revenues consist primarily of charges for services, with a small portion attributable to ancillary activities. Non-operating revenues and expenses consist of those revenues and expenses that are related to financing and investing types of activities and result from non-exchange transactions.

Long-Term Debt

Bond discounts and premiums are deferred and amortized over the term of the bonds using the bonds outstanding method, which approximates the effective interest method. Bond discounts and premiums are presented net of the face amount of bonds payable.

Bond issuance costs are recorded as an outflow of resources (expensed) in the year in which they are incurred.

Franchise Fees

In fiscal years 2016 and 2015, a franchise fee was charged by and paid to the City's general fund. The payment was based on the carrying value of the property and assessments on revenue. These charges were approximately \$19,394,000 and \$19,401,000, respectively, for the years ended June 30, 2016 and 2015, and are reported on the accompanying statements of revenue, expenses and changes in net position as transfers out.

General Services Costs

The Department is one of a number of funds and/or departments maintained by the City. Certain general services costs, such as purchasing, accounting, budgeting, and personnel administration represent services provided to the Department by other City departments and/or funds. Such costs are allocated to the Department based on allocation methods determined by an independent study. For the years ended June 30, 2016 and 2015, such allocated expenses totaled approximately \$18,766,000 and \$13,206,000, respectively.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 1 – Reporting Entity and Summary of Significant Accounting Policies, continued

Recently Adopted Accounting Pronouncements

In 2016, the Department adopted the provisions of GASB Statement No. 72, *Fair Value Measurement and Application*. This Statement provides hierarchical guidance for determining fair value measurement for assets and liabilities for financial reporting purposes and also provides guidance for required disclosures related to fair value measurements.

Future Accounting Pronouncements

Pronouncements issued, but not yet effective, which will be adopted by the Department in future years:

In June 2015, the GASB issued Statement 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*. This statement establishes standards of accounting and financial reporting for defined benefit pensions and defined contribution pensions that are provided to the employees not within the scope of Statement 68. Requirements are also established for assets accumulated for purposes of providing pensions through defined benefit pension plans that are not administered through trusts that meet the criteria within the scope of GASB Statement No. 67. This Statement will be effective for the Department in fiscal year 2017. The Department is in the process of evaluating the impact of this pronouncement on its financial statements.

In June 2015, the GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefit Plans Other Than Pensions*. This statement establishes accounting and financial reporting standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expenses for OPEBs that are provided to employees of state and local government employers. This Statement also identifies the methods and assumptions 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. This Statement will be effective for the Department in fiscal year 2018. The Department is in the process of evaluating the impact of this pronouncement on its financial statements.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 1 – Reporting Entity and Summary of Significant Accounting Policies, continued

Future Accounting Pronouncements, continued

In August 2015, the GASB issued Statement No. 77, *Tax Abatement Disclosures*. This statement requires state and local governments to disclose tax abatement agreements that reduce the reporting government's tax revenues. The reduction in tax revenues may result from an agreement between one or more governments and an individual entity in which one or more governments promise to forgo tax revenues to which they are otherwise entitled. This statement requires disclosure of the general terms of the tax abatement, the amount of taxes abated during the period, and other related commitments made by the government. This Statement is effective for the Department in fiscal year 2017. The Department is in the process of evaluating the impact of this pronouncement on its financial statements.

In December 2015, the GASB issued Statement No 79, *Certain External Investment Pools and Pool Participants*. 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 such 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. This Statement also establishes additional note disclosure requirements for qualifying external investment pools that measure all of their investments at amortized cost for financial reporting purposes and for governments that participate in those pools. This statement is effective for the Department in fiscal year 2017. The Department is in the process of evaluating the impact of this pronouncement on its financial statements.

In March 2016, the GASB issued Statement No. 82, *Pension Issues – an amendment of GASB Statement Nos. 67, 68, and 73*. 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 Standards of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. This Statement is effective for the Department in fiscal year 2017. The Department is in the process of evaluating the impact of this pronouncement on its financial statements.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 1 – Reporting Entity and Summary of Significant Accounting Policies, continued

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and disclosures. Actual results could differ from those estimates.

Reclassifications

Certain reclassifications have been made to the 2015 financial statements to conform to the 2016 financial statement presentation. The reclassifications had no impact on net position or change in net position.

Note 2 – Deposits and Investments

Pooled Cash and Investments Held in City Treasury

The City maintains a cash and investment pool that is available for use by various City funds including the Department. The Department's portion of this pool is displayed on the accompanying statements of net position as equity in cash management pool.

Investment in Local Government Investment Pool

The City is a voluntary participant in the Georgia Local Government Investment Pool (Georgia Fund 1) that is managed by the Office of Treasury and Fiscal Services. Georgia Fund 1 is designed to maximize current income while preserving principal and providing daily liquidity. It is managed to maintain a \$1.00 value and a weighted maturity of 60 days or less, with a maximum maturity of any investment limited to 397 days. At June 30, 2016 and 2015, portfolio composition consisted of the Federal Home Loan Bank (FHLB), Federal Home Loan Mortgage Corporation (FHLMC), Federal National Mortgage Association (FNMA), Federal Farm Credit Bank (FFCB), Repurchase Agreements (Repos), and Negotiated Investment Deposit Agreements (NIDA).

As of June 30, 2016 and 2015, the Department's investments in the Georgia Fund 1 are approximately \$71,629,000 and \$56,971,000, respectively. The total amount held by all public agencies in Georgia Fund 1 at June 30, 2016 and 2015 is approximately \$13.4 billion and \$11.2 billion, respectively.

Investments Authorized by the Official Code of Georgia and the City's Investment Policy

The City has adopted an investment policy (Policy) to minimize the inherent risks associated with deposits and investments. The primary objective of the Policy is to invest funds to provide for the maximum safety of principal.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 2 – Deposits and Investments, continued

The Policy also identifies certain provisions of the Official Code of Georgia Annotated (OCGA) that address interest rate risk, credit risk and concentration of credit risk. The Policy governs all governmental and business-type activities for the City, but does not govern the City's pension plans. Identified below are the investment types that are authorized for the City by the Policy.

The City's investments are limited to U.S. government-guaranteed securities and U.S. government agency securities which are limited to issues of the Federal Farm Credit Bank (FFCB), Federal Home Loan Bank System (FHLBS), Federal Home Loan Mortgage Corporation (FHLMC) and Federal National Mortgage Association (FNMA). Under the Policy, the City restricts investments in eligible obligations to discount notes and callable or non-callable fixed-rate securities with a fixed principal repayment amount.

Also, the City may invest in fully collateralized repurchase agreements provided the City has on file a signed Master Repurchase Agreement, approved by the City Attorney, detailing eligible collateral, collateralization ratios, standards for collateral custody and control, collateral valuation, and conditions for agreement termination. The Policy requires the securities being purchased by the City to be assigned to the City, held in the City's name, deposited, at the time the investment is made, with the City or with a third party selected and approved by the City, and placed through a primary government securities dealer, as defined by the Federal Reserve, or a financial institution doing business in this state, which is rated no less than "A" or its equivalent by two nationally recognized rating services.

Under the Policy, the City's investment portfolio, in aggregate, will be diversified to limit its exposure to interest rate, credit and concentration risks by observing the above limitations.

Fair Value Measurement

GASB Statement No. 72, *Fair Value Measurement and Application*, enhances comparability of governmental financial statements by requiring fair value measurement for certain assets and liabilities using a consistent definition and accepted valuation techniques. The standard establishes a hierarchy of inputs used to measure fair value that prioritizes the inputs into three categories – Level 1, Level 2 and Level 3 inputs – considering the relative reliability of the inputs. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

- Level 1 inputs are quoted (unadjusted) prices in active markets for identical financial assets or liabilities that the Department has the ability to access at the measurement date;
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the financial asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs for the financial asset or liability.

The level in the fair value hierarchy within which a fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its entirety.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 2 – Deposits and Investments, continued

The following tables present the financial assets carried at fair value by level within the valuation hierarchy as of June 30, 2016 and 2015:

	2016			
	Level 1	Level 2	Level 3	Total
Investments by fair value level:				
Debt securities				
U.S. Treasuries	\$ 50,463	-	-	50,463
U.S. Agencies	-	74,177	-	74,177
Total debt securities	50,463	74,177	-	124,640
Equity securities				
Equity - open end fund	241	-	-	241
Guaranteed investment contracts	-	87,676	-	87,676
Total equity securities	241	87,676	-	87,917
Equity in Cash Management Pool				747,159
Total investments	\$ 50,704	161,853	-	959,716
2015				
	Level 1	Level 2	Level 3	Total
Investments by fair value level:				
Debt securities				
U.S. Treasuries	\$ 50,218	-	-	50,218
U.S. Agencies	-	74,201	-	74,201
Total debt securities	50,218	74,201	-	124,419
Equity securities				
Equity - open end fund	157	-	-	157
Guaranteed investment contracts	-	17,187	-	17,187
Total equity securities	157	17,187	-	17,344
Equity in Cash Management Pool				710,076
Total investments	\$ 50,375	91,388	-	851,839

Short term investment and debt securities classified in Level 1 are valued using prices quoted in active markets for those securities. Debt securities classified as Level 2 are subject to pricing by an alternative pricing source due to lack of information by the primary vendor. Guaranteed investment contracts were valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices for identical securities in markets that are not active.

There are no investments classified as Level 3. The equity in cash management pool represents the Department's participation in the City's internal cash pool which is measured at net asset value (NAV) per share.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 2 – Deposits and Investments, continued

Investment Risk Disclosures

Interest rate risk - Interest rate risk is the risk that changes in market rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. Additionally, the fair values of the investments may be highly sensitive to interest rate fluctuations. The Policy establishes maximum maturity dates by investment type in order to limit interest rate risk. The City manages its exposure to interest rate risk by purchasing a combination of shorter-term and longer-term investments and by timing cash flows from maturities so that a portion is maturing, or approaching maturity, evenly over time, as necessary to provide the cash flow and liquidity needs for operations. The City has the ability and generally has the intention to hold all investments until their respective maturity dates. The average maturity of the City's pooled cash and investments governed by the Policy as of June 30, 2016 and 2015, was approximately six months. If it becomes necessary or strategically prudent for the City to sell a security prior to maturity, the Policy allows for occasional restructuring of the portfolio to minimize the loss of fair market value and/or to maximize cash flows.

Credit risk - Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This risk is measured by the assignment of a rating by a nationally recognized statistical rating organization. The Policy does not specify a minimum bond rating for investments.

As of June 30, 2016, the Department had the following investments with the corresponding credit ratings and maturities (in thousands):

<u>Type of investments</u>	<u>Credit rating</u>	<u>Maturity</u>					<u>Carrying value</u>
		<u>Under 30 Days</u>	<u>31 – 180 Days</u>	<u>181 – 365 Days</u>	<u>1 – 5 Years</u>	<u>Over 5 years</u>	
U.S. government obligations	Aaa/AAA	\$ -	74,177	-	-	-	74,177
U.S. government treasuries	Exempt	-	50,463	-	-	-	50,463
Equity in cash management pool	AAA	747,159	-	-	-	-	747,159
GIC's	*	-	-	-	-	87,676	87,676
Equity - open end fund	Exempt	241	-	-	-	-	241
		<u>\$ 747,400</u>	<u>124,640</u>	<u>-</u>	<u>-</u>	<u>87,676</u>	<u>959,716</u>

*All Guaranteed Investment Contracts (GIC's) are fully collateralized by U.S. Government Obligations or Agency securities.

As of June 30, 2015, the Department had the following investments with the corresponding credit ratings and maturities (in thousands):

<u>Type of investments</u>	<u>Credit rating</u>	<u>Maturity</u>					<u>Carrying value</u>
		<u>Under 30 Days</u>	<u>31 – 180 Days</u>	<u>181 – 365 Days</u>	<u>1 – 5 Years</u>	<u>Over 5 years</u>	
U.S. government obligations	Aaa/AAA	\$ -	-	-	74,201	-	74,201
U.S. government treasuries	Exempt	-	-	-	50,218	-	50,218
Equity in cash management pool	AAA	710,076	-	-	-	-	710,076
GIC's	*	-	-	-	-	17,187	17,187
Equity - open end fund	Exempt	157	-	-	-	-	157
		<u>\$ 710,233</u>	<u>-</u>	<u>-</u>	<u>124,419</u>	<u>17,187</u>	<u>851,839</u>

*All Guaranteed Investment Contracts (GIC's) are fully collateralized by U.S. Government Obligations or Agency securities.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 2 – Deposits and Investments, continued

Custodial credit risk - Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the Department will not be able to recover its deposits or collateral securities that are in the possession of an outside party. Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the Department will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party.

The Department requires that all uninsured collected balances plus accrued interest in depository accounts be collateralized and that the market value of collateralized pledged securities must be at least 110% of the deposit balances and 102% for repurchase agreements. As a result, the Department had no deposits with custodial risks as of June 30, 2016 and 2015. All investments of the Department are either held by the Department or by a counterparty in the Department’s name; therefore, the Department’s investments had no custodial credit risk as of June 30, 2016 and 2015.

Concentration of credit risk - The Policy contains no limitations on the amount that can be invested in any one issuer beyond that stipulated by the OCGA. The Department has no investments in any one issuer that represents 5% or more of total financial instruments, except for Federal Home Loan Mortgage Corporation (44%), U.S. Department of Treasury notes (19%), Federal Farm Credit Bank (7%), and Federal Home Loan Bank (6%).

Foreign currency risk - Foreign currency risk is the risk that changes in exchange rates could adversely affect an investment’s or deposit’s fair value. The Department is not exposed to this risk and the Policy does not provide for investments in foreign currency risk-denominated securities.

Note 3 – Restricted Assets

The Department’s bond covenants require certain reserves for debt service payments. Principal and interest payments are not required to be deposited into the sinking fund accounts until 30 days prior to the payment being due.

Cash equivalents and investments at June 30, 2016 and 2015 are restricted for the following (in thousands):

	<u>2016</u>	<u>2015</u>
Construction Revenue Funds:		
Cash and cash equivalents	<u>\$ 115,623</u>	<u>\$ 125,611</u>
Sinking Fund:		
Cash and cash equivalents	86,025	132,323
Investments	<u>212,557</u>	<u>141,763</u>
Total sinking fund	<u>298,582</u>	<u>274,086</u>
Total restricted cash equivalents and investments	<u><u>\$ 414,205</u></u>	<u><u>\$ 399,697</u></u>

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 2 – Deposits and Investments, continued

The following is a summary of carrying amounts of restricted assets as shown on the accompanying statements of net position at June 30, 2016 and 2015 (in thousands):

	<u>2016</u>	<u>2015</u>
Cash and cash equivalents	\$ 201,648	\$ 258,091
Investments	<u>212,557</u>	<u>141,606</u>
Total	<u>\$ 414,205</u>	<u>\$ 399,697</u>

Note 4 – Due from Other Funds of the City of Atlanta, Advance to Other Funds of the City of Atlanta and Transfers

Due from Other Funds of the City of Atlanta and Advance to Other Funds of the City of Atlanta

During the course of its operations, the Department makes transfers between other City funds to finance operations, provide services, and acquire assets and service debt. To the extent that certain transfers between funds had not been received as of year-end, balances of interfund amounts, receivable or payable, have been recorded. Interfund receivable and advance balances as of June 30, 2016 and 2015 are as follows (in thousands):

	<u>2016</u>	<u>2015</u>
Due from other funds of the City of Atlanta:		
Sales tax fund	\$ 11,333	\$ 11,330
General fund	<u>577</u>	<u>703</u>
Due from other funds of the City of Atlanta:	<u>\$ 11,910</u>	<u>\$ 12,033</u>
Advance to other funds of the City of Atlanta:		
General fund	\$ 46,199	\$ 56,198
less current portion	<u>10,000</u>	<u>10,000</u>
Advance to other funds of the City of Atlanta, less current portion	<u>\$ 36,199</u>	<u>\$ 46,198</u>

On December 23, 2008, the Department and the City executed a Memorandum of Understanding (MOU) to establish a repayment plan for amounts that the Department advanced various City governmental funds from the Department's equity in the cash pool. These amounts will be repaid in annual installments of \$10,000,000 plus accrued interest at a rate of 1.25% per annum commencing in fiscal year 2010 until the advance is repaid in full. The first payment was due July 1, 2009. As of June 30, 2016 and 2015, the amounts outstanding, including accrued interest, were approximately \$46,776,000 and \$56,901,000 respectively.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
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Note 4 – Due from Other Funds of the City of Atlanta, Advance to Other Funds of the City of Atlanta and Transfers, continued

Transfers

Transfers are used to move revenues collected in one fund to another fund for payment of expenses as required by statute, ordinance or budget. Transfers for the years ended June 30, 2016 and 2015, are as follows (in thousands):

	<u>2016</u>	<u>2015</u>
Transfers in:		
Special revenue fund - Municipal Option Sales Tax Fund	<u>\$ 132,653</u>	<u>\$ 131,579</u>
Transfers out:		
General fund	19,394	20,529
Agency fund	<u>-</u>	<u>1,911</u>
	<u>\$ 19,394</u>	<u>\$ 22,440</u>

The transfer in from the special revenue fund represents the proceeds from the Municipal Option Sales Tax (see note 14). In fiscal years 2016 and 2015, the transfer out to the City of Atlanta’s general fund represents primarily franchise fees of approximately \$19,394,000 and \$19,401,000, respectively.

Note 5 - Due from Other Parties

During the year ended June 30, 2008, the Department advanced \$30,000,000 to a component unit of the City, Atlanta Beltline, Inc., an affiliate of the Atlanta Development Authority. The funds are to be used in the accomplishment of certain consent decree objectives. As of June 30, 2016 and 2015, approximately \$23,890,000 of the advance was expended on this project and is reflected as construction in progress by Atlanta Development Authority, the component unit. Upon project completion, the related assets will be transferred to the Department. The balances as of June 30, 2016 and 2015 are as follows (in thousands):

	<u>2016</u>	<u>2015</u>
Due from other parties	<u>\$ 24,000</u>	<u>24,000</u>

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Note 6 – Capital Assets

A summary of capital asset activity and changes in accumulated depreciation for the years ended June 30, 2016 and 2015 follows (in thousands):

	Balance at June 30, 2015	Additions	Deletions/ Retirements	Transfers and Adjustments	Balance at June 30, 2016
Capital assets not being depreciated:					
Land	\$ 119,116	1,958	(180)	3,151	124,045
Construction in progress	561,771	182,036		(156,485)	587,322
Total capital assets not being depreciated	680,887	183,994	(180)	(153,334)	711,367
Capital assets being depreciated:					
Land improvements	12,195				12,195
Water collection and distribution system	4,270,169			6,554	4,276,723
Water and wastewater plant and treatment facilities	1,794,699	316	(124)	138,608	1,933,499
Other property and equipment	206,775	1,918	(1,656)	8,172	215,209
Total capital assets being depreciated	6,283,838	2,234	(1,780)	153,334	6,437,626
Less: Accumulated depreciation					
Land improvements	(9,060)	(518)			(9,578)
Water collection and distribution system	(1,431,916)	(56,705)			(1,488,621)
Water and wastewater plant and treatment facilities	(512,193)	(36,381)	47		(548,527)
Other property and equipment	(189,606)	(5,484)	1,477		(193,613)
Total accumulated depreciation	(2,142,775)	(99,088)	1,524	-	(2,240,339)
Total capital assets being depreciated, net	4,141,063	(96,854)	(256)	153,334	4,197,287
Net capital assets	\$ 4,821,950	87,140	(436)	-	4,908,654

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Notes to the Financial Statements
June 30, 2016 and 2015

Note 6 – Capital Assets, continued

	Balance at June 30, 2014	Additions	Deletions/ Retirements	Transfers and Adjustments	Balance at June 30, 2015
Capital assets not being depreciated:					
Land	\$ 118,295	-	-	821	119,116
Construction in progress	487,021	129,187	(332)	(54,105)	561,771
Total capital assets not being depreciated	<u>605,316</u>	<u>129,187</u>	<u>(332)</u>	<u>(53,284)</u>	<u>680,887</u>
Capital assets being depreciated:					
Land improvements	12,195	-	-	-	12,195
Water collection and distribution system	4,258,615	-	-	11,554	4,270,169
Water and wastewater plant and treatment facilities	1,757,543	-	-	37,156	1,794,699
Other property and equipment	207,963	7,802	(13,564)	4,574	206,775
Total capital assets being depreciated	<u>6,236,316</u>	<u>7,802</u>	<u>(13,564)</u>	<u>53,284</u>	<u>6,283,838</u>
Less: Accumulated depreciation					
Land improvements	(8,525)	(535)	-	-	(9,060)
Water collection and distribution system	(1,375,465)	(56,451)	-	-	(1,431,916)
Water and wastewater plant and treatment facilities	(479,973)	(32,220)	-	-	(512,193)
Other property and equipment	(198,446)	(4,581)	13,421	-	(189,606)
Total accumulated depreciation	<u>(2,062,409)</u>	<u>(93,787)</u>	<u>13,421</u>	<u>-</u>	<u>(2,142,775)</u>
Total capital assets being depreciated, net	<u>4,173,907</u>	<u>(85,985)</u>	<u>(143)</u>	<u>53,284</u>	<u>4,141,063</u>
Net capital assets	<u>\$ 4,779,223</u>	<u>43,202</u>	<u>(475)</u>	<u>-</u>	<u>4,821,950</u>

Total interest costs incurred during the years ended June 30, 2016 and 2015, totaled approximately \$160,903,000 and \$162,066,000, respectively, of which approximately \$8,304,000 and \$23,584,000, net of interest income, were capitalized in the years ended June 30, 2016 and 2015, respectively.

Depreciation expense incurred during the years ended June 30, 2016 and 2015 totaled approximately \$99,088,000 and \$93,787,000, respectively.

Notes 7 – Accounts Payable

At June 30, 2016, the accounts payable balance includes 43% capital asset payables or \$24,592,000 and 57% vendor payables or \$32,730,000. At June 30, 2015, the accounts payable balance includes 58% capital asset payables or \$28,053,000, and 42% vendor payables or \$20,296,000.

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Notes to the Financial Statements
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Note 8 – Commercial Paper Notes Payable

In April, 2015, the Department authorized the issuance of the following Water and Wastewater Revenue Commercial Paper Notes (Series 2015 Notes): (a) Series 2015A-1, up to the amount of \$125,000,000 and (b) Series 2015A-2, up to the amount of \$125,000,000. On April 1, 2015, the Department entered into a Letter of Credit and Reimbursement Agreement with PNC Bank, National Association to facilitate the payment of principal and interest on the Series 2015-A1 Notes in the principal amount of \$125 million for the 2015 Commercial Paper Program. Also, on April 1, 2015, the Department entered into a Letter of Credit and Reimbursement Agreement with Wells Fargo Bank, National Association to facilitate the payment of principal and interest on the Series 2015-A2 Notes in the principal amount of \$125 million for the 2015 Commercial Paper Program. The Series 2015 Notes were issued to: (A) finance or refinance, on an interim basis, the costs of planning, engineering, design, acquisition, construction and reconstruction of certain additions, extensions, improvements and betterments included as a part of a multi-phase long term capital improvement program for the Department, (B) refund in whole or in part the principal of and interest on Outstanding Series 2015 Notes, and (C) pay expenses necessary to accomplish the foregoing. Revenue of the Department is pledged as security for payments on the Series 2015 Notes, which is junior and subordinate to the pledge of revenue securing the Department's long-term debt. The Series 2015 Notes do not constitute a debt, liability, or obligation of the City's governmental funds, or a pledge of the faith and credit or taxing power of the City. The Series 2015 Notes are considered a short term obligation of the Department and may be repaid and reissued as often as necessary to affect the purposes set out in the program.

There were no draws issued on the Water and Wastewater Commercial Paper Series 2015 Notes during fiscal years 2015 or 2016.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 9 – Long-Term Liabilities

Long-term debt at June 30, 2016 and 2015 consists of the following (in thousands):

	<u>2016</u>	<u>2015</u>
Revenue Bonds		
Water and Wastewater Revenue Bonds, \$1,096,140 Series 1999A, combination serial bonds (5.50%) and term bonds (5.50%), due serially through 2022	\$ 232,660	\$ 259,400
Water and Wastewater Revenue Bonds, \$415,310 Series 2001A, term bonds (5.50%) due serially through 2027	85,055	85,055
Water and Wastewater Revenue Bonds, \$849,330 Series 2004, serial bonds (5.75%) due serially through 2030	134,110	134,110
Water and Wastewater Revenue Bonds, \$106,795 Series 2008, variable rate bonds (.81% at June 30, 2016 and .47% at June 30, 2015), due serially through 2041	106,795	106,795
Water and Wastewater Revenue Bonds, \$750,000 Series 2009A, serial bonds (5.00% - 6.00%) due serially through 2019	64,245	74,400
Water and Wastewater Revenue Bonds, \$448,965 Series 2009B, combination serial bonds (4.00% - 5.50%) and term bonds (5.25-5.375%), due serially through 2039	438,155	445,745
Water and Wastewater Revenue Bonds, \$178,735 Series 2013A1, variable rate bonds (1.813% at June 30, 2016 and 1.625% at June 30, 2015), due serially through 2038	178,735	178,735
Water and Wastewater Revenue Bonds, \$50,000 Series 2013A2A, variable rate bonds (1.213% at June 30, 2016 and 1.025% at June 30, 2015), due serially through 2038	49,215	49,490
Water and Wastewater Revenue Bonds, \$50,000 Series 2013A2B, variable rate bonds (1.213% at June 30, 2016 and 1.025% at June 30, 2015), due serially through 2038	49,220	49,490
Water and Wastewater Revenue Bonds, \$50,000 Series 2013A2C, variable rate bonds (1.213% at June 30, 2016 and 1.025% at June 30, 2015), due serially through 2038	50,000	50,000
Water and Wastewater Revenue Bonds, \$200,140 Series 2013B, serial bonds (5.25% - 5.50%), due serially through 2030	188,860	200,140
Water and Wastewater Revenue Bonds, \$1,237,405 Series 2015, combination serial bonds (2.00% - 5.00%) and term bonds (5.00%), due serially through 2043	1,237,405	1,237,405
Total Revenue bonds	<u>2,814,455</u>	<u>2,870,765</u>
Other Debt		
Georgia Environmental Facilities Authority (GEFA) \$4,669 Loan, (3.00%), due serially through 2023	2,079	2,332
Georgia Environmental Facilities Authority (GEFA) \$19,006 Loan, (3.82%), due serially through 2035	14,589	15,087
Georgia Environmental Facilities Authority (GEFA) \$19,034 Loan, (3.92%), due serially through 2036	15,200	15,674
Georgia Environmental Facilities Authority (GEFA) \$31,409 Loan, (3.00%), due serially through 2027	24,941	25,947
Georgia Environmental Facilities Authority (GEFA) \$19,021 Loan, (4.12%), due serially through 2038	15,789	16,234
Georgia Environmental Facilities Authority (GEFA) \$31,216 Loan, (3.00%), due serially through 2027	24,490	25,442
Georgia Environmental Facilities Authority (GEFA) \$31,053 Loan, (3.00%), due serially through 2028	24,870	25,815
Georgia Environmental Facilities Authority (GEFA) \$5,500 Loan, Loan (3.00%), due serially through 2032	4,703	4,924
Georgia Environmental Facilities Authority (GEFA) \$3,000 Loan, (3.81%), due serially through 2032	2,606	2,719
Georgia Environmental Facilities Authority (GEFA) \$34,990 Loan, (3.00%), due serially through 2035	33,363	34,669
Georgia Environmental Facilities Authority (GEFA) \$51.426 maximum gross loan (2.03%), due serially through 2039	5,592	-
Total other debt	<u>168,222</u>	<u>168,843</u>
Total revenue bonds and other debt	2,982,677	3,039,608
Unamortized bond premiums	214,220	212,197
Unamortized bond discounts	(4,535)	(4,311)
Less: Current maturities	(66,122)	(62,108)
Total long-term debt	<u>\$ 3,126,240</u>	<u>\$ 3,185,386</u>

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 9 – Long-Term Liabilities, continued

The annual debt service requirements at June 30, 2016 are as follows (in thousands):

Year Ending	Revenue Bonds			Other Debt - GEFA Notes Payable		Total
	Principal	Interest	Interest Rate Swaps, Net	Principal	Interest	
2017	\$ 60,120	129,161	16,260	6,002	5,362	216,905
2018	63,650	125,967	16,237	6,200	5,164	217,218
2019	66,850	122,492	16,214	6,404	4,960	216,920
2020	70,890	118,763	16,189	6,616	4,748	217,206
2021	74,470	114,871	16,164	6,834	4,530	216,869
2022-2026	431,170	513,370	77,217	36,802	19,138	1,077,697
2027-2031	548,650	398,543	62,205	42,527	12,692	1,064,617
2032-2036	641,605	265,605	43,012	47,584	5,201	1,003,007
2037-2041	704,190	107,044	20,474	9,253	206	841,167
2042-4046	152,860	8,879	-	-	-	161,739
	<u>\$ 2,814,455</u>	<u>1,904,695</u>	<u>283,972</u>	<u>168,222</u>	<u>62,001</u>	<u>5,233,345</u>

The bonds are payable from Department revenue and are collateralized by Department revenue remaining after reasonable and necessary operating and maintenance costs. In addition, the bond ordinances require the maintenance of sinking funds to provide for debt service on the related bonds (see note 3). The ordinances require that revenue must be 110% of maximum annual debt service.

On September 12, 2013 the City of Atlanta issued approximately \$328.7 million of its Water and Wastewater Revenue Bonds, Series 2013A, and \$200.1 million of its Water and Wastewater Revenue Bonds Series 2013B, collectively referred to as the “Series 2013 Bonds”. An amount totaling \$178.7 million of the Series 2013A Bonds was issued as sub-series A-1 and sold to respective bond trading institutions, and \$150 million issued as sub-series A – 2 Bonds and privately placed. All of the Series 2013A bonds were issued as Variable Rate Bonds with a LIBOR index rate. The Series 2013 Bonds were issued to refinance portions of the outstanding Water and Wastewater Revenue Bonds Series 1999A, Series 2001A, Series 2004, and pay all costs with respect to the issuance of the Series 2013 Bonds.

On March 12, 2015, the City of Atlanta issued approximately \$1.237 billion of its Water and Wastewater Revenue Bonds, Series 2015 (the “Series 2015 Bonds”). The Series 2015 Bonds were issued to refund a portion of the City’s outstanding Water and Wastewater Revenue Bonds, Series 2001A, Series 2004, Series 2009A, and to pay the costs of issuance with respect to the issuance of the Series 2015 Bonds. The refunding of the Series 2015 Bonds resulted in a net present value savings of approximately \$156.1 million.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 9 – Long-Term Liabilities, continued

Changes in long-term liabilities are as follows (in thousands):

	Balance at June 30, 2015	Additions	Reductions	Balance at June 30, 2016	Due Within One Year
Long-term debt:					
Revenue bonds payable	\$ 2,870,765	-	(56,310)	2,814,455	60,120
GEFA loans	168,843	5,592	(6,213)	168,222	6,002
Bond premiums	212,197	15,091	(13,068)	214,220	-
Bond discounts	(4,311)	(730)	506	(4,535)	-
Total long-term debt	<u>3,247,494</u>	<u>19,953</u>	<u>(75,085)</u>	<u>3,192,362</u>	<u>66,122</u>
Other long-term liabilities:					
Capital lease obligation	2,724	-	(1,420)	1,304	1,304
Accrued workers' compensation	10,153	-	(1,592)	8,561	1,087
Claims payable	12,430	411	(55)	12,786	6,675
Other post-retirement benefits	100,909	13,494	(7,479)	106,924	-
Derivative instruments - interest rate swaps	<u>138,425</u>	<u>44,551</u>	<u>-</u>	<u>182,976</u>	<u>-</u>
Total other long-term liabilities	264,641	58,456	(10,546)	312,551	9,066
Total long-term liabilities	<u>\$ 3,512,135</u>	<u>78,409</u>	<u>(85,631)</u>	<u>3,504,913</u>	<u>75,188</u>
	Balance at June 30, 2014	Additions	Reductions	Balance at June 30, 2015	Due Within One Year
Long-term debt:					
Revenue bonds payable	\$ 3,006,165	1,237,405	(1,372,805)	2,870,765	56,310
GEFA loans	172,445	1,018	(4,620)	168,843	5,798
Bond premiums	49,754	190,931	(28,488)	212,197	-
Bond discounts	(11,971)	-	7,660	(4,311)	-
Total long-term debt	<u>3,216,393</u>	<u>1,429,354</u>	<u>(1,398,253)</u>	<u>3,247,494</u>	<u>62,108</u>
Other long-term liabilities:					
Capital lease obligation	3,930	-	(1,206)	2,724	1,536
Accrued workers' compensation	8,159	2,679	(685)	10,153	1,706
Claims payable	11,910	1,200	(680)	12,430	6,675
Other post-retirement benefits	95,238	13,111	(7,440)	100,909	-
Derivative instruments - interest rate swaps	<u>121,599</u>	<u>16,826</u>	<u>-</u>	<u>138,425</u>	<u>-</u>
Total other long-term liabilities	240,836	33,816	(10,011)	264,641	9,917
Total long-term liabilities	<u>\$ 3,457,229</u>	<u>1,463,170</u>	<u>(1,408,264)</u>	<u>3,512,135</u>	<u>72,025</u>

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 9 – Long-Term Liabilities, continued

Interest Rate Exchange Agreements (SWAPs) and Associated Bonds

The Department entered into two interest rate swap agreements in December 2001. These swap agreements are currently associated with the Department’s Water and Wastewater Revenue Refunding Bonds, Series 2013A (Swap 3), and the Department’s Water and Wastewater Revenue Bonds, Series 2008 and Water and Wastewater Revenue Refunding Bonds, Series 2015 (Swap 4), and have notional amounts of \$432,875,000, and \$433,420,000 at June 30, 2016 and 2015, respectively. Swap 3 became effective on January 3, 2002 and will mature on November 1, 2038. Swap 4 became effective on January 3, 2002 and will mature on November 1, 2041.

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2016 and 2015, classified by type, and the changes in fair value of such derivative instruments for the years then ended are as follows (in thousands):

Swap	Terms	2016 Changes in Fair Value		Fair Value at June 30, 2016		Notional
		Classification	Amount	Classification	Amount	
3	Pay fixed rate 4.09% per annum Receive 67% 1M LIBOR	Deferred outflow	\$ (26,005)	Debt	(132,988)	327,170
4a (partial)	Pay fixed rate 4.09% per annum Receive SIFMA	Investment expense	-	Investment	(4,812)	25,265
4b (partial)	Pay fixed rate 4.09% per annum Receive SIFMA	Deferred outflow	(18,546)	Debt	<u>(45,176)</u>	80,440
					<u>\$ (182,976)</u>	
Swap	Terms	2015 Changes in Fair Value		Fair Value at June 30, 2015		Notional
		Classification	Amount	Classification	Amount	
3	Pay fixed rate 4.09% per annum Receive 67% 1M LIBOR	Deferred outflow	\$ (6,903)	Debt	(106,983)	327,715
4a (partial)	Pay fixed rate 4.09% per annum Receive SIFMA	Investment expense	-	Investment	(4,812)	25,265
4b (partial)	Pay fixed rate 4.09% per annum Receive SIFMA	Deferred outflow	(9,923)	Debt	<u>(26,630)</u>	80,440
					<u>\$ (138,425)</u>	

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 9 – Long-Term Liabilities, continued

Interest Rate Exchange Agreements (SWAPs) and Associated Bonds, continued

Swap 3 became an effective hedge during fiscal 2015 in connection with a change in hedging relationship associated with the issuance of the Series 2013A Water and Wastewater Revenue Bonds. As a result, Swap 3 is classified as an investment derivative. Amortization of the accumulated loss of Swap 3, as of the date Swap 3 became an effective hedge, into deferred outflows totaled \$7,875,000 for the year ended June 30, 2016.

The fair values of derivative liabilities have been adjusted for nonperformance risk, which includes, but may not be limited to, the City’s own credit risk. Inputs to the valuation techniques for the City’s over-the-counter interest rate swaps are both directly or indirectly observable and thus categorized as Level 2 as defined in GASB Statement No. 72 (Note 2).

The fair value of the swaps was estimated using the proprietary pricing model of an independent derivative valuation service. The net cash outflow (payments) related to these derivative instruments during fiscal years 2016 and 2015 was approximately \$14,225,000 and \$17,330,000, respectively.

Objective and Terms of Hedging Derivative Instruments (Swap 3 and Swap 4b) - The following table displays the objective and terms of the Department’s hedging derivative instruments outstanding at June 30, 2016 along with the credit rating of the associated counterparty (dollars in thousands).

Swap	Type	Objective	Notional Amount	Effective Date	Maturity Date	Terms	Counterparty Credit Rating*
Swap 4b (partial)	Pay-fixed interest rate swap	Hedge of changes in cash flows of variable debt obligations	\$80,440	1/3/2002	11/1/2041	Receive SIFMA Municipal Swap Index; pay 4.09%	A+/Aa3/AA-
Swap 3	Pay-fixed interest rate swap	Hedge of changes in cash flows of variable debt obligations	\$327,170	1/3/2002	11/1/2038	Receive 67% IM LIBOR; pay 4.09%	A+/Aa3/AA-

Risks

Credit Risk - Credit risk is the risk that the counterparty will not fulfill its obligations. As of June 30, 2016, the two swaps were in liability positions; therefore, the Department is not exposed to credit risk. However, should interest rates change causing the fair value of the swaps to become assets, the Department would be exposed to credit risk.

The Department executes hedging derivatives with one counterparty, comprising 100% of the net exposure to credit risk. This one counterparty is rated A+ as issued by Fitch, London, Aa3 as issued by Moody’s, New York, and AA- as issued by Standard & Poor’s, New York.

Interest Rate Risk - Interest rate risk is the risk that changes in interest rates will adversely affect the fair values of the Department’s financial instruments or its cash flows. The Department is exposed to interest rate risk on its pay-fixed, receive-variable interest rate swaps. As LIBOR or the SIFMA swap index decreases, the Department’s net payment on the swap increases.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 9 – Long-Term Liabilities, continued

Risks, continued

Basis Risk - Basis risk is the risk that arises when variable rates or prices of a hedging derivative instrument and a hedge item are based on different reference rates. The Department is exposed to basis risk on its pay-fixed interest rate swap hedging instruments because the variable-rate payments received by the Department on these hedging derivative instruments are based on a rate or index other than interest rates the Department pays on its hedge variable-rate debt. As of June 30, 2016 and 2015, the interest rate on the Department's hedged variable-rate debt is 1.813 percent and 1.625 percent, respectively, while the SIFMA municipal swap index rate is 0.41 percent.

Termination Risk - Termination risk is the risk that a hedging derivative instrument's unscheduled termination will affect the Department's asset and liability strategy or will present the Department with potentially significant unscheduled termination payments to the counterparty. Amendments to the swap transactions, dated February 26, 2010, allow either party to terminate and cancel each of the transactions in whole or in part upon one business day's prior written notice to the other party.

Additionally, Swap 3 c contains a barrier option, which provides the counterparty the right, but not the obligation to terminate the transaction upon providing 30 calendar days' notice prior to any payment date, if the Average Rate has exceeded 7% per annum within the preceding 180 days. The Average Rate is defined as the arithmetic mean of the Municipal Swap Index as determined by the Calculation Agent on each reset date during the preceding 180 days.

Such termination would not require the consent of the Department and no fees, payments or other amounts would be payable by either party in respect to the termination, without prejudice to any obligation to pay a scheduled payment on or prior to such early termination. Any such termination would serve to extinguish all rights or obligations of either party to the other party which would otherwise accrue or have accrued since the last payment date.

Rollover Risk - Rollover risk is the risk that a hedging instrument associated with a hedgeable item does not extend to the maturity of that hedgeable item. The Department is not exposed to rollover risks because the hedging derivative instruments associated with the hedgeable debt items extend to the maturity of the hedgeable debt items.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 9 – Long-Term Liabilities, continued

Defeased Debt

The Department has defeased a portion of the series 2009A bond issue by creating a separate irrevocable trust fund. New debt was issued and the proceeds were used to purchase U.S. government securities that were placed in a trust fund. The investments and fixed earnings from the investments are sufficient to fully service the defeased debt until the debt is called or matures. For financial reporting purposes, the debt has been considered defeased and therefore, removed as a liability from the Department’s basic financial statements

Below is a description of the Department’s defeased bond and the outstanding balance as of June 30, 2016 (Dollars in thousands):

Date Originally Issued	Original par Amount	Redemption Call Date	Date Defeased	Maturities Defeased	Interest Rate Defeased Bonds %	Amount Defeased	Outstanding 6/30/2016
6/25/2009	\$ 750,000	11/1/2019	3/12/2015	2020-2039	6.0-6.25	\$ 608,885	608,885

Note 10 – Leases

The Department has entered into two lease agreements as lessee for power generators. These lease agreements qualify as capital leases for accounting purposes and the lease payments are reflected as capital lease obligations at the present value of the aggregate payments due over the remaining life of the leases. Included in other property and equipment is \$14,787,000 of equipment acquired under capital leases. The accumulated amortization on this equipment is \$14,047,000 and \$15,759,000 as of June 30, 2016 and 2015, respectively. Related amortization expense was \$986,000 and \$1,031,000 for the fiscal years ended June 30, 2016 and 2015, respectively.

The present value of future minimum capital lease payments as of June 30, 2016, is as follows (in thousands):

Fiscal year 2017	\$ 1,341
Less amount representing interest	<u>(37)</u>
Present value of minimum capital lease payments	<u>\$ 1,304</u>

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 11– Transactions with Fulton County

Investment in Joint Venture

The Atlanta-Fulton County Water Resources Commission (Commission) is a joint venture between Fulton County, Georgia (County) and the City for the construction and operation of a water treatment plant accounted for under the equity method of accounting. The Commission is governed by a seven-member management commission, of which three members are appointed by the City, three by the County, and one independent member is elected by majority vote of the other members. The City and County also approve the annual budget of the Commission.

Under the terms of the amended Joint Venture Agreement, the City and the County share equally the costs of all capital expenditures. Capital contributions are recorded during the year in which the additions to capital assets are accrued. The City and the County each contributed approximately \$535,000 and \$1,112,000 during the years ended June 30, 2016 and 2015, respectively. These capital costs are reflected as investment in joint venture in the accompanying statements of net position.

The costs of operations of the plant are paid directly by the County as incurred. The County is subsequently reimbursed by the City for its pro rata share of the cost of operations, net of personnel costs paid by the City. The costs of operations, including personnel cost, are allocated between the City and the County on the basis of water delivered to each. The City’s share of those operating costs was approximately \$3,079,000 and \$2,573,000 for the years ended June 30, 2016 and 2015, respectively. The costs are reflected in operating expenses in the accompanying statements of revenue, expenses, and changes in net position. At June 30, 2016, the City owes the County approximately \$268,000 for expenses associated with this joint venture.

The Commission’s fiscal year end is December 31. Therefore, the financial information of the Commission does not match the Department’s financial information. Financial information for the Commission as summarized below is as of and for the years ended December 31, 2015 and 2014 (in thousands):

	2015	2014
Total assets	\$ 156,072	162,908
Total net assets	\$ 151,664	155,784
Total operating revenue	\$ 9,393	8,851
Total operating expenses	14,558	13,021
Net loss	\$ (5,275)	(4,322)

Separate financial statements of the Commission may be obtained from the Atlanta-Fulton County Water Resources Commission, 9750 Spruill Road, Alpharetta, Georgia 30022.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 11 – Transactions with Fulton County, continued

Other Contractual Agreements

The City and the County have contractually agreed that, among other things, monies owed by the City to the County would be used solely for making repairs, replacements, and extensions to the portion of the City's water distribution system located in the unincorporated portion of South Fulton County. The agreement also provides that the City retains custody of the funds and the County determines the projects for which such funds shall be used. There were no capital expenditures incurred by the City for water projects in the unincorporated area of South Fulton County during the years ended June 30, 2016 and 2015.

Note 12 – Pension Plan and Other Employees Benefits

The City maintains an agent multiple employer defined benefit pension plan, entitled the General Employees' Pension Plan (GEPP), and one single employer defined contribution pension plan, entitled the General Employees' Defined Contribution Plan (DCP), in both of which the Department of Watershed Management participates.

The City has two other single-employer defined benefit pension plans, the Firefighters' Pension Plan and the Police Officers' Pension Plan. A very small portion of the Department's employees participate in the Police Officers' Pension Plan, and therefore this plan is not considered material to the Department. No employees of the Department participated in the Firefighters' Pension Plan.

As noted above, the employees of the Department are covered by either the GEPP or the DCP (collectively, the Plans). The Plans do not provide for measurements of assets for individual units of the City. Such information for the City as a whole is presented in the City's Comprehensive Annual Financial Report.

Complete financial statements for the GEPP can be obtained at the following address:

City of Atlanta
68 Mitchell Street, S.W., Suite 1600
Atlanta, Georgia 30335

Separate financial statements have not been prepared for the DCP.

Administration of the Plan - The GEPP is administered as an agent multiple-employer defined benefit pension plan by its Board of Trustees (the Pension Board). Pension Board membership includes The Mayor or his designee, the City's Chief Financial Officer, a member of the City Council, two active City employee representatives, one retired City representative, one active Atlanta Public School System representative, and one retired Atlanta Public School System representative. All modifications to the GEPP must be supported by actuarial analysis and receive the recommendations of the City Attorney, the Chief Financial Officer, and the Pension Board. Each pension law modification must be adopted by at least two-thirds vote of the City Council and approved by the Mayor.

In June 2011, the City Council approved changes to the City's GEPP effective September 1, 2011 for new hires and November 1, 2011 for existing employees. All non-sworn employees hired prior to July 1, 2001 regardless of payroll grade, and all non-sworn employees hired after July 1, 2001 below payroll grade 19 or its equivalent, are required to contribute to the GEPP.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees' Pension Plan

Contribution requirements - Under the Georgia Legislature principle of Home Rule and the Atlanta Code of Ordinances, Section 6, the Pension Board has the authority to administer the GEPP including establishing and amending contribution requirements. The funding methods and determination of benefits payable were established by the Atlanta Code of Ordinances, Part 1, Section 6 legislative acts creating the GEPP, as amended, and in general, provide that funds are to be accumulated from employee contributions, City contributions, and income from the investment of accumulated funds.

Prior to July 1, 2001, all permanent employees of the Department were eligible to participate in the GEPP. Effective July 1, 2001, all new, permanent employees of the Department were only eligible to participate in the newly created DCP. Effective December 5, 2002, employees previously participating in the GEPP were given the option of transferring to the new DCP. Effective September 1, 2005, classified employees and certain non-classified employees pay grade 18 and below enrolled in the DCP had a one-time option of transferring to the GEPP. Classified employees and certain non-classified employees pay grade 18 and below not covered by either the Police Officers' or Firefighters' Pension Plans and hired after September 1, 2005 are required to become members of the GEPP.

Employees hired on or after September 1, 2011 who are below pay grade 19 or its equivalent are required to participate in a hybrid defined benefit plan with a mandatory defined contribution component. The defined benefit portion of this plan includes a 1% multiplier, which includes a mandatory employee contribution of 3.75% of salary that is matched 100% by the City. Additionally, these employees may voluntarily contribute up to an additional 4.25% of salary, which is also matched 100% by the City. Employees vest in the City's contributions at a rate of 20% per year and become fully vested in the City's contribution after five years of participation.

Beginning on November 1, 2011, employees participating in the GEPP and hired before September 1, 2011, and after January 1, 1984, had an increase of 5% in their mandatory contributions into the GEPP fund in which they participate. The contribution is such that the new contribution is 12% of salary (without a designated beneficiary) or 13% of salary (with a designated beneficiary).

Beginning in fiscal year 2012, there is a cap on the maximum amount of the City's contribution to the GEPP measured as a percentage of payroll. The City's annual contribution to the GEPP may not exceed 35% of payroll of the participants in the City's GEPP. In the event that this 35% cap is reached, the City will fund any overage for the first 12-month period from its reserves. During that period, the City's management must agree on an alternative method to reduce the overage. If no alternative is reached, beginning with the second 12-month period, the City and the participants will equally split the cost of the coverage, subject only to a provision that employee contributions may not increase more than 5%. Contribution requirements may be amended by the Board under the authority of the City ordinance, but the employer contribution requirement is subject to State minimums. During fiscal year 2016, the City had an actuarial assessment conducted to review the pay cap. The assessment determined the City was at 26.9%, well within the cap. The 35% cap is not projected to occur over the next 30 years based on the fiscal year 2016 results projected forward with Pension Reform. During the year ended June 30, 2016 the City contributions were \$54,236,000.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees’ Pension Plan, continued

The following table provides the Department’s contributions used in the determination of the Department’s proportional share of collective pension amounts reported (dollars in thousands).

Plan	Proportionate share of contribution	Allocation percentage of proportionate share of collective pension amount
General employees:		
2016	\$ 17,768	32.76%
2015	13,807	32.76%

Description of the benefit terms – In June 2011, the City Council approved changes for the GEPP, effective on September 1, 2011 for new hires, and November 1, 2011 for existing employees.

Prior to the change approved in June 2011, the GEPP provided monthly retirement benefits that initially represent 3% of each year of credited service times the participants’ final average three-year earnings (limited to 80% of the average). Retirement benefits were adjusted annually based on the change in the consumer price index, limited to 3% per year. Upon the death of a vested participant who has beneficiary coverage, his or her eligible beneficiary(ies) would be entitled to three-fourths of the amount the deceased participant was receiving or would have been entitled to receive.

Subsequent to the June 2011 changes, the retirement age increased to age 62 for participants in the GEPP. Early Retirement Age is changed from any age (as long as vested) with penalty to age 52 for hires after September 1, 2011. Upon retirement, these participants will receive an annually calculated cost of living increase to their pension benefit that may not exceed 1% and is based upon the Consumer Price Index. Sick and vacation leave are no longer applied to retirement benefits for employees hired after September 1, 2011. Below are the terms the GEPP has established to receive benefits.

Normal Pension:

Hired before July 1, 2010:

- Age 65 or Age 60 after completing five years of service.
- Monthly benefit is 2.5% of average monthly salary for each year of credited service.

Hired between July 1, 2010 and October 31, 2011:

- Age 65 or Age 60 after completing 10 years of service.
- Monthly benefit is 2.0% of average monthly salary for each year of credited service.

Hired after October 31, 2011:

- Age 65 or Age 62 after completing 15 years of service.
- Monthly benefit is 1.0% of average monthly salary for each year of credited service.
- This amount cannot be less than \$12 per month for each of service, capped at 80% of average monthly salary.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees' Pension Plan, continued

The average monthly salary for employees hired before November 1, 2011, is the average of the highest consecutive 36 months of salary. For those employees hired after October 31, 2011, the average monthly salary is the average of the highest consecutive 120 months of salary.

Early Pension:

Hired before July 1, 2010
Five years of credited service.

Hired between July 1, 2010 and October 31, 2011
Ten years of credited service.

Hired after October 31, 2011
Age 52 and 15 years credited service.

The monthly benefit for employees hired before November 1, 2011, is reduced by one half of 1% per month for the first 60 months and by one quarter of 1% per month for the remaining months by which age at retirement is less than 60. More favorable early retirement adjustments may apply to participants in prior plans. Unreduced early retirement is available with 30 years of credited service. For employees hired after October 31, 2011, the monthly benefit amount is reduced by one half of 1% per month before age 62.

Disability:

Service requirement:

Five years of credited service for non-job-related disability. None for job-related disability.

Normal pension benefit based on service accrued and final average salary at disability, payable immediately; cannot be less than 50% of average monthly salary. This amount is payable until attainment of normal retirement age at which time the benefit is recalculated to include years while disabled as years of service.

The GEPP Investments - The investments for the GEPP are made within the Public Retirement Systems Investment Authority Law of the Georgia Code (O.C.G.A. 47-20-80). The GEPP Board has been granted the authority by City Ordinance to establish and amend the GEPP investment policy. The GEPP Board is responsible for making all decisions with regard to the administration of the GEPP, including the management of plan assets, establishing the investment policy and carrying out the policy on behalf of the GEPP.

The GEPP's investments are managed by various investment managers under contract with the Pension Board, who have discretionary authority over the assets managed by them and within the GEPP's investment guidelines as established by the Pension Board. The investments are held in trust by the GEPP's custodian in the GEPP's name. These assets are held exclusively for the purpose of providing benefits to members of the GEPP and their beneficiaries.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees’ Pension Plan, continued

State of Georgia Code and City statutes authorize the GEPP to invest in U.S. government obligations, U.S. government agency obligations, State of Georgia obligations, obligations of a corporation of the U.S. government, the Georgia Fund 1 (a government investment pool maintained by the State of Georgia), and alternative investments. The Plan invests in repurchase agreements only when they are collateralized by U.S. government or agency obligations. The GEPP is also authorized to invest in collateralized mortgage obligations (CMOs) to maximize yields. These securities are based on cash flows from interest payments on underlying mortgages. CMOs are sensitive to prepayment by mortgagees, which may result from a decline in interest rates. For example, if interest rates decline and mortgagees refinance their mortgages, thereby prepaying the mortgages underlying these securities, the cash flows from interest payments are reduced and the value of these securities declines. Likewise, if mortgagees pay on mortgages longer than anticipated, the cash flows are greater and the return on the initial investment would be higher than anticipated.

In the development of a current asset allocation plan, the GEPP Board reviews the long-term performance and risk characteristics of various asset classes, balancing the risks and rewards of market behavior, and reviewing state legislation regarding investments options. The below asset classes are included in the GEPP’s investment objectives: Domestic Equities, International Equities, Domestic Fixed Income, International Fixed Income and Alternative Investments.

The investment policy for the GEPP was revised during the 2014 fiscal year. There were no changes to the policy in fiscal year 2016. The policy may be amended by the Pension Board by a majority vote of its members. Below is the asset allocation target assets mix for the GEPP:

General employees’ pension plan	
Asset class	Target allocation
Domestic equity	50%
International equity	20%
Fixed income	25%
Alternative investments	5%
	100%

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees’ Pension Plan, continued

The long-term expected rate of return on investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Estimates of real rates of return for each major asset class included in the GEPP’s target asset allocation as of June 30, 2016 are summarized in the following table:

General employees’ pension plan	
Asset class	Long-term expected real rate of return
Domestic equity	6.6%
International equity	2.2%
Fixed income	7.1%
Alternative investments	6.2%

For the year ended June 30, 2016, the annual money-weighted rate of return on the GEPP investments, net of pension plan investment expense, was 1.24%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Changes in Net Pension Liability - The changes in net pension liability of the GEPP for the years ended June 30, 2016 and 2015, are as follows (in thousands):

	Total Pension Liability	Plan Net Position	Net Pension Liability
Balances at June 30, 2015	\$ 1,832,883	1,145,333	687,550
Changes for the year:			
Service cost	20,191	-	20,191
Interest expense	133,276	-	133,276
Difference between expected and actual experience	(1,399)	-	(1,399)
Contributions - employer	-	48,015	(48,015)
Contributions - employee	-	16,975	(16,975)
Net investment income	-	56,575	(56,575)
Benefit payments and refunds	(111,738)	(111,738)	-
Administrative expenses	-	(1,445)	1,445
Net changes	40,330	8,382	31,948
Balances at June 30, 2016	\$ 1,873,213	1,153,715	719,498

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees’ Pension Plan, continued

	Total Pension Liability	Plan Net Position	Net Pension Liability
Balances at June 30, 2014	\$ 1,791,135	1,014,429	776,706
Changes for the year:			
Service cost	19,644	-	19,644
Interest expense	130,279	-	130,279
Contributions - employer	-	42,145	(42,145)
Contributions - employee	-	17,366	(17,366)
Net investment income	-	188,381	(188,381)
Benefit payments and refunds	(108,175)	(108,175)	-
Administrative expenses	-	(8,813)	8,813
Net changes	41,748	130,904	(89,156)
Balances at June 30, 2015	\$ 1,832,883	1,145,333	687,550

Net Pension Liability - The Department has recorded and disclosed its proportionate share of the net pension liability of the GEPP using a measurement date of June 30, 2015 as determined based on the July 1, 2014 actuarial valuation, projected forward to the measurement date of June 30, 2015 (dollars in thousands).

	<u>2016</u>	<u>2015</u>
Total pension liability	\$ 1,873,213	\$ 1,832,883
Plan fiduciary net position	1,153,715	1,145,333
Net pension liability	<u>\$ 719,498</u>	<u>\$ 687,550</u>
Plan fiduciary net position as a percentage of the total pension liability	61.59%	62.49%

The Department of Watershed Management’s allocation of the net pension liability in GEPP at June 30, 2016 and 2015 are \$235,708 or 32.76% and 225,241 or 32.76%, respectively.

Discount Rate - The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the actuarial determined contribution rates. Based on those assumptions, the GEPP’s fiduciary 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. The GEPP discount rate is 7.5%.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees’ Pension Plan, continued

Sensitivity of the Net Pension Liability to Changes in the Discount Rate - The following presents the Department’s proportionate share of the net pension liability of the GEPP, calculated using the current discount rate, as well as what the Department’s proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate (dollars in thousands).

	2016		
	1% Decrease	Current discount rate	1% Increase
	6.50%	7.50%	8.50%
Department - net pension liability	\$ 306,582	235,708	176,046
	2015		
	1% Decrease	Current discount rate	1% Increase
	6.50%	7.50%	8.50%
Department - net pension liability	\$ 295,800	225,241	166,598

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of July 1, 2014, with the results rolled forward to the measurement date of June 30, 2015 using the following actuarial assumptions, applied to all periods included in the measurement.

Asset valuation method	Market value
Inflation rate	2.75%
Salary increases	3.50%
Investment rate of return	7.50%

Healthy mortality rates were based on the RP-2000 Combined Healthy Table published by the Society of Actuaries. No provision was made for future mortality improvement after the valuation date as the current tables were determined to contain provision appropriate to reasonably reflect future mortality improvement based on the review of mortality experience for the 2003-2011 period. Mortality rates were applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year, throughout their lifetime.

The actuarial assumptions used in the July 1, 2014 valuation were based on the results of an experience study for the period January 1, 2003 to June 30, 2011.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees’ Pension Plan, continued

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

For the years ended June 30, 2016 and 2015, the City recognized \$69.8 million and \$82.8 million in pension expense respectively. The Department's proportionate share of pension expense was \$19.9 million and \$14.6 million for the years ended June 30, 2016, and 2015, respectively related to the GEPP.

Deferred outflows of resources were related to differences between expected and actual experience and contributions made after the measurement date. The difference between expected and actual experience with regard to economic and demographic factors is amortized over the average of the expected remaining service life of active and inactive members, which is approximately five years. The first year of amortization is recognized as pension expense with the remaining years shown as a deferred outflow of resources.

See the following table for deferred outflows and deferred inflows of resources related to the GEPP for the Department (in thousands):

	<u>2016</u>		<u>2015</u>	
	<u>Deferred outflows</u>	<u>Deferred inflows</u>	<u>Deferred outflows</u>	<u>Deferred inflows</u>
Contribution subsequent to the measurement date	17,768	-	15,715	-
Net difference between projected and actual pension investment earnings	-	15,629	-	29,996

The Department’s contributions subsequent to the measurement date of \$17,768,000 will be recognized as a reduction of the net pension liability during the year ended June 30, 2017. The Department’s other amounts reported as deferred inflows of resources related to pensions will be recognized in pension expense by the Department during the next four years ended June 30 as follows (in thousands):

	<u>Deferred inflows</u>
Year ending June 30,	
2017	\$ 5,811
2018	5,811
2019	5,811
2020	(1,804)
	<u>\$ 15,629</u>

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

General Employees’ Pension Plan, continued

The City’s practice is to have actuarial valuations of its defined benefit pension plans performed annually by an enrolled actuary. The following schedule reflects membership data for the GEPP at July 1, 2015, the date of the most recent actuarial valuation.

Inactive plan members or beneficiaries currently receiving benefits	3,897
Inactive plan members entitled to, but not yet receiving benefits	209
Active plan members	<u>2,920</u>
Total plan members	7,026

Defined Contribution Plan

The City’s Defined Contribution Plan (Defined Contribution Plan) provides funds at retirement for employees of the City and, in the event of death, provides funds for their beneficiaries, through an arrangement by which contributions are made to the Defined Contribution Plan by employees and the City. The current contribution requirement of the City is 6% of employee’s payroll. Employees also make a pre-tax contribution of 6% plus have the option to contribute amounts up to the amount legally limited for retirement contributions.

All modifications to the Defined Contribution Plan, including contribution requirements, must receive the recommendations and advice from the offices of the Chief Financial Officer and the City Attorney, respectively. Each pension law modification must be adopted by at least two-thirds vote of the City Council and approved by the Mayor.

As described earlier in note 12, all new, permanent employees hired after July 1, 2001 were eligible to participate in the Defined Contribution Plan, while persons employed prior to July 1, 2001 were given the option to transfer to the Defined Contribution Plan.

Effective September 1, 2005, classified employees and certain non-classified employees pay grade 18 and below then enrolled in the Defined Contribution Plan had the one-time option of transferring to the Defined Benefit Pension Plan. Classified employees and certain non-classified employees’ pay grade 18 and below hired after September 1, 2005 were required to become participants of the Defined Benefit Pension Plan.

Employees hired on or after September 1, 2011, who are below payroll grade 19 or its equivalent, are required to participate in the Defined Contribution Plan which will include a mandatory employee contribution of 3.75% of salary and be matched 100% by the City. Additionally, these employees may voluntarily contribute up to an additional 4.25% of salary which will also be matched 100% by the City. Employees vest in the amount of the City’s contributions at a rate of 20% per year and become fully vested in the City’s contribution after five years of participation.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

Defined Contribution Plan, continued

As of June 30, 2016 and 2015, there were 1,603 and 1,364 participants, respectively, in the Defined Contribution Plan. The covered payrolls for employees in the Defined Contribution Plan were approximately \$113,913,000 and \$95,473,000 for the years ended June 30, 2016 and 2015, respectively. Employer contributions for the years ended June 30, 2016 and 2015 were approximately \$9,647,000 and \$8,043,000, respectively, and employee contributions for the years then ended were approximately \$9,727,000 and \$7,487,000, respectively, totaling 17.0% and 16.3% of covered payroll for 2016 and 2015, respectively.

The Defined Contribution Plan uses the accrual basis of accounting. Investments are reported at fair value, based on quoted market prices and there were no nongovernmental individual investments that exceeded 5% of the net position of the Plan.

The total employer contributions for the Department were approximately \$1,577,000 and \$1,375,000 for the years ended June 30, 2016 and 2015, respectively.

Postretirement Benefits

Plan Description - The City's Retiree Healthcare Plan (Healthcare Plan) is a single-employer defined benefit healthcare plan which provides other postemployment benefits (OPEB) to eligible retirees, dependents and their beneficiaries. The Healthcare Plan was established by legislative acts and functions in accordance with existing City laws. OPEB of the City includes health, dental, and vision care and life insurance. Separate financial statements are not prepared for the Healthcare Plan.

Funding Policy - The City is not required by law or contractual agreement to provide funding for OPEB other than the pay-as-you-go amounts necessary to provide current benefits to retirees, eligible dependents and beneficiaries. For the fiscal years ended June 30, 2016 and 2015, the City paid approximately \$43,715,000 and \$43,308,000, respectively, on behalf of the Healthcare Plan. Retiree contributions vary based on the plan elected, dependent coverage and Medicare eligibility. For the years ended June 30, 2016 and 2015, eligible retirees receiving benefits contributed approximately \$47,500,000 and \$47,600,000, respectively, through their required contributions.

For the fiscal years ended June 30, 2016 and 2015, the Department paid approximately \$7,479,000 and \$7,440,000, respectively, on behalf of the Healthcare Plan.

Annual OPEB Cost and Net OPEB Obligation - The City's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC) of the employer; an amount actuarially determined using the Projected Unit Credit Actuarial Cost Method. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed 30 years.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

Postretirement Benefits, continued

The following table shows the elements of the Department’s OPEB cost, the amount actually contributed on behalf of the Healthcare Plan, and changes in the Department’s net OPEB obligation to the Healthcare Plan for the years ended June 30, 2016 and 2015 (in thousands):

	<u>2016</u>	<u>2015</u>
Annual required contribution	\$ 13,896	13,348
Interest on net OPEB obligation	2,946	2,722
Adjustment to annual required contribution	<u>(3,348)</u>	<u>(2,959)</u>
Annual OPEB cost (expense)	13,494	13,111
“Pay As You Go” payments made	<u>(7,479)</u>	<u>(7,440)</u>
Increase in net OPEB obligation	6,015	5,671
Net OPEB obligation, beginning of year	<u>100,909</u>	<u>95,238</u>
Net OPEB obligation, end of year	<u>\$ 106,924</u>	<u>\$ 100,909</u>

The Department’s annual OPEB costs, the percentage of annual OPEB costs contributed to the Healthcare Plan, and the net OPEB obligation for the fiscal years ended June 30, 2016, 2015, and 2014 were as follows (in thousands):

Year ended:	<u>Annual OPEB Cost</u>	<u>Percentage of Annual OPEB Cost Paid</u>	<u>Net OPEB Obligation</u>
2016	\$ 13,494	55.42%	\$ 106,924
2015	\$ 13,111	56.75%	\$ 100,909
2014	\$ 19,511	37.10%	\$ 95,238

Funded Status and Funding Progress – As of June 30, 2014, the most recent actuarial valuation date, the Healthcare Plan was not funded, except for “pay-as-you-go” payments. The unfunded actuarial accrued liability (UAAL) for benefits was \$1.12 billion. The covered payroll was \$348 million, and the ratio of the UAAL to the covered payroll was 321.42%.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. The determined actuarial valuations of OPEB provided under the Healthcare Plan incorporated the use of various assumptions including demographic and salary increases among others. Amounts determined regarding the funded status of the Healthcare Plan and the annual required contributions of the City are subject to continual revisions as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, shown as required supplementary information following the notes to the financial statements, presents multiyear trend information on the actuarial value of plan assets relative to the actuarial accrued liability for benefits. The result of the OPEB valuation is as of June 30, 2014. Under the provisions of GASB Statement No. 45 the City elected to use the June 30, 2014, actuarial report as the basis for determining the current year ARC requirement.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 12 – Pension Plan and Other Employees Benefits, continued

Postretirement Benefits, continued

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

In the June 30, 2014 actuarial valuation, the Individual Entry Age Normal actuarial cost method was used. It is amortized as a level percent of payroll over a 23-year period and a closed amortization method. The actuarial assumptions included 4 percent investment rate of return (net of administrative expenses) and an annual medical cost trend rate of 9 percent initially, reduced by decrements to an ultimate trend rate of 5 percent after eight years. Both rates include a 3-percent inflation assumption. Currently there are no assets set aside that are legally held exclusively for OPEB.

Deferred Compensation Plan

The City has adopted a deferred compensation plan in accordance with the 1997 revision of Section 457 of the Internal Revenue Code. The plan, available to all Department employees, allows an employee to voluntarily defer receipt of up to 25% of gross compensation, not to exceed certain limits per year. Each participant elects one of three insurance providers to administer the investment of the deferred funds. Administration costs of the plan are deducted from the participants' account. The plan assets are held in custodial accounts for the exclusive benefit of the plan participants and their beneficiaries, and are therefore not included in the Department's financial statements.

Note 12 – Self-Insurance

The City and the Department are self-insured for workers' compensation and general claims liabilities. The City pays for such claims as they become due. These claim liabilities are accounted for in the general fund and the applicable enterprise funds. Claims generated by governmental funds expected to be paid subsequent to one year are recorded only in the City's government-wide financial statements. There were no significant reductions in insurance coverage or claims in excess of insurance coverage during the years ended June 30, 2016 and 2015.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 13 – Self-Insurance, continued

The City’s workers’ compensation liability is calculated by an outside actuary. Liabilities are reported when it is probable a loss has occurred and the amount can be reasonably estimated including amounts for claims incurred but not yet reported. The calculation of the present value of future workers’ compensation liabilities, as calculated by the outside actuary, is based on the discount rate of 3.5% for both 2016 and 2015.

Prior to March 1, 2011, the City had no specific excess or annual aggregate coverage for its self-insured workers’ compensation claims. Effective March 1, 2011, the City purchased an annual excess insurance policy with a \$5 million per occurrence retention with no annual aggregate coverage.

The City’s medical plan under Blue Cross Blue Shield Point of Service and its dental plan under Cigna are fully self-insured. The Kaiser HMO, OHS dental plan and Spectra vision plan are fully insured. The City’s health and dental liability is calculated by an outside actuarial firm. Liabilities are reported when it is probable a loss has occurred and the amount can be reasonably estimated, including amounts for claims incurred but not yet reported.

Net changes in the balance of liabilities for workers’ compensation and general claims attributable to the Department during fiscal years ended June 30, 2016, 2015, and 2014 were as follows (in thousands):

	<u>Beginning of Year</u>	<u>Current Year Claims and Changes in Estimates</u>	<u>Claims Payments</u>	<u>End of Year</u>
Workers’ compensation:				
2016	\$ 10,153	\$ (929)	\$ (663)	\$ 8,561
2015	8,159	2,679	(685)	10,153
2014	9,546	(416)	(971)	8,159
General claims liability:				
2016	\$ 12,430	\$ 411	\$ (55)	\$ 12,786
2015	11,910	1,200	(680)	12,430
2014	18,683	1,125	(7,898)	11,910

The City participates in the State Subsequent Injury Trust Fund, a public entity managed by the State of Georgia. This pool is designed to provide insurance coverage for employees who are hired with previous medical conditions. Historically, premiums have not been significant.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 14 – Commitments and Contingencies

Commitments

Construction - The Department currently has several significant construction projects budgeted. At June 30, 2016, the Department was contractually obligated to expend approximately \$182,894,000 related to these projects.

Other Governments - In July 1968, the City and DeKalb County, Georgia (DeKalb County) entered into an agreement (Clayton Agreement) providing for the construction of a 120-mgd water pollution control facility known as the R.M. Clayton Water Reclamation Center (Plant). Pursuant to the Clayton Agreement, the City agreed to assume responsibility for the financing, construction, operation, and maintenance of the Plant. In addition, the Clayton Agreement gave DeKalb County the right to use 25 mgd or 20.83% of the Plant capacity. The Clayton Agreement was amended in 1987 to increase DeKalb County's capacity in the Plant to 50-mgd which is 48.54% of the 103-mgd capacity.

In 1977, DeKalb County entered into an agreement for 2.62-mgd or 5.82% capacity rights in the South River Water Reclamation Center and 2.60-mgd or 12.38% capacity rights in the Intrinchment Creek Water Reclamation Center. These two Water Reclamation Centers, along with the R.M. Clayton Water Reclamation Center, are hereafter referred to as the "Plants".

Additional capital improvements may be made to the Plants upon the determination by the Department that excessive flows or loads are impairing the efficient operation of the City's sewer system, improved processes are available, and that additional improvements are necessary or desirable for the efficient operation of the Department or to comply with applicable laws. In any such event, the Department and DeKalb County have agreed to share the costs of such capital improvements generally upon the basis of relative sewerage flow contributed by the City and DeKalb County, respectively.

DeKalb County, Fulton County, the City of Hapeville, the City of East Point, and the City of College Park (collectively, the "Municipalities") share in the costs of the operation and maintenance of the Plants based upon the ratio that their sewerage flow bears to the total flows to the Plants. The Municipalities' shares of the operation and maintenance costs for the Plants for the periods ended June 30, 2016 and 2015 were approximately \$20,030,000 and \$23,619,000, respectively. These payments are recorded as operating revenues in the accompanying statements of revenue, expenses, and changes in net position.

The Municipalities have agreed to share in the capital improvement costs made to the Plants with their share being based on their portion of the sewerage flow. The Municipalities' shares of the capital improvement costs for the years ended June 30, 2016 and 2015 were approximately \$19,639,000 and \$20,010,000, respectively. These payments are treated as non-operating revenue and are reported on the accompanying statements of revenue, expenses and changes in net position as capital contributions.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 14 – Commitments and Contingencies, continued

Contingencies

Litigation - The Department is subject to various lawsuits and proceedings arising in the ordinary conduct of its affairs and has been named as defendant in several lawsuits claiming personal property damages. The City is working with most of the property owners to settle these claims that primarily relate to water and sewer overflow issues. The nature of the Department's operations and the matters currently being alleged are such that similar suits may be filed in the future. The outcomes of these matters are not expected to materially affect the Department's financial position.

Other than the lawsuits discussed above, the Department has been named defendant of a class-action lawsuit in May 2014. Plaintiffs plead for a class-action lawsuit and allege that a payment-in-lieu-of-taxes (PILOT) and Franchise Fee paid by the Water and Wastewater enterprise fund to the City's General Fund is an illegal tax that must cease. The class seeks a refund for all allegedly illegal taxes paid since June 29, 2009, plus interest. The estimated maximum potential liability in that litigation is \$62 million, and based on the information we have at this time, the City believes it is more likely than not that it will be successful in its defense.

Consent Decrees for Wastewater System - The Department is subject to two related consent decrees the City entered into to resolve alleged violations of the Federal Clean Water Act and the Georgia Water Quality Control Act.

On October 10, 1995, the Upper Chattahoochee Riverkeeper Fund, Inc. (Riverkeeper), brought suit against the City pursuant to the citizen suit provision of the Clean Water Act seeking injunctive relief and the assessment of civil penalties. Subsequently, the United States of America, acting at the request and on behalf of the Environmental Protection Agency (EPA), and the State of Georgia, at the request of the Georgia Environmental Protection Division (EPD), also filed a complaint against the City alleging violations of the Clean Water Act and seeking similar relief. The actions were consolidated.

The plaintiffs alleged that the City violated the terms of its permits which authorize discharge of wastewater from the City's combined sewer overflows (CSO) control facilities and its wastewater treatment facilities. In 1998, the plaintiffs and the City agreed to the entry of a consent decree relating to the CSO control facilities. On December 20, 1999, the First Amended Consent Decree (FACD) was entered with the United States District Court for the Northern District of Georgia. The United States, the State of Georgia, and the City are the parties to the FACD. Because claims brought by Riverkeeper were resolved under the CSO Consent Decree, Riverkeeper is not a party to the FACD.

CSO Consent Decree - With respect to the October 10, 1995 action brought against the City by Riverkeeper, the court dismissed allegations regarding the phosphorus reduction program and common law nuisance claims, but found that the City violated Federal and State water pollution laws with regard to the City's operation of its Tanyard Creek, Proctors Creek/North Avenue, and Proctor Creek/Greensferry CSO treatment facilities. As mentioned, the City and the citizen plaintiffs settled the lawsuit in what is referred to as the CSO Consent Decree (EPA and the EPD also joined). The CSO Consent Decree requires the City to study the performance of the existing CSO treatment facilities, evaluate treatment alternatives that may be necessary for meeting State water quality standards, and improve the performance, maintenance, operation, and management of the existing treatment facilities. As of June 30, 2016, all projects required under the CSO Consent Decree were substantially complete.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT
Notes to the Financial Statements
June 30, 2016 and 2015

Note 14 – Commitments and Contingencies, continued

Contingencies, continued

First Amended Consent Decree - The FACD resolved allegations regarding the City's wastewater treatment facilities, inter-jurisdictional requirements, and the City's sewerage collection and transmission system. For the wastewater treatment facilities, the FACD requires the City to continue its ongoing wastewater treatment facilities Capital Improvement Program to complete upgrades at the R.M. Clayton, Utoy Creek, Intrenchment Creek, and South River Water Reclamation Centers; install and implement a maintenance management system, revise the current operations program, and implement upgrades to the current laboratory information system; and review its inter-jurisdictional agreements to address over loading and pretreatment issues. There are milestones that must be completed on schedule. The provisions regarding the wastewater treatment facilities were completed in March 2004. All capital improvements, upgrades, and repairs under the FACD had an original completion date of July 1, 2014.

Amendment to the First Amended Consent Decree - On September 24, 2012, the court entered an amendment to the FACD. This amendment contained five changes: (1) it extended the deadlines on the work to rehabilitate and provide capacity relief in the City's sewerage collection and transmission system with the final deadline for this work extended from 2014 to 2027; (2) it eliminated the requirement that sewer lines that were merely surcharging as opposed to overflowing be upgraded; (3) it required that the City complete one major project, the Peachtree Creek Storage and Pump Station, by July 1, 2014; (4) it required that the City reassess its financial capability on July 1, 2020 and accelerate remaining projects if financial conditions substantially improve; and (5) it required the City to report certain performance metrics to federal and state environmental protection agencies on a semi-annual basis as opposed to a quarterly basis. This amendment allows the City to continue to improve the financial condition of its water and wastewater system, balance its competing system needs, and prevent a substantial increase in the burden on its ratepayers.

Clean Water Atlanta Program - The City is actively seeking federal and state grants and loans and other sources of funding to perform the tasks outlined in the Clean Water Atlanta (CWA) Program. Key elements of the comprehensive funding and financing plan include the following:

- **Municipal Option Sales Tax (MOST)** - Effective October 1, 2004, a 1% municipal sales and use tax is being collected for retail sales and use occurring in the incorporated city limits of the City of Atlanta. Proceeds from this tax are used for operations, debt service and funding renovations to the City's water and sewer system. The MOST was approved by the City's residents in the July 2004 general election for a period not to exceed four years and for raising not more than \$750,000,000. Up to two extensions, at four years each can be approved by a vote of the City's residents. In the February 2008 general election, the residents approved the first extension and in the March 2012 general election, the residents approved the second extension. In 2010, the statute was amended to allow up to three four-year extensions. Proceeds from the MOST for the years ended June 30, 2016 and 2015 were approximately \$132,653,000 and \$131,579,000, respectively, of which approximately \$11,333,000 and \$11,330,000 was receivable from the Georgia Department of Revenue at June 30, 2016 and 2015, respectively.
- **Federal Appropriation** - Some small federal grants have been obtained and efforts to secure additional federal grants continue.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 14 – Commitments and Contingencies, continued

Contingencies, continued

- State GEFA Loans - The State of Georgia passed legislation to provide up to \$50,000,000 per year in low interest Georgia Environmental Facilities Authority (GEFA) loans to the City. The City is pursuing the maximum loan amount for each year of the CWA Program. Liabilities for these loans are recorded at the time the funds are drawn. In the fiscal year 2016, the Department received approximately \$5,592,000 in GEFA funding. As of June 30, 2016, the City had approximately \$168,222,000 in short-and long-term loans outstanding to GEFA.
- The City Council approved annual increases to the current water and wastewater rates to support revenue bonds financing the five-year portion (2008-2012) of the CWA Capital Improvement Program. The graduated three-tiered rate structure is intended to minimize, to the extent possible, the impact of rate increases on ratepayers to maintain affordability and to permit water conservation. The 2009 - 2013 rates are summarized below. In addition to the rates shown below, each water bill includes a \$.15 per 100 cubic feet (ccf) security surcharge through December 31, 2010. In July 2012, the Atlanta City Council approved holding the current water and wastewater rates at fiscal year 2012 levels through fiscal year 2016.

Graduated City Monthly Water Rate Structure

Water Consumption	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Base Charge	\$ 6.56	6.56	6.56	6.56	6.56
0-3 ccf	\$ 2.58	2.58	2.58	2.58	2.58
4-6 ccf	\$ 5.34	5.34	5.34	5.34	5.34
Above 7 ccf	\$ 6.16	6.16	6.16	6.16	6.16

Graduated Monthly Wastewater Rate Structure

Water Consumption	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Base Charge	\$ 6.56	6.56	6.56	6.56	6.56
1-3 ccf	\$ 9.74	9.74	9.74	9.74	9.74
4-6 ccf	\$ 13.64	13.64	13.64	13.64	13.64
Above 7 ccf	\$ 15.69	15.69	15.69	15.69	15.69

Consent Orders for Drinking Water System - The City is subject to two administrative Consent Orders issued by the Georgia Department of Natural Resources Environmental Protection Division. They are dated December 9, 1997, and March 21, 2003. Those orders require capital improvement at the Chattahoochee and Hemphill Treatment Plants, as well as operational improvement to ensure compliance with Georgia Rules for Safe Drinking Water. While the City is in substantial compliance with the provisions of both Consent Orders, certain aspects of the capital program remain to be completed.

CITY OF ATLANTA, GEORGIA
DEPARTMENT OF WATERSHED MANAGEMENT

Notes to the Financial Statements
June 30, 2016 and 2015

Note 14 – Commitments and Contingencies, continued

Contingencies, continued

Estimated Capital Costs to Complete Compliance with Decrees and Orders – The City is in the midst of a Capital Improvement Program mandated by court orders, regulatory and priority requirements. This Capital Improvement Program details all of the improvements needed through the year 2027 to meet the aforementioned objectives. The current future cost estimate as of June 30, 2016 of the overall Capital Improvement Program is approximately \$2.89 billion.

The following is a summary of the funded and unfunded future costs to complete projects by type based on the current estimate:

<u>Project Types</u>	Total 2006-2027 CIP <u>(In millions)</u>	Remaining Cost 2017-2027 CIP <u>(In millions)</u>
Wastewater Projects:		
Consent Decree Program (CSO)	\$ 714	2
First Amended Consent Decree Program (SSO)	1,694	658
Regulatory	96	10
Renewal & Extension Fund Projects	829	644
	<u>3,333</u>	<u>1,314</u>
Water Projects:		
Consent Order	80	37
Non-Consent Order	2,017	1,541
	<u>2,097</u>	<u>1,578</u>
	<u>\$ 5,430</u>	<u>2,892</u>

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APPENDIX B

MUNICIPAL ADVISOR'S FEASIBILITY STUDY

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Municipal Advisor's Feasibility Study

Water and Wastewater Refunding Bonds, Series 2017A

Prepared for:
City of Atlanta



Prepared by:
Galardi Rothstein Group

APRIL 2017

April 2017

Mayor Kasim Reed and Members of the City Council
City of Atlanta
68 Mitchell St SW
Atlanta, GA 30335



Subject: Municipal Advisor’s Feasibility Study
Water and Wastewater Refunding Bonds, Series 2017A

Dear Mayor, President and Members of the Council:

The City of Atlanta (the “City”) engaged Galardi Rothstein Group to prepare this report on the financial feasibility of the City’s Water and Wastewater Refunding Bonds, Series 2017A (the “Series 2017 Bonds”) and to update the City’s strategic financial plan for the City’s prospective capital improvement program financing. This report has been developed in collaboration with the City’s Department of Watershed Management (the “Department” or “DWM”). This report relies on recent evaluations of the condition and prospective capital project needs of the City’s water and wastewater assets (collectively, the “System”) conducted by Department staff, its Program Management Consultant (PMC) team and selected engineering consulting firms.

The report updates and supplements information provided in our February 2015 Municipal Advisor’s Feasibility Study prepared in connection with the City’s Water and Wastewater Refunding Revenue Bonds, Series 2015. It reports on revised revenue forecasts, operations and maintenance (O&M) expense projections and capital improvement plans—and summarizes a comprehensive analysis of the Department’s financial projections. Of particular importance, this report incorporates:

- Revisions to capital improvement program encumbrance projections based on changes to select project cost estimates, the Department’s assessment of prospective regulatory requirements, and the approval in December 2015 of a City ordinance amendment enabling application of up to 10 percent of the City’s Municipal Option Sales Tax (MOST) proceeds to address stormwater infrastructure needs. The capital program incorporates wastewater collection system improvement re-scheduling enabled by the September 2012 entry in U.S. Federal District Court of the second amendment to the Department’s Consent Decree. This amendment effectively extends the sanitary sewer overflow (SSO) Consent Decree compliance period through July 2027.
- Revisions to the Department’s prospective debt portfolio occasioned by the planned refunding of currently outstanding bonded indebtedness. The Department also anticipates issuance of bonded indebtedness in FY 2018 to retire outstanding commercial paper upon completion of the Water Supply Program. Operating revenues

and Georgia Environmental Finance Authority financing are anticipated as the funding sources for all other prospective capital improvements.

- Planned extension of the MOST beyond its scheduled expiration in October 2020, enabled through state legislative action, with gradual reduction of proceeds allocated to the Department during the extension period.
- A revision to the Department's service revenue forecasts and projection of MOST proceeds to reflect audited experience through FY 2016. These forecasts conservatively assume continuing price-independent declines in per capita water use levels for an additional four years. In addition, no non-residential account growth is incorporated into the revenue projections and residential water and sewer account projections are based on a 7-year historical period influenced by the post-2008 economic downturn.
- Initiation of modest service rate adjustments in the final two years of the FY 2017 – FY 2022 forecast period, coincident with the planned renewal of the MOST and subsequent annual reductions in proceeds dedicated to DWM's O&M cost requirements.
- Planned issuance of \$250 million of revenue bonds in FY 2018 to repay outstanding commercial paper notes used to finance the Department's critical Water Supply Program.

The financial forecasts reported herein demonstrate that the City can support the Series 2017 Bonds from System revenues derived primarily from Council-approved water and wastewater rates and Municipal Option Sales Tax revenues. We affirm the financial feasibility of the Department's refined capital financing strategy.

We appreciate the opportunity to conduct this review and are prepared to answer any questions regarding its contents.



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Principal

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1.0 Introduction

1.1 Purpose

The purpose of this report is to review the operation and maintenance of the City of Atlanta's (the City's) water and wastewater system; update the City's strategic financial plan for the City's capital improvement programs including compliance with its water Consent Order, wastewater Consent Decree, and Water Supply Program; and to demonstrate the financial feasibility of the planned issuance by the City of its Water and Wastewater Refunding Bonds, Series 2017A and Water and Wastewater Refunding Bonds, Taxable Series 2017B (collectively, the "Series 2017 Bonds"). This report provides a detailed forecast of the financial performance of the Department of Watershed Management of the City (the "Department" or "DWM") for the forecast period Fiscal Year (FY) 2017 through FY 2022 and updates information presented in the Municipal Advisor's Feasibility Study (the "Series 2015 Feasibility Study") prepared in connection with the City's Water and Wastewater Revenue Refunding Bonds, Series 2015 (the "Series 2015 Bonds").

This report has been developed in collaboration with the Department, which is responsible for operating, maintaining and upgrading the City's water and wastewater assets (collectively, the "System"). Galardi Rothstein Group (GRG) Principals, as members of the City's Program Management Consultant (PMC) team, assisted with development of Engineer's Financial Feasibility Studies (the "Series 2009 Feasibility Study") for the City's Water and Wastewater Revenue Bonds, Series 2004 (the "Series 2004 Bonds"), Water and Wastewater Revenue Bonds, Series 2009A and the City's Water and Wastewater Revenue Bonds, Series 2009B (the "Series 2009B Bonds") and in connection with its Water and Wastewater Revenue Commercial Paper Notes authorized in an aggregate principal amount not to exceed \$1,200,000,000 which provided interim short-term financing for the Department between February 2006 and June 2009 (the "2006 Commercial Paper Program"). Most recently, GRG developed a Municipal Advisor's Feasibility Study (the "Series 2013 Feasibility Study") in connection with the City's Water and Wastewater Revenue Refunding Bonds, Series 2013A (the Series 2013A Bonds") and a Municipal Advisor's Feasibility Study (the "Series 2015 Feasibility Study") in connection with the City's Water and Wastewater Revenue Bonds, Series 2015 (the "Series 2015 Bonds").

The proceeds of the Series 2017 Bonds will be used to refinance selected outstanding debt obligations; an additional revenue bond issue is planned for FY 2018 to retire outstanding commercial paper notes following completion of the Water Supply Program. The City will employ the proceeds of Georgia Environmental Facilities Authority (GEFA) loans and operating revenues (including Municipal Option Sales Tax [MOST] proceeds)¹ to finance future capital projects as delineated in Section 7: Financial Performance of this report.

¹ Pursuant to the Bond Ordinance, Pledged Revenues do not include the proceeds from MOST, but such proceeds may be taken into account for purposes of determining compliance with the City's rate covenant and additional bonds test under the Bond Ordinance.

1.2 Scope

This report summarizes the results of collaborative Department and PMC team reviews of capital project plans reported, in summary, in the Series 2015 Feasibility Study. The capital project plans reflect scheduling of wastewater collection projects enabled by the granting of the City's Financial Capability-Based Schedule Extension Request submitted in April 2010 to U.S. District Court, Northern District of Georgia, the United States Environmental Protection Agency (USEPA) and United States Department of Justice (USDOJ). Project plans also reflect assessments of the adequacy of the System to meet requirements of the Federal Clean Water Act, the Georgia Water Quality Control Act, the Federal Safe Drinking Water Act, and the Georgia Safe Drinking Water Act.

Data sources reviewed during the course of this study included key reports and documents prepared by the City and the Department including:

- FY 2017–2022 revised Capital Improvement Program (CIP) encumbrance and projected expenditure schedule.
- Department's FY 2017 budget and budgetary variance reports for FY 2012 through unaudited FY 2016 financial reports (where available),
- Consent Decrees and Administrative Consent Orders,
- South Area Studies (Parts 1 & 2) by BGR Joint Venture,
- Existing Facilities and Short Term Recommendations by JP2 (a joint venture of Stantec Consulting Services, Inc., the PRAD Group, Inc., and Chester Engineers, Inc.), and
- Various other documents or financial reports prepared by the Department, the City, or the PMC regarding the performance of the System.

Engineering evaluations reported herein are based on a number of facility assessments and master planning efforts conducted between 2011 and 2016, including perhaps most notably the integrated master plan drafted in mid-2014. Reported asset condition assessments are based on the same five-point condition definitions employed in the context of prior City bond issues related to the System provided in Table 1-1. In general, the report affirms or modifies engineering evaluations reported for the Series 2015 Bonds that included limited visual inspections of selected major above ground facilities operated by the City, interviews of key staff responsible for operation of facilities and reviews of ongoing and planned capital improvements. No field-testing or detailed evaluation of facility maintenance records was performed to confirm scoring or to assign more refined condition scores.

Our financial evaluations have included an analysis of billing system data, updating of detailed revenue forecasting models, and updating of the strategic financial planning model used to determine System rate revenue requirements. The strategic financial planning model forecasts all System cash flows, employing approved FY 2017 departmental operating budgets and recent forecasts of capital financing expenses funded through prior revenue bond proceeds, low-interest Georgia Environmental Facilities Authority (GEFA) loans, the 2015 Commercial Paper program, and operating revenues. The resulting financial plan, which is reported on herein, was developed to ensure compliance with covenants of the

City’s Master Bond Ordinance adopted on May 31, 1999 as thereafter supplemented (the “Master Bond Ordinance”).

TABLE 1-1
Condition Score Definitions

Condition Score	Scoring Definition
1	Very Good. Sound physical condition. Asset likely to perform adequately without major work for 25 years or more for structures and for 10 years or more for mechanical or electrical assets.
2	Good. Acceptable physical condition. Minimal short-term failure risk, but potential for deterioration in medium- to long-term (10 years plus for structures and 5 to 10 years for mechanical and electrical assets). Only minor work required, if any.
3	Fair. Moderate deterioration evident for structures and deterioration beginning to be reflected in performance and higher maintenance for mechanical and electrical assets. Failure unlikely within next 2 years, but further deterioration likely and major replacement likely within 10 years for structures and within 5 years for mechanical and electrical assets. Minor components or isolated sections of the asset need replacement or repair now, but asset still functions safely at adequate level of service. Work required, but asset is still serviceable.
4	Poor. Failure likely in short-term. Likely need to replace most, or all, of asset within 2 years. No immediate risk to health or safety, but work required within 2 years to ensure asset remains safe. Substantial work required in short-term, asset barely serviceable.
5	Very Poor. Failed or near failure. Immediate need to replace most, or all, of asset. Component effective life exceeded and excessive maintenance costs incurred. A high risk of breakdown with serious impact on performance. Health and safety hazards exist which present a possible risk to public safety, or asset cannot be serviced/operated without risk to personnel. Major work or replacement required urgently.

Source: Adapted by MWH Americas, Inc. from International Infrastructure Management Manual, Version 3.0, 2006.

1.3 Firm Qualifications

GRG² Principals, who have worked in close collaboration with the Department since 2003, produced this report for the City. GRG provides strategic financial and management consulting services to government agencies, public-private partnerships and special districts worldwide. GRG is the partnering of Galardi Consulting LLC, established in 1996 – a certified Woman-Owned and Emerging Small Business Enterprise in the State of Oregon; Stanger Consulting LLC established in 2012; and the Rothstein Group LLC established in 2007, located in Chicago, IL, and a Municipal Advisor registered with the Municipal Securities Rulemaking Board (MSRB).³ GRG has prepared strategic financial plans, conducted cost-of-service rate studies, and participated in consent decree negotiations related to financial capabilities for numerous utilities throughout North America including Akron, OH; Halifax Regional Water Commission, Nova Scotia; Honolulu, HI; Northeast Ohio Regional Sewer District (Cleveland, OH); Salem, OR; Metropolitan St. Louis Sewer District, MO; Tucson, AZ and Winnipeg, Manitoba. GRG, through a contract with Chemonics International Inc., was

² GRG, under a separate contract, serves as a sub-contractor of the joint venture Program Management Consultants (PMC) team responsible for various aspects of the City’s wastewater consent decree compliance program. Three joint venture partners, MWH Americas, Inc., CH2M HILL and KHAFRA Engineering and Consultants, Inc. (KHAFRA), lead the PMC.

³ The Rothstein Group LLC was registered under the temporary Municipal Advisor registration program and is in the process of submitting MA and MA-1 forms for registration with the Securities and Exchange Commission to further the process of permanent registration.

also engaged in 2012 by the United States Agency for International Development (USAID) to participate in a national tariff study for the Government of Egypt's Ministry of Housing, Utilities and Urban Development. GRG is supporting the Guam Waterworks Authority in ongoing water and wastewater system consent decree negotiations with USEPA. GRG also prepared the Municipal Advisor's Report for the \$1.785 billion Series 2013 Jefferson County Sewer Warrant issue that enabled the county to exit from bankruptcy under a Plan of Adjustment confirmed by the U.S. Federal Bankruptcy Court in November 2013. Most recently, GRG Principal Eric Rothstein served as Implementation Planning Program Manager for the creation of the Great Lakes Water Authority in Detroit, Michigan and as a member of the Flint Water Advisory Task Force appointed by Michigan Governor Rick Snyder in October 2015.

Two consulting engineering teams - BGR and JP2 - were engaged by the Department between 2011 and 2014 to conduct various facility assessments and develop an integrated master plan for prospective development of the System. These firms contributed facility condition assessment information reported herein.

BGR provided engineering services on a variety of assignments to the City for over four years. BGR is a joint venture of Black & Veatch, Gresham, Smith & Partners, and Rohadfox Construction Control Services Corporation, bringing together the combined expertise, experience, and capacity of these industry-leading firms.

- Founded in 1915, Black & Veatch is a leading global engineering, consulting and construction company. Black & Veatch is an employee-owned company with more than 100 offices worldwide and is among *Forbes'* "500 Largest Private Companies in the United States." *Engineering News-Record* ranks Black & Veatch as the industry's No. 1 design firm in both Power and Telecommunications, in the Top 10 in Water, and as leaders in more than 20 categories among design firms, contractors and environmental companies worldwide.
- Gresham, Smith and Partners provide design and consulting solutions for the built environment that contribute to the success of national and international clients. For more than 45 years, GS&P has focused on enhancing quality of life and sustainability within our communities. GS&P consists of industry-leading professionals practicing architecture and engineering design as well as scientists and highly specialized strategic and management consultants in Aviation, Corporate and Urban Design, Environmental Services, Federal, Healthcare, Industrial, Land Planning, Transportation and Water Resources. GS&P consistently ranks among the top architecture and engineering firms in the world.
- Rohadfox Construction Control Services Corporation is one of the oldest minority Construction and Program Management firms in the United States, and is committed to maintaining the character and professionalism created by the founder over 30 years ago. RCCSC's professional staff provides project controls, quality assurance, and other services related to the full spectrum of construction and program management services. RCCSC also provides services for industrial, commercial, and institutional projects, large and small-scale public and private buildings, pharmaceutical, wastewater treatment plants, roads, bridges, airport and transit facilities. The firm has left a lasting impact on

some of the world's most important projects, from Hartsfield-Jackson International Airport to the Afghanistan Construction Logistic Unit.

The JP2 Team performed short- and long-term master plan activities for the water system. In addition, JP2 completed a short-term assessment of the Combined Sewer Overflow facilities and sewer lift stations. The JP2 team that completed the master plan consisted of three primary consultants:

- PRAD Group was the overall lead and project manager for the master plan. PRAD Group specializes in utility and civil engineering for municipal and federal clients and has worked for the City as one of the Architectural/Engineering (A/E) Demand Services firms for many years. PRAD Group staff has planned, design and constructed several City and key Department projects. For the master plan effort, PRAD Group staff completed cost estimates, assessments of existing facilities, and developed capital project recommendations.
- Tetra Tech is a leading provider of consulting, engineering, and technical services worldwide. Tetra Tech provides engineering services for Industrial, Municipal, Federal and International markets. The firm provided detailed hydraulic modeling of the water distribution system and long-term master planning for the water supply system facilities. Tetra Tech utilized modeling results, facilities assessment and regulatory reviews to develop long-term recommendations for the water system.
- R2T is a civil engineering firm based in the Atlanta, GA area specializing in water, water resources and wastewater engineering. R2T provides engineering services to municipal and federal clients in Georgia and throughout the Southeast. R2T tasks consisted of completing the short-term assessment to identify critical and near-term needs for the water supply system, CSO facilities and the sewer lift stations.

1.4 Capital Financing Strategy Refinement

The Series 2017 Bonds are part of a refined strategy for the Department's debt portfolio and prospective capital program financing. This refinement builds on the strategy outlined in the Series 2015 Feasibility Study and reflects early measures to reduce reliance on Municipal Option Sales Tax (MOST) revenues. It leverages opportunities presented by economic refunding of outstanding revenue bonds and increased availability of low-interest Georgia Environmental Finance Authority (GEFA) loans.

The strategy anticipates state legislative approval of extension of the MOST that has consistently received strong local voter support since its inception in 2005. However, the strategy contemplates resumption of inflation-aligned service rate increases following 8 years of rate increase deferrals, and the tapering of MOST support of DWM capital improvements. DWM's share of MOST proceeds are planned to be reduced by 5 percent per annum through the Consent Decree extension period – with debt service coverage and capital financing capacity maintained through service rate adjustments.

The Department's capital financing strategy includes planned long-term debt refunding of the 2015 Commercial Paper Program in FY 2018, rather than retirement of outstanding notes with operating revenues as contemplated in the Series 2015 Feasibility Study. This will

enable use of operating reserves to fund critical near-term capital projects, and is the only long-term debt issue contemplated over the forecast period.⁴ In addition, the Department anticipates expansion of annual GEFA borrowing from \$40 million to \$50 million per year to leverage alignment of planned DWM capital projects with GEFA program priorities.

DWM’s current financial plan provides for total project encumbrances for the FY 2017-22 reporting period of approximately \$882.9 million. The capital program maintains the Department’s commitments not only to consent decree compliance but also the more balanced System reinvestment noted in its Series 2013 Feasibility Study and Series 2015 Feasibility Study. While it includes important treatment plant repairs and improvements, it also includes a number of projects to enhance environmental sustainability and provide community amenities. It features new green infrastructure projects enabled through City Council adoption of Ordinance No. 14-0-1453 that allows dedication of up to 10 percent of MOST proceeds for stormwater management related projects, and provides for completion of the Department’s water supply program investment highlighted by redevelopment of the Bellwood Quarry area.

In the event that reauthorization of the MOST does not gain legislative and voter approval, planned (and modestly higher) service rate increases of 3.5 percent per year will be advanced to FY 2019 from FY 2021, and significant rate increases of 7.5 percent will be required in FY 2021 and FY 2022 – the years immediately following MOST expiration – to preserve debt service coverage at target levels. Table 1-2 compares rate increases and projected debt service coverage under both scenarios. Future system rate increases will require City Council approval. Section 7 provides detailed projections of financial performance under each planning scenario.

TABLE 1-2
Rate Increases and Debt Service Coverage under Alternative Planning Scenarios

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Rate Increases						
MOST extended, reduced 5% annually	0.0%	0.0%	0.0%	0.0%	2.5%	2.5%
MOST not extended	0.0%	0.0%	3.5%	3.5%	7.5%	7.5%
Projected Senior Debt Coverage						
MOST extended, reduced 5% annually	1.59	1.60	1.47	1.45	1.45	1.45
MOST not extended	1.59	1.60	1.52	1.56	1.26	1.24

Irrespective of MOST support, System rate increases may be limited through implementation of stormwater management fees based on property parcel impervious area measures. This type of fee structure, commonly implemented to support green infrastructure programs, is a mechanism to more equitably distribute cost responsibilities for emerging stormwater management requirements.

⁴ Although the 2016 Supplemental Ordinance authorizes the issuance of up to \$75.0 million in new money bonds, the Department has elected not to use this potential funding source at this time.

1.5 System Financing Overview

Prior to 2006, DWM employed revenue bonds, GEFA loans and operating revenues to finance its System development. The 2006 Commercial Paper Program provided interim funding for the Clean Water Atlanta program with notes subordinate in lien and right-of-payment to revenue bonds issued by the City under the Master Bond Ordinance. In May 2009, the City terminated the 2006 Commercial Paper Program. In June 2009, the City issued the Series 2009A Bonds to refinance all of its outstanding notes under the 2006 Commercial Paper Program, realign project commitments funded by the 2006 Commercial Paper Program, and secure new money for the Department's capital projects. In October 2009 the City issued its Series 2009B Bonds to refinance certain of its outstanding variable rate demand obligations for which liquidity support had expired. In 2013, the City issued the Series 2013A Bonds and its Water and Wastewater Refunding Bonds, Series 2013B (the "Series 2013B Bonds") to refinance selected revenue bond issues and align its swap contracts to portions of its variable debt portfolio. In 2015, the City issued the Series 2015 Bonds to refinance selected revenue bond issues and installed a new interim short-term financing facility, the 2015 Commercial Paper Program, to facilitate funding of the Department's Water Supply Program.

As discussed in the DWM Capital Financing Strategy Refinement section (Section 1.4) and in Section 7, the Department intends to revise its approach to capital program financing by funding prospective projects with cash or GEFA loan proceeds, and refunding the amounts outstanding for the 2015 Commercial Paper Program with a single long-term revenue bond issue in FY 2018. By retaining cash through this single debt issue, following completion of the Water Supply Program, the Department will have greater flexibility to address myriad of needs related to specific assets, and broaden green infrastructure development.

1.6 Commercial Paper Program

The Commercial Paper Ordinance (Ordinance No. 15-O-1113) adopted by the City on March 16, 2015 authorized the issuance of commercial paper notes pursuant to various programs in the maximum aggregate principal amount of \$250 million outstanding at any particular time (the "2015 Commercial Paper Ordinance"). Commercial paper notes were issued in two series: the Series A-1 and Series A-2 notes, each issuance not to exceed \$125 million. Together, the two commercial paper series constitute the "2015 Commercial Paper Program" that is providing financing capacity for the Water Supply Program pursuant to the terms and conditions set forth in the 2015 Commercial Paper Ordinance.

As the City approaches execution of the maximum principal amount under the 2015 Commercial Paper Ordinance, this financial plan anticipates proceeds from take-out bonds will be used to restore issuance capacity under the 2015 Commercial Paper Ordinance.⁵

1.7 Report Organization

This Report contains the following sections:

⁵ The City authorized and validated a series of take-out bonds for the 2015 Commercial Paper Program to repay the outstanding amounts under the 2015 Commercial Paper Program as outlined in Section 7.

- **DWM Capital Financing Strategy Refinement** – Provides an overview the Department’s approach to capital financing, refined from that outlined for the Series 2015 Bonds, that contemplates reduced reliance on MOST proceeds, resumption of inflation-aligned service rate increases, and diversification of capital project spending to support holistic water resource management (while continuing to ensure compliance with the City’s wastewater consent decree under revised scheduling through July 2027).
- **Section 1 – Introduction:** outlines the purpose and scope of the report, data sources and evaluation methodology, municipal advisor and consulting engineers’ qualifications and a summary of recent and planned prospective approaches to capital project financing.
- **Section 2 – Department of Watershed Management:** provides an overview of the creation of the Department, its Vision, Mission and Objectives, and revised organizational structure implemented in FY 2016.
- **Section 3 – Wastewater System:** describes the current wastewater system service area, facilities, operations and assets, discusses consent decree compliance and provides a general assessment of the condition of System assets.
- **Section 4 – Watershed Protection Services:** describes the current infrastructure asset base, distinguishes between public and private responsibilities, delineates regulatory requirements for stormwater management planning, and reviews City programs employed to deliver watershed protection services and comply with applicable regulatory requirements.
- **Section 5 – Water System:** describes the current water system’s service area, facilities, operations and assets, discusses consent order compliance and provides a general assessment of the condition of water system assets. This section also addresses selected legislative challenges potentially impacting the Department’s capital program.
- **Section 6 – Capital Improvement Program (CIP):** reviews the composition and scheduling of the Department’s CIP. The CIP (continues to) reflect extension of the scheduled program completion dates under the First Amended Consent Decree (FACD), anticipates completion of the marquee Water Supply Program in FY 2019, and addresses issues identified in earlier assessments of System facilities and integrated master planning completed in 2014. This section also provides comparisons of the Department’s CIP encumbrance projections across its recent bond issues (Series 2009A Bonds, Series 2009B Bonds, Series 2013 Bonds, Series 2015 Bonds) as well as data on actual versus projected encumbrances and expenditures.
- **Section 7 – Financial Performance:** provides historical financial performance information, projections of revenues and expenses, debt service coverage and fund balances for the period FY 2017 through FY 2022; comparisons of water and wastewater bills with those of other major metropolitan areas; and selected financial performance metrics. This section also reviews projected financial performance under an alternative scenario of capital program financing that contemplates expiration of the Municipal Option Sales Tax in FY 2021 as provided for under the enabling legislation.

- **Section 8 – Rate Schedule:** provides the Department’s current and projected water and wastewater rates, by component, based on the proposed schedule of rate increases required to fund the capital improvement program (as outlined in Sections 6 and 7). Bill impacts for the City’s residential customers are also summarized.

2.0 Department of Watershed Management

2.1 Overview

The Atlanta City Council approved the creation of the Department on September 16, 2002 (Ordinance 02-0-1450). The Department Commissioner reports directly to the Mayor and the Chief Operating Officer of the City. The Department manages its relationships with other municipalities and counties through inter-jurisdictional (IJ) agreements. The Department's financial transactions are accounted for in a single independent enterprise fund.

The Department provides drinking water⁶, selected watershed protection, and wastewater⁷ services to residential, commercial, industrial and governmental ratepayers across its State of Georgia-certified regional service area. The delivery of these essential services includes responsibility for several significant areas:

- Management of 1,611 operating positions dedicated to delivering water, wastewater and watershed protection services on a daily basis.
- Operation and maintenance of the facilities and infrastructure involved in conveying potable drinking water to customers, carrying wastewater from homes and businesses for treatment before discharge into area waterways, and addressing challenges presented by stormwater flows.
- Ensuring the timely and effective completion of the City's capital improvement plan, recently modified to reflect schedule relief obtained with respect to the First Amended Consent Decree, completion of integrated master planning, and reflecting System-wide prioritization procedures (discussed in Section 6).
- Implementing environmental compliance programs for grease management, industrial pretreatment, and greenways management.
- Planning, monitoring and evaluation of utility system impacts from a holistic, water resource management perspective.
- Engaging utility system stakeholders through public information and education initiatives, and responsive customer service.

⁶ In 1998, prior to the creation of the Department, the City signed a long-term contract with United Water Services Limited Atlanta, LLC, (United Water) to operate, manage and maintain the City's drinking water system. This agreement resulted in implementation of United Water's business systems as well as the transfer of staff responsible for operating the System. This contract was terminated in 2003 and the City resumed operation of the drinking water system in April 2003. With the creation of the Department, the City has reformulated its water utility operations, associated business systems and staffing, and re-established the Office of Drinking Water. The dissolution contract included a "no disparaging comments" clause.

⁷ In October 2002, prior to creation of the Department, the City signed a long-term contract with U.S. Filter Operating Services Inc., which subsequently took its parent company name Veolia Water North America Operating Services, LLC (Veolia). Under the contract, Veolia assumed responsibility for operation, management and capital improvement of the City's biosolids management facilities at the City's four Water Reclamation Centers (WRCs). This contract was terminated by the City on July 10, 2006 for default by Veolia, and the City resumed responsibility for its biosolids management systems.

2.2 Department Re-organization

The Department was created in 2002 to oversee the City's comprehensive approach to providing water, watershed protection and wastewater services. Between FY 2009 and FY 2012, the Department was structured to include the Office of the Commissioner and seven bureaus: Drinking Water, Wastewater Treatment and Collection, Engineering Services, Financial Administration, Program Performance, Management, and Watershed Protection. In FY 2013, the Department implemented a reorganization structure to align similar function to gain operational efficiency. In FY 2017, the Department is implementing a reorganization (depicted in Figure 2-1) that was incorporated into its FY 2017 budget, and it calls for an authorized staffing level of 1,611 positions. As of the beginning of FY 2017, the Department had 1,305 filled operating positions and 306 vacancies.⁸

The departmental reorganization was undertaken to focus on customer delivery and to substantially improve customer service, as well as to ensure proper attention is given to Consent Decree and compliance with all regulatory requirements. In addition, the senior team has been enhanced with the creation of the Chief Administrative Officer and Assistant Commissioner positions to assure dedicated attention to project delivery as well as the Department's daily administrative and operational needs, thereby allowing the Commissioner to be more attentive to strategic planning and policy issues.

The functions and staffing of the Department have been structured as follows:

2.2.1 Office of the Commissioner

The Commissioner's Office is responsible for setting the strategic direction for the Department and providing leadership in all areas of operations and management. It has ultimate authority over regulatory compliance, management of the System's infrastructure assets, customer service and management of human and financial resources.⁹ Its priorities are provision of high quality customer service, environmental compliance and operational efficiency. The FY 2017 budget provides for funding of 102 positions in the Commissioner's Office, inclusive of six distinct functional reporting areas and 10 positions within the Commissioner's Office itself (plus fleet and facilities management), as described below:

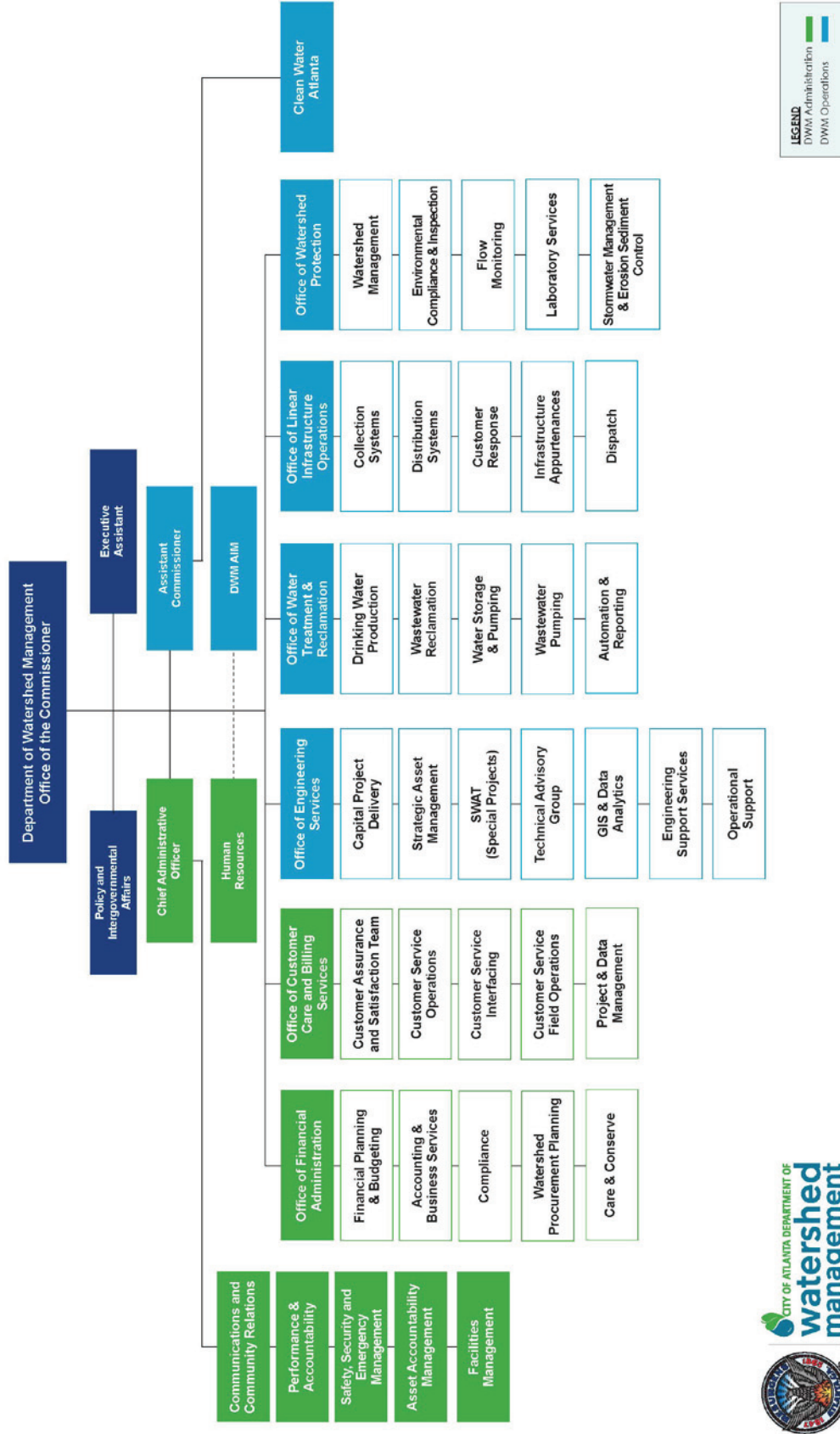
2.2.1.1. Communications and Community Affairs

The **Communications and Community Affairs** functional area coordinates the Department's engagement with key community groups including the City's Neighborhood Planning Units (NPU's), develops and coordinates publication of informational materials on DWM programs and initiatives, and is the designated point of contact with local media. The area also has responsibility for coordinating internal departmental communications through internal newsletters and employee briefings, as well as serving as a liaison to the Mayor's Office. The FY 2017 budget provides for funding of 16 positions.

⁸ The authorized position counts by Office reflect manual realignment of some positions based on the completion of the Department's reorganization and are consistent with the FY 2017 budget.

⁹ The Commissioner's Office helped coordinate the evaluation and restructuring of position classifications in support of the Department's reorganization and continues to support refinement of classifications, succession planning, and other personnel related DWM initiatives.

FIGURE 2-1
Department of Watershed Management Organization



2.2.1.2. Performance and Accountability

The **Performance and Accountability** area coordinates the development and evaluation of performance measures to institutionalize accountability for System performance and support continuous improvement efforts. The area is responsible for reporting on progress related to DWM's priorities, currently oriented toward improved customer service, workplace safety and loss prevention, regulatory compliance and environmental protection and efficient operations. Performance and Accountability also includes the Department's Internal Audit function responsible for evaluation of internal controls and business processes. The FY 2017 budget provides for funding of 10 positions.

2.2.1.3. Office of Safety and Security

The **Office of Safety and Security** has responsibility for implementing and monitoring compliance with the Department's workplace safety programs, ensuring compliance with US Department of Homeland Security regulations related to System safety and security measures, and emergency preparedness planning and training initiatives. The FY 2017 budget provides for funding of 61 positions.¹⁰

2.2.1.4. Information Technology Support Services

The **Information Technology Support Services** functional area is a component of the centralized City-wide Information Technology organization and provides IT solutions and services including application development and support, technology Quality Assurance / Quality Control services, and end user support. The area coordinates acquisition and updating of IT and communication resources across the Department to promote compatibility of applications, facilitate data warehousing and sharing, and promote operating efficiencies. It provides technology support for ongoing business process evaluation and redesign initiatives. The FY 2017 budget provides for funding of 61 positions.

2.2.1.5. Clean Water Atlanta

The **Clean Water Atlanta** or Consent Decree Program is responsible for the overall management of the City's two Consent Decrees. The charge of the Program is to address operation of the City's wastewater facilities and combined and sanitary sewer overflows within the City. The Program is responsible for the implementation of planning, design, and construction of improvements to the City's drinking water and wastewater systems, as well as environmental compliance and reporting to comply with the City's Consent Decrees and Administrative Orders.

¹⁰ While Office of Safety and Security personnel report to the Commissioner's Office, these positions are funded separately and not included in the Office of Commissioner position count.

2.2.1.6. Policy and Intergovernmental Affairs

The **Policy and Intergovernmental Affairs** area is responsible for planning, drafting and coordinating legislative, regulatory and strategic initiatives on behalf of the Department to address issues at the municipal, state and national levels. This area coordinates with other municipalities, regulatory agencies, and national and regional industry organizations to guide policy decisions that are in the City's best interest. The FY 2017 budget provides for funding of 5 positions.

2.2.2 Office of Water Treatment and Reclamation

The **Office of Water Treatment and Reclamation** is responsible for drinking water production and wastewater treatment. Drinking water production involves operation and maintenance of the water supply intakes, three water treatment plants, finished water storage and distribution system pumping - including System pressure management and provision of fire flows. Wastewater treatment involves operation and maintenance of four wastewater treatment facilities, six permitted combined sewer discharge sites, and sewage pumping stations. The Office is responsible for complying with all applicable regulatory requirements including the Safe Drinking Water Act (SDWA) and Clean Water Act (CWA) on which it reports to the Georgia EPD. The Office also includes a Division of Automation and Sustainability oriented toward enhancing efficiency and environmental performance of Office operations, in part through the implementation of new automation technologies. The FY 2017 budget provides for funding of 284 positions.

2.2.3 Office of Engineering Services

The **Office of Engineering Services** is responsible for the CIP related to the Department's consent decree compliance program, as well as in-house project design, construction, project and asset management, GIS, leak detection and water loss programs, inter-governmental agency agreements, surveying, master planning, hydraulic modeling and utility locates. The FY 2017 budget provides for funding of 208 positions.

2.2.4 Office of Linear Infrastructure Operations

The **Office of Linear Infrastructure Operations** is responsible for all aspects of the management, operation and maintenance of the Department's over 2,700 miles of water distribution lines and 2,150 miles of sanitary sewer pipe, including all City-owned storm sewers and structures. The Office provides 24/7 incident and request response, performs both preventive and reactive maintenance and repairs of System assets (including pipelines, valves, hydrants and other appurtenances) and tests, repairs and replaces service meters throughout the System. The movement of the dispatch function within this Office enables efficient deployment of field service personnel and improved customer service by facilitating "one-stop" field work order resolution. The FY 2017 budget provides for funding of 463 positions.

2.2.5 Office of Customer Care and Billing Services

The **Office of Customer Care and Billing Services** manages the Department's customer service operation, including management of the customer service billing system, Call Centers and walk-in customer service functions. In addition, the Office coordinates

investigation of small metering issues as well as service cuts and repairs. The FY 2017 budget provides for funding of 277 positions.

2.2.6 Office of Watershed Protection

The **Office of Watershed Protection** leads the Department's holistic approach to integrated water resource management. It manages water policy initiatives, leads the development of watershed plans (including: Basin Assessments, Watershed Protection Plans, Watershed Improvement Plans, TMDL Implementation Plans), and guides ecosystem restoration capital improvements. The Office performs wastewater flow monitoring, inter-jurisdictional flow metering as well as floodplain modeling and management activities. In addition, the Office has responsibility for the Department's stormwater compliance programs; Fats, Oil and Grease (FOG) management; industrial pre-treatment permitting and inspections, and manages the Department's laboratories, providing analytical services related to treatment plant performance.

The Office has designated responsibility for ensuring, monitoring and reporting compliance with all pertinent state and federal environmental regulations. By providing analytical and compliance monitoring services independently of the Department's Offices responsible for treatment plant and linear infrastructure operations, a segregation of duties is in place to assure compliance with all applicable environmental regulations. The FY 2017 budget provides for funding of 168 positions.

2.2.7 Office of Financial Administration

The **Office of Financial Administration** is responsible for the preparation, evaluation and monitoring of the Department's budget, updating of the Department's strategic financial plan, support of its capital financing program, and capitalization of fixed assets. It is responsible for accounting functions including accurate recording of revenues and expenses, and support of the annual external audit as well as cash collections, payroll, and billing of inter-jurisdictional partners. The FY 2017 budget provides for funding of 51 positions.

2.3 Inter-Jurisdictional Agreements

The City provides water and wastewater service on a wholesale basis to counties and municipalities outside of the City's boundaries. Generally, these services are provided under long-term (30 years or longer) inter-jurisdictional (IJ) agreements. The City is operating under wastewater service agreements with DeKalb and Fulton Counties, and the municipalities of College Park, East Point and Hapeville. The City is operating under wholesale water service agreements with the Coweta County Water and Sewerage Authority, Clayton County Water Authority, and the City of Hapeville. Wholesale water services are also provided to Fayette County and the cities of Fairburn and Union City under current wholesale rates, but the City does not have wholesale water service agreements with these entities.

Under the current terms of the wastewater agreements, the City provides conveyance and treatment services for wastewater flow volumes. The contracting governmental entities (IJ Partners) pay their share of associated operational costs and are required to implement and enforce sewer use regulations that are no less restrictive than those imposed by the City. The IJ Partners share in capital costs based on the capacity they have reserved in City facilities, pursuant to the relevant agreements. Treatment plant monthly operating costs are

based on the IJ partners' proportionate share of flows entering facilities in which they have reserved capacity. In addition, the IJ Partners are obligated to pay a pro rata share of wastewater transmission and collection operations and maintenance costs based on the portion of the System from which they benefit. Alternatively, some IJ partners can elect to pay a wholesale wastewater rate, as defined in the relevant agreements. Capital cost payments are billed according to IJ partners' share of costs for particular capital projects in the wastewater system.

Long-term wholesale water service contracts with IJ customers provide for water sales at bulk wholesale rates set by the City, pursuant to its rate ordinance.¹¹ The City may adjust rates at its discretion; System-wide rate adjustments over the last decade have also been applied to wholesale service rates.

In FY 2015, the Department continued its focused collection strategy with wastewater IJ Partners to resolve questions related to outstanding balances for their cost participation in selected System assets from prior periods. These efforts led to the collection of over \$40 million in past-due IJ capital contributions in FY 2015.

2.4 Atlanta-Fulton County Water Resource Commission

The City and Fulton County have constructed, and operate as a joint venture, the Atlanta-Fulton County North Area Drinking Water WTP with a rated capacity of 90 million gallons per day (mgd). The plant is operated by Veolia/KHAFRA, a joint venture between Veolia Water North America, Inc., (formerly U.S. Filter Operating Services, Inc.) and KHAFRA Engineering Consultants, Inc. The City uses its 50 percent share of this capacity to supply water to part of its service area north of the City of Atlanta.

¹¹ Long-term wholesale service agreements have varying contract terms and expiration dates. Wholesale water service has been provided under terms of these contracts under circumstances in which these agreements have expired.

3.0 Wastewater System

3.1 Overview

The City's wastewater treatment and collections system encompasses more than 2,150 miles of sanitary and combined sewers, three permitted water reclamation centers (WRCs), two permitted Combined Sewer System (CSS) Water Quality Control Facilities (WQCF), four permitted Combined Sewage Control Facilities (CSCFs), and sixteen pump stations. The collection system in the 11 square mile Combined Sewer Area is connected directly to the separate sewer system for conveyance to one of the WRCs for treatment. The City's wastewater system is operated and maintained by the Department's Offices of Water Treatment and Reclamation and Linear Infrastructure Operations. The three WRCs have a combined hydraulic treatment capacity of 220 mgd and are permitted to discharge up to 188 mgd, based on a monthly average, under a combined permit (NPDES Permit No. GA0039012).^{12, 13}

The City's wastewater treatment and collections system serves over 89,000 active retail wastewater accounts in the City of Atlanta (and also bills for wastewater services provided by Fulton County for accounts that receive water service from the City of Atlanta). In addition, the City treats wastewater from wholesale customers including DeKalb and Fulton counties and the cities of College Park, East Point, and Hapeville.

Historical accounts, billed wastewater volumes, and System influent data are provided in Table 3-1.

TABLE 3-1
Wastewater Accounts, Billed Volumes and System Influent, FY 2011 - FY 2016

System History	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
City of Atlanta Retail Wastewater Accounts ¹	87,896	88,336	88,868	88,804	88,768	89,396
City of Atlanta Retail Wastewater – Billed Volumes (mgd)	37.78	37.18	35.90	36.08	35.95	37.02
Wastewater System Average Daily Flow (mgd) ²	117.1	111.0	119.8	121.5	127.9	132.3
<p>1 Data for FY 2011 – FY 2016 extracted based on monthly bill frequency distribution reporting developed to enhance the Department's revenue forecasting.</p> <p>2 Data compiled by Office of Water Treatment and Reclamation – Consolidated Data. Differences from prior reporting due to calendar vs. fiscal year reporting and adjustments to influent metering data.</p>						

¹² Draft permits issued in 2005 for the City's WRCs included more restrictive limits on pollutants such as phosphorus, ammonia, biological oxygen demand, total suspended solids and dissolved oxygen. Between 2005 and 2010, the Department worked with the Georgia EPD regarding consideration of mass loadings to be applied collectively to all of the WRCs rather than applying specific effluent concentration limits to the individual plants. The final NPDES permits issued by the Georgia EPD reduced the Department's discharge limits from its hydraulic capacity of 220 mgd to the current 188 mgd limits to address the assimilative capacity of the Chattahoochee River.

¹³ The 2010 Consolidated NPDES permit for the WRC is currently undergoing renewal. The renewal permit is anticipated to be issued by the end of 2016. No significant changes are anticipated.

The wastewater system is operating pursuant to environmental permits issued by the State of Georgia in accordance with the requirements of the federal Clean Water Act and the Georgia Water Quality Control Act. In 1998, the City entered into the first of two federal Consent Decrees to establish control over the City's Combined Sewer Overflows (the CSO Consent Decree), which required the City to achieve full compliance with environmental permits, the federal Clean Water Act and the Georgia Water Quality Control Act with regard to the City's CSS Control Facilities.¹⁴ The City completed the work required under the CSO Consent Decree in October 2008, including partial separation of three combined sewer areas and tunnel construction. It then completed a two-year post-compliance evaluation period and successfully avoided substantial noncompliance, as defined by the CSO Consent Decree, during that timeframe.

In 1999, the City entered into a second Consent Decree referred to as the First Amended Consent Decree (the FACD), which required the City to achieve, by 2014, full compliance with the City's environmental permits, the federal Clean Water Act and the Georgia Water Quality Control Act with regard to the City's WRCs, collection system and pump stations, to eliminate all unpermitted discharges, and to eliminate all sanitary sewage overflows (SSOs). Numerous improvement projects designed to achieve these objectives have been completed. These improvement projects include upgrades to treatment facilities, system-wide inspection and rehabilitation of the collections system, and additional tunnel construction. The City's CIP has been developed to meet these objectives as well as ensure the renewal and operational efficiency and reliability of the System. Based on the work completed, the provisions for the WRCs were terminated as part of the second amendment to the FACD in 2012.

As more fully discussed below, in April 2010, the City submitted a Financial Capability-Based Schedule Extension Request Report seeking an extension of the completion date required for wastewater system improvements required under the First Amended Consent Decree. On September 24, 2012, an order providing for important modifications to the FACD, including the extension of the final completion date from July 1, 2014 to July 1, 2027 was filed in U.S. District Court, Northern District of Georgia. The CIP discussed in Section 6 reflects the agreed-upon FACD schedule revisions.

3.2 Wastewater System History

Construction on Atlanta's sewer system began in the late 1800s. By 1880, there were 8 miles of stone, masonry and small pipe sewers ranging in size from 12-inches to 6-feet in diameter. In 1910, \$1.35 million was issued in bonds to construct three sewage treatment plants: Proctor Creek, Peachtree Creek and Intrenchment Creek. Between 1935 and 1945 the R.M. Clayton, Utoy Creek and South River treatment plants were added and two of the existing plants, Proctor Creek and Peachtree Creek, were decommissioned.

¹⁴ The terms "CSO Control Facilities", "Combined Sewer Control Facilities", and "CSS Control Facilities" are used interchangeably in this report.

In 1972, the City placed the Flint River treatment plant into operation, but by the early 1980s it was clear that discharging to the Flint River was cost prohibitive. In 1985, the Three Rivers Water Quality Management Program was completed. This program included the construction of the Three Rivers Tunnel, the Flint River Transmission Main and the Intrenchment Creek Force Main. The Three Rivers Tunnel linked the South River WRC with the Chattahoochee River, thereby eliminating inter-basin transfers and effluent discharges into the South River. The Flint River Water Pollution Control Plant was converted into a pump station and the Flint River Transmission Main was constructed to link the Flint River Pump Station to the South River WRC. Thus, the discharge of effluent into the Flint River was eliminated. Likewise, the Intrenchment Creek Force Main was constructed at this time and discharge of treated effluent from the Intrenchment Creek WRC into Intrenchment Creek was eliminated. Rather, effluent from the Intrenchment Creek WRC is pumped to the South River WRC where it receives further treatment at the South River WRC. Upgrades to the South River and Intrenchment Creek WRCs were also completed at this time.

More recently, the City completed a \$630 million Phosphorus Reduction Program (frequently identified as the Senate Bill 500 Improvements) whereby the City's WRCs were upgraded to comply with new limits on the amount of phosphorus the City may discharge to the Chattahoochee River. These improvements included upgrades to many processes as well as the addition of new processes such as disinfection using ultraviolet light and odor control. The City's wastewater treatment facilities and collection system are being and have historically been expanded and upgraded to meet the demands of the service population and increasingly stringent regulatory requirements. Over the last two decades, the City has invested more than \$3.0 billion in its wastewater systems and capital projects program to meet federal and state requirements, protect water quality and rehabilitate its existing infrastructure.

3.3 Service Area

The City's wastewater service area is regional. The area is bordered on the west by the Chattahoochee River and extends into northwest DeKalb County, a small portion of Clayton County, and parts of north and south Fulton County. Together, the City's WRCs serve a total area of 225 square miles; with the City's WQCFs and CSS Control Facilities providing supplemental capacity for an area of approximately 11 square miles. Figure 3-1 illustrates the City's wastewater service area and shows the location of the City's treatment facilities.

Wastewater from a small portion of northeast Atlanta is treated at the R.L. Sutton Wastewater Treatment Plant (WWTP), which is owned by Cobb County. Wastewater from a small portion of southwest Atlanta is treated at the Camp Creek WRC, which is owned by Fulton County.

The R.M. Clayton WRC provides wastewater treatment for a service area that encompasses the City (primarily north of Interstate 20), a portion of Sandy Springs and most of northern DeKalb County. The Utoy Creek WRC provides wastewater treatment for the wastewater service area that encompasses portions of southwest Atlanta, northwest Atlanta, East Point and Fulton County. The South River WRC provides wastewater treatment for the South River wastewater service area that encompasses Hapeville and portions of Atlanta, East Point,

College Park, DeKalb County and Clayton County. The South River WRC also treats partially treated effluent from the Intrenchment Creek facility that serves portions of Atlanta and a small portion of DeKalb County.

3.4 Water Reclamation Centers

As noted above and shown on Figure 3-1, the City owns three permitted WRCs: the R.M. Clayton WRC in northwest Atlanta, the Utoy Creek WRC in unincorporated Fulton County and the South River WRC in southeast Atlanta. Each WRC receives wastewater from one or more pump stations and multiple trunk sewers. All three of the permitted WRCs discharge treated effluent to the Chattahoochee River. The Intrenchment Creek WRC sends partially treated effluent to the South River WRC where it receives further treatment. Since the effluent from the Intrenchment Creek WRC is discharged via the NPDES-permitted outfall for the South River WRC, the Intrenchment Creek facility does not have a NPDES permit. Table 3-2 presents general information on each of the three permitted WRCs and the Intrenchment Creek WRC.

FIGURE 3-1
Wastewater Service Area

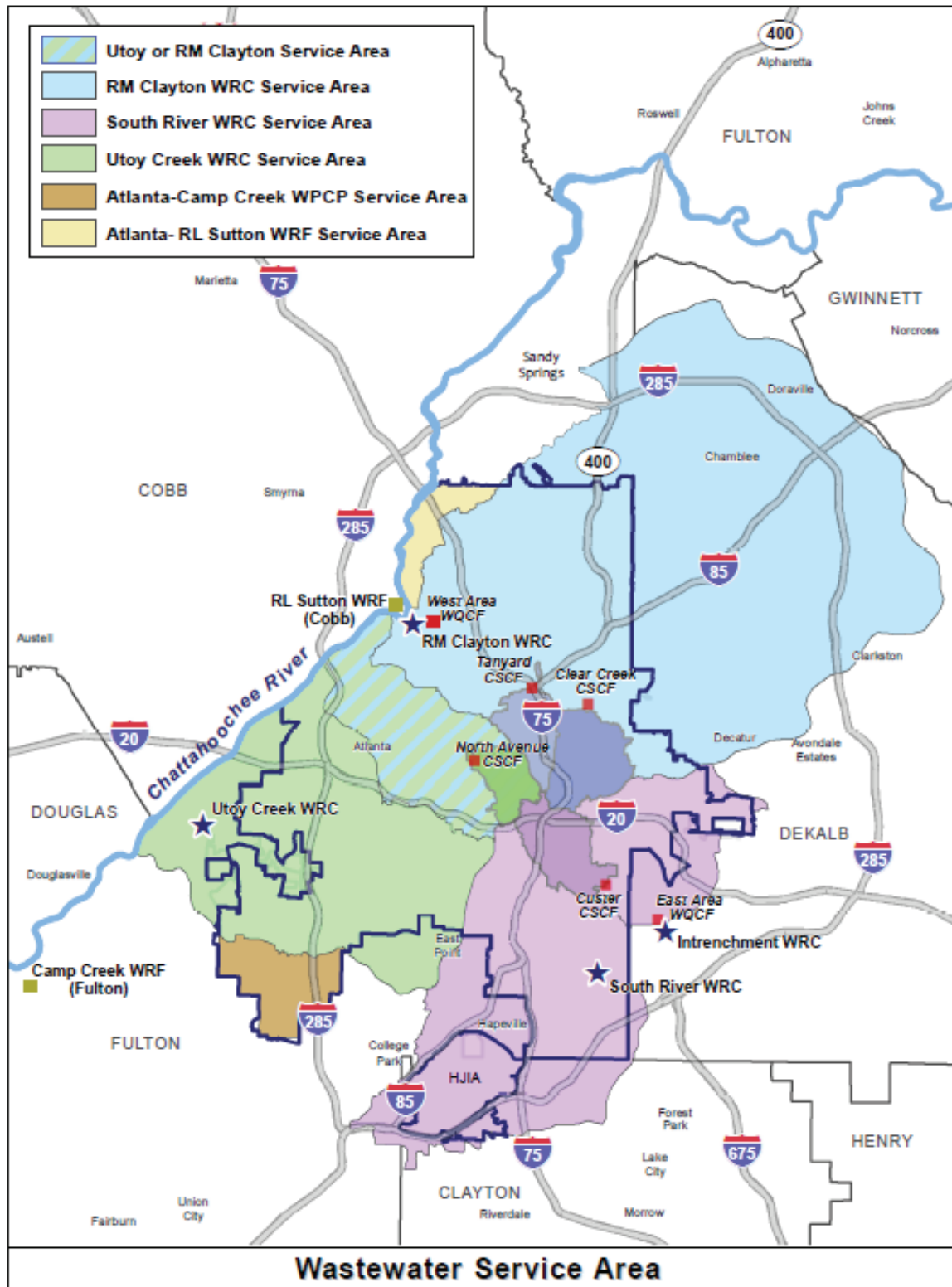


TABLE 3-2
General Information – Water Reclamation Centers

Water Reclamation Center	R.M. Clayton	Utoy Creek	South River	Intrenchment Creek
Year of Original Construction	1935	1932	1936	1914
Service Areas	Proctor Creek, Nancy Creek and Peachtree Creek	Utoy Creek, Proctor Creek and Sandy Creek	South River, Flint River and Intrenchment Creek WRC Effluent	Intrenchment Creek
Control Facilities in the Service Area	Clear Creek, North Avenue, Tanyard Creek and West Area ¹	North Avenue ¹	Custer Avenue, Intrenchment Creek WQCF	Intrenchment Creek WQCF and Custer Avenue (including Boulevard Regulator)
Influent Pump Stations	N/A	Utoy Creek WRC Influent PS	Jonesboro Road PS Flint River PS	N/A
Discharge Point	Chattahoochee River	Chattahoochee River	Chattahoochee River	South River WRC
¹ Flow from the Proctor Creek sub-basin can be diverted for treatment at the Utoy Creek WRC instead of at the R.M. Clayton WRC.				

Table 3-3 presents the permitted system treatment capacities and historical maximum month daily flows through each WRC between calendar years 2009 and 2015. The treatment plant capacities listed in Table 3-3 are the plant’s NPDES effluent discharge permitted capacities.

TABLE 3-3
WRC Capacities and Maximum Flows, 2009 to 2015

Plant	Current Maximum Average Daily Discharge Limit (mgd)	Maximum Month Average Daily Flow (mgd) Calendar Years Ended December 31						
		2009	2010	2011	2012	2013	2014	2015
R.M. Clayton WRC	100	81	96	83	72	92	88	98
Utoy Creek WRC	40	24	30	28	24	28	29	33
South River WRC	48	29	33	30	27	30	26	22

3.4.1 WRC Treatment Facility Descriptions

The R.M. Clayton, Utoy Creek and South River WRCs employ similar advanced primary, secondary and tertiary processes for treating wastewater. At all three facilities, wastewater passes through mechanically cleaned bar screens, fine mesh rotary drum screens and vortex grit collectors. The screened wastewater then undergoes primary clarification, nutrient

removal in the aeration basins/biological nutrient removal (BNR) tanks, secondary clarification, effluent filtration, ultraviolet (UV) disinfection and post-aeration prior to being discharged to the Chattahoochee River.

In the solids handling portion of the treatment facilities, primary sludge is sent directly to the digesters, and waste activated sludge from the secondary clarifiers is thickened before being sent to the digesters. The digested biosolids from the R.M. Clayton WRC and a portion of South River WRC are dewatered and incinerated. Ash from the incinerators is sent to a landfill for disposal. The digested biosolids from the Utoy Creek WRC, Intrenchment Creek WRC and the remaining portion of the South River WRC are disposed in a landfill.

The Intrenchment Creek WRC influent passes through mechanically cleaned bar screens and aerated grit collectors to remove large debris and dense solids. These screenings and grit are hauled to a landfill for disposal. Smaller solids and scum are removed in primary clarifiers. Primary clarifier effluent goes to trickling filters and secondary clarifiers prior to being pumped to the South River WRC for further biological treatment and disinfection. Solids from the Intrenchment Creek WRC solids holding tank are sent to the dewatering centrifuges.

3.4.2 Water Reclamation Center - Physical Condition Evaluation

As noted in Section 1.2, the asset condition assessments presented herein were conducted in conjunction with a series of facility assessments that have informed the Department's integrated master planning process. In general, engineering evaluations included limited visual inspections of selected major above ground facilities operated by the City, interviews with key staff responsible for operation of facilities, and reviews of ongoing and planned capital improvement projects. No field-testing or detailed evaluation of facility maintenance records was performed to confirm scoring or to assign more refined condition scores. As defined in Table 1-1, a five-point scale from "Very Poor" to "Very Good" was used to assign condition scores.

3.4.2.1. R.M. Clayton WRC

Overall, the condition of this facility appears to be in Fair condition, with a condition score of 3. However, the condition of individual components ranges from Very Poor to Good. In general, the condition of structures is higher than the condition of mechanical equipment. Capital improvements are underway to upgrade the existing headworks, replace aging primary clarifier equipment, add a thickening centrifuge, and potentially raise the flood protection berm around the facility.

The 2012 South Area Study identified facility headworks as an area of critical need. The plant has experienced extraordinary grit loading, particularly during storm events, and operation and maintenance of the plant's grit removal systems has been problematic. These issues are believed to have contributed to higher than anticipated maintenance costs for downstream unit processes, from basin cleanout to centrifuge dewatering. The headworks were scored in Poor to Very Poor condition (grit pumps were rated Very Poor). Maintenance repairs are underway, funded as part of the Department's FY 2015–2019 capital improvements project list.

During the 500 year flooding event in September 2009, this facility sustained extensive damage. While major repairs to damaged equipment and structures were completed in 2011, some backup treatment capabilities, such as post-treatment chemical feed, were not replaced and some repairs, such as for aeration basin mixers, have not provided the anticipated service life. This has reduced the plant's treatment capability. Mixer replacement and chemical feed systems improvements are included in the projects scheduled in the Department's FY 2017–2022 capital improvements project list.

Biosolids are currently handled at the plant through operation of two incinerators. The incinerators overall are in Fair condition. Some accessories such as belt feed conveyors and dewatering centrifuges are in Poor condition. New EPA air quality regulations, which went into effect in March 2016, will potentially necessitate expensive upgrades to the incinerators, and the City intends to move away from incineration to drying for future biosolids handling of R.M. Clayton solids. The Department's CIP includes phased implementation with immediate improvements to extend the service life of existing equipment in the near-term, and design and construction of biosolids improvements at R.M. Clayton in the 10-20 year timeframe.

The plant currently uses medium pressure ultraviolet disinfection equipment to meet permit requirements. While these facilities are currently in Good condition, this equipment is nearing the end of its service life and needs to be replaced in the 5–10 year timeframe. Replacement with updated, more efficient low-pressure, high-output equipment should result in lower electrical usage, providing operational savings and energy management benefits. The Department's FY 2017–2022 capital improvements project list includes these equipment upgrades.

3.4.2.2. Utoy Creek WRC

Due primarily to the extensive reconstruction that occurred at the Utoy Creek WRC under the Phosphorus Reduction Program, the Utoy Creek facility overall appears to be in Good condition, with a condition score of 2. The South Area study noted some areas of needed improvement including chemical feed systems and biosolids handling, which are in Fair condition. Most of the chemical system upgrades have already been implemented, and those remaining are included in the Department's FY 2017–2022 capital improvements project list.

The City determined that the incinerators at Utoy Creek WRC were unable to meet new EPA air quality regulations that went into effect in March 2016. As a result, the Utoy Creek WRC incinerators were permanently decommissioned on March 18, 2016. The City is currently disposing of biosolids at a nearby landfill and is investigating options for other biosolids management approaches.

The Department's ten-year capital improvements project list encompasses the design and construction of biosolids improvements at Utoy Creek, including digester improvements, dewatering improvements, cake receiving facilities, and replacement of the incinerator with dryers.

The plant currently uses medium pressure ultraviolet disinfection equipment to meet permit requirements. While these facilities are currently in Good condition, this equipment is nearing the end of its service life and needs to be replaced in the 5–10 year timeframe. Replacement with updated, more efficient low-pressure, high-output equipment should result

in lower electrical usage, providing operational savings and energy management benefits. The Department's ten-year capital improvements project list includes these equipment upgrades.

3.4.2.3. South River WRC

The work at the South River WRC was not as extensive as that performed at the Utoy and R.M. Clayton WRCs under the Phosphorus Reduction Program, and the facility appears in overall Fair Condition (condition score 3). Some components, such as the recently completed South River Tunnel and pump station, and odor control facilities, appear in Good condition. However, individual components including primary clarifiers, digesters, and dewatering centrifuges are in Poor condition. Ongoing work associated with the decommissioning of the Intrenchment Creek WRC includes the construction of new primary clarifiers. The Department's FY 2017–2022 capital improvements project list includes recommended capital improvements to solids handling processes at the plant.

The plant currently uses medium pressure ultraviolet disinfection equipment to meet permit requirements. While these facilities are currently in good condition, this equipment is nearing the end of its service life and needs to be replaced in the 5–10 year timeframe. Replacement with updated, more efficient low-pressure, high output-equipment should result in lower electrical usage, providing operational savings and energy management benefits. The Department's ten-year capital improvements project list includes these equipment upgrades.

3.4.2.4. Intrenchment Creek WRC

The Intrenchment Creek WRC is an older facility with dated treatment technology and is in relatively Poor condition. Unlike the R.M. Clayton, South River and Utoy Creek WRCs, this facility does not discharge to waters of the State and does not have an NPDES discharge permit. Rather, wastewater handled by the Intrenchment Creek WRC is partially treated before being pumped to the South River WRC for further treatment and ultimate discharge. Given these attributes, the Intrenchment Creek WRC is scheduled for decommissioning since doing so will not decrease the Department's permitted wastewater treatment capacity and will improve the Department's ability to allocate resources across other facilities.

3.4.3 Permit Compliance

Each WRC is subject to the conditions of the 2010 consolidated NPDES permit, which was issued in order to meet the requirements of the federal Clean Water Act and the Georgia Water Quality Control Act. The NPDES permit program, authorized by the federal Clean Water Act and delegated to the State of Georgia, regulates point sources that discharge pollutants into waters of the United States. The USEPA has delegated authority to the Georgia EPD to administer the NPDES program within the state.

The Consolidated NPDES permit for the WRCs was most recently issued to the City WRCs on September 15, 2010, but is undergoing the permit renewal process. This permit included revised discharge limits for several pollutants and introduced mass-loading limits. The mass loading limits were established for each WRC as well as combined limits for the cumulative discharge from the three WRCs during each month. Weekly concentration and mass loading

limits were also included in the 2010 NPDES permit. The City submitted its application for renewal of the current permit in early 2015.

Table 3-4 presents the current average daily discharge limits, which are calculated on a per-month basis and the actual levels reported from the three most recent calendar years, 2014 through 2016. The Intrenchment Creek WRC is not subject to NPDES discharge limits because its effluent is conveyed to the South River WRC for additional treatment prior to being discharged; however, the operation of Intrenchment Creek WRC is still subject to compliance with NPDES requirements.

For the most recent three-year period, the Water Reclamation Centers have operated in overall compliance with requirements set forth in the Consolidated NPDES Permit (Permit No. GA0039012). This permit specifically includes the RM Clayton, South River, and Utoy Creek WRC individually and establishes consolidated limits for the three facilities combined. The Intrenchment Creek WRC is not specifically named in the NPDES Permit because flow from this facility is sent to the South River WRC for treatment.

The South River and Utoy Creek WRC facilities, constructed in the mid- to late-1900s, have had consistently reliable daily, weekly, and monthly compliance records over the three-year 2014-2016 period. The RM Clayton and Intrenchment Creek WRCs, constructed in the early 1900s, each had notable exceptions in 2015.

With respect to RM Clayton, the facility headworks started experiencing serious operational issues in 2015. Excess silt and soils were entering the treatment process and causing upsets to the treatment system efficiencies. These upsets were more likely to occur during severe storm events characterized by relatively higher plant inflow rates. Many of the exceedances shown in Table 3-4 occurred concurrently due to a single incident. For example, a severe weather event from January 2 to January 4, 2015 caused the facility to be hydraulically overloaded, resulting in 9 separate violations, as defined by the NPDES:

- Exceedance of the RM Clayton effluent limits for (1) total suspended solids and (2) phosphorous effluent concentration limits;
- Exceedance of the RM Clayton (3) weekly phosphorous effluent concentration limit;
- Exceedance of the RM Clayton (4) weekly phosphorous loading limit;
- Exceedance of the RM Clayton monthly (5) phosphorous and (6) ammonia limits; and
- The occurrence of major spills to the Chattahoochee River (7).

Also, additional violations occurred because these exceedances are factored into the consolidated loading limits specified by the NPDES permit:

- Exceedance of the (8) weekly consolidated effluent loading limit for phosphorous; and
- Exceedance of the (9) weekly consolidated effluent loading limit for phosphorous.

TABLE 3-4
WRC NPDES Permit Violations, 2014-2016

Violation	Consolidated Permit			RM Clayton WRC			Intrinchment Cr. WRC			South River WRC			Utoy Creek WRC			TOTAL
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016	
Ammonia	0	14	0	0	15	0	0	0	0	0	0	0	0	0	0	29
Biological Oxygen Demand	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3
Chemical Oxygen Demand	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Dissolved Oxygen	0	0	0	0	0	0	0	0	0	8	2	0	0	0	0	10
Fecal Coliform	0	0	0	0	1	0	3	0	0	0	1	0	0	0	0	5
Failure to Collect Sample	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Major Spill	0	0	0	5	15	5	0	14	7	0	0	0	0	0	0	46
Phosphorous, Total	0	0	0	1	10	10	0	0	0	0	0	0	0	0	0	21
Phosphorous, Loading	3	6	6	0	0	0	0	0	0	0	0	0	0	0	0	15
Stream Temp. Monitoring	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Suspended Solids	1	0	3	5	15	7	0	0	0	0	0	0	0	0	0	31
Unpermitted Discharge	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
Annual Totals	4	21	10	11	57	24	4	16	7	9	3	1	0	0	2	169
3-Year Total	35			92			27			13			2			

Note: The Consolidated NPDES Permit for the WRCs includes daily, weekly and monthly limits. In some instances, a one-time exceedence can trigger as many as 7 violations.

The operational problems at the headworks were recognized before the incident described above. As a result, DWM initiated repair and replacement design activities in November 2014 and construction is currently in progress.

Intranchment Creek WRC operational issues in 2015 related to 14 major spills of raw sewage into Intranchment Creek (Table 3-4). These incidents were also largely associated with severe storm events but nevertheless should not have occurred based on the design of the flow transfer system from the Intranchment Creek WRC to the West Area Tunnel. However, in early 2016, a subsurface structural fracture was found to be leaking into the transfer system and was using up to 40 percent of the dry weather transfer pumping capacity. Given this claim on pumping capacity, less transfer capacity was available during wet weather events. This fracture was repaired in early 2016 and no similar incidents have occurred since the repair was completed.

DWM is awaiting issuance of a final NPDES permit in early 2017. No significant operational standards or effluent limit changes are anticipated based on the draft permit that the Georgia EPD issued for public comment in August 2015.

3.5 Collection System

The City's wastewater collection system includes both combined and separate sanitary sewers. Both the separate and combined sanitary sewers collect untreated wastewater and convey it to a WRC for treatment. However, wet weather flows from the combined sewer system (i.e., a single-pipe sewer system that carries wastewater under dry weather conditions and combined wastewater and stormwater under wet weather conditions) can be treated at one of the two WQCFs and four CSCFs if additional treatment capacity is needed.

Routine, day-to-day sanitary sewage flows from the East and West CSSs are connected downstream directly to the separate sanitary sewer system and are transmitted to one of the City's Water Reclamation Centers (WRC) for treatment and discharge on a continuous basis, in accordance with the Consolidated NPDES Permit for the Water Reclamation Centers (Permit No. GA0039012). When a storm event occurs, stormwater runoff within the 11 square mile combined sewer area enters the CSS via stormwater inlets and catch basins where it mixes with the sanitary sewage flows to create combined sewage. This also results in an increased volume of the total flow moving through the CSS, to the separate sewer system and the WRCs for treatment.

As required by the NPDES permits, and consistent with the Nine Minimum Controls established in the Clean Water Act for combined sewer systems, combined sewage flows from lower intensity and/or shorter duration storms continue to be transmitted via the CSS to the separate sewer system and then to the WRC for treatment. In the event of more intense and/or longer duration storms, the volume of flow within the CSS can reach levels that may exceed either the transmission capacity of the separate sewer system and/or the operational capacity of the WRC that receives the flow. When this occurs, the additional flow volumes generated as a result of stormwater runoff within the Combined Sewer Areas are managed by the Combined Sewage Control Facilities following a specified, step-wise sequence of events, which are based on the volume of combined flows leaving the Combined Sewer Area

and in a manner that is consistent with the requirements of the NPDES permits and EPA's Combined Sewer Overflow (CSO) Control Policy, as incorporated into the federal Clean Water Act in 2002.

The City's NPDES permits require that combined sewage flows be treated at the WRCs and that the available storage in the transmission system be utilized. The City's CSS Control systems are permitted to operate only if the WRCs are operating at maximum capacity or the collection systems are at or nearing their maximum transmission capacity as a result of increased flows due to stormwater runoff within the combined sewer areas. If either of these circumstances occur then the City may initiate operation of its CSS Control Facilities to provide supplemental treatment capacity, as follows:

1. Combined sewage flows are passed through one of the CSCFs for screening prior to being transferred to either the East Area or West Area tunnels for storage;
2. If tunnel storage is nearing capacity, the WQCFs will be brought online to provide supplemental treatment capacity for the WRCs;
3. The CSCFs (also known as "the remote facilities") are brought online on an "as needed" basis to provide additional supplemental capacity only if the WQCFs and the WRCs are operating at capacity and the tunnels are nearing their storage capacities individually.

Following the end of a storm event, the process is reversed with the CSCFs being shut down first, followed by the WQCFs. Remaining combined sewage stored in the tunnels is then treated once capacity again becomes available at one of the WRCs.

3.5.1 Collection System Components

3.5.1.1. Pipelines

The City's collection and transmission system is comprised of approximately 2,150 miles of combined and separate sewer pipe. The system consists of lateral, collection and trunk sewers that convey wastewater from homes, businesses and institutional and industrial facilities to a treatment facility. This includes an estimated 62 miles of combined sewers, 1,659 miles of separate sanitary sewers (exclusive of sewer lines serving the Hartsfield-Jackson Airport), and 430 miles of lines of service laterals in public rights-of-way. The collection system contains a variety of pipe materials ranging in size from 6 to 180 inches in diameter as well as brick and concrete arch sewers constructed as part of the combined sewer system. The collection system also includes the wastewater pumping stations, force mains, and tunnels that convey flow to pump stations, WRCs and combined sewage treatment facilities that provide additional treatment capacity for wet-weather events. Effluent transmission mains include force mains, tunnels and gravity flow pipelines that are used to convey treated wastewater from a WRC to a receiving stream or river.

The City's wastewater collection and transmission system, with a few exceptions, is geographically located within the City's corporate limits. This system collects wastewater from the City of Atlanta and is also used to convey wastewater from portions of Clayton County, College Park, DeKalb County, East Point, Fulton County and Hapeville customers to the City's WRCs for treatment.

As shown in Figure 3-2, the City's collection system services 10 sewer basins, including the Camp Creek, Intrenchment Creek, Long Island Creek, Nancy Creek, Peachtree Creek, Proctor Creek, Sandy Creek, South River, Sugar Creek and Utoy Creek Basins.

3.5.1.2. Pump Stations

The City's collection system includes 16 remote pump stations that are used throughout the system to pump wastewater to high points, after which the wastewater flows by gravity to the next pump station or a WRC. In addition, the Utoy Creek Influent Pump Station and the Jonesboro Road Pump Station, located at the Utoy Creek WRC and the South River WRC respectively, are used to pump wastewater from a low point in the collection system to the elevation of the WRC treatment process. The Utoy Creek Influent Pump Station and the Jonesboro Road Pump Station, along with the pump stations that are part of the WRC treatment processes, are considered part of the WRCs.

Figure 3-3 shows the locations of the remote pump stations. Table 3-5, which follows Figure 3-3, identifies the capacity of each pump station along with the general attributes of the pump stations.

All of the 16 remote pump stations are centrifugal pump stations. The pump stations range in capacity from 20,000 gpd to 59 mgd. Four of the pump stations — Flint River, Bolton Road, Phillip Lee and Rebel Forest – are capable of pumping peak flows greater than 1 mgd.

FIGURE 3-2
Sewer Basins

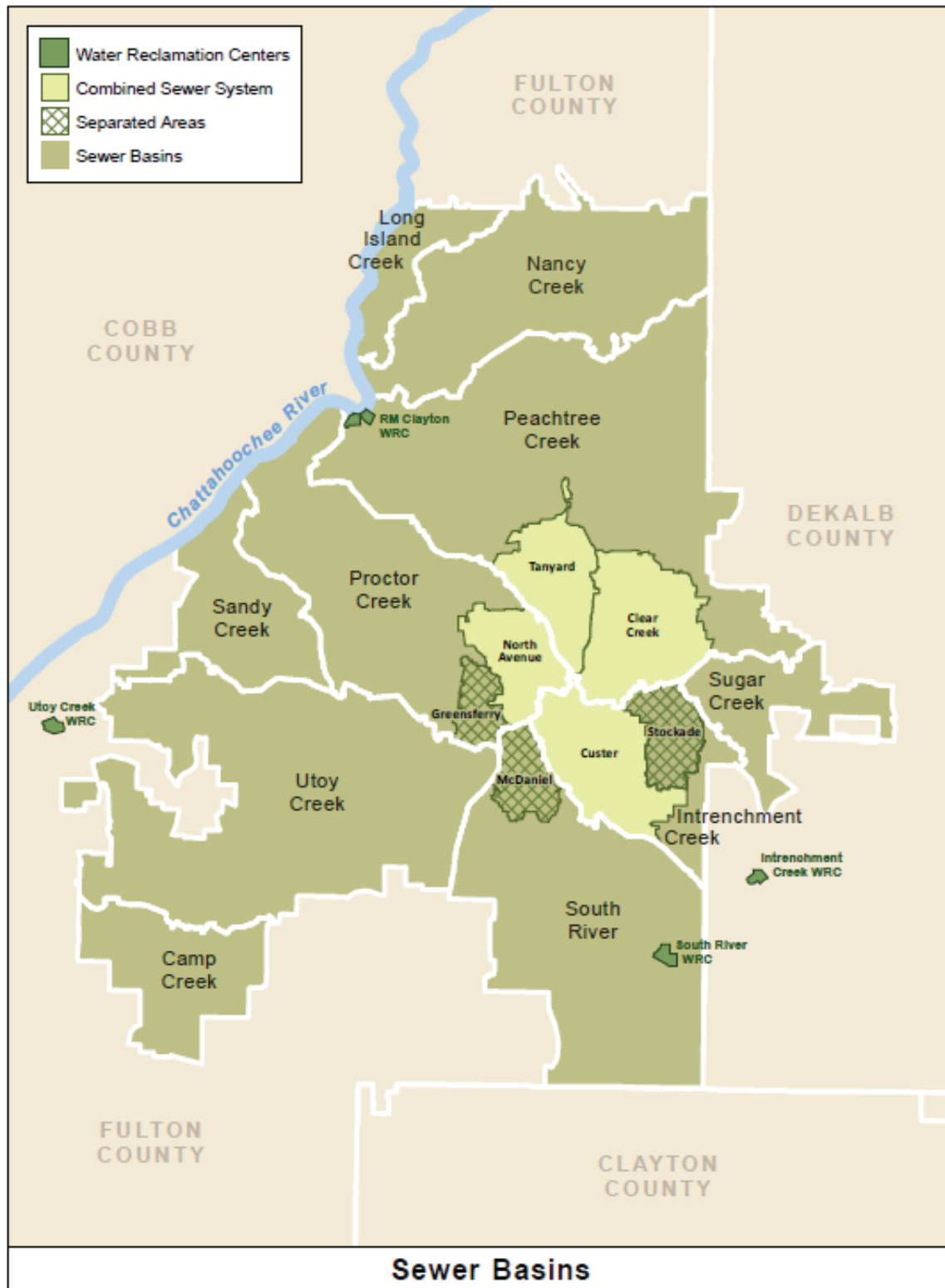
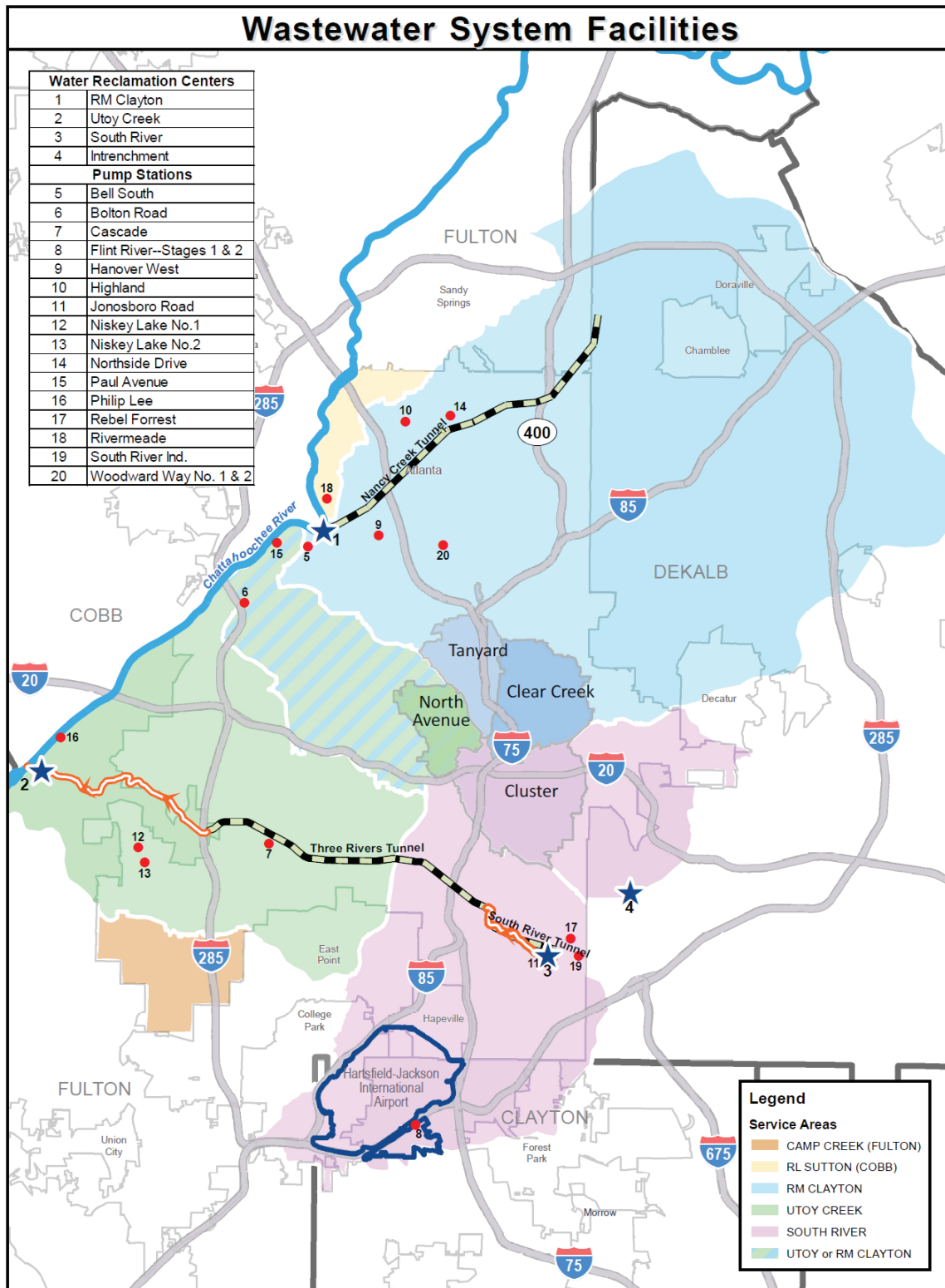


FIGURE 3-3
Wastewater System Facilities



3.0 WASTEWATER SYSTEM

Supervisors and licensed operators from the Office of Water Treatment and Reclamation operate the pump stations. Mechanics, process control technicians and electricians are routinely available during the day shift and are available “on call” during all other shifts to maintain the stations. Fourteen of the 16 pump stations are monitored by telemetry.

TABLE 3-5
Collection System Pump Stations

Facility ¹	Year Constructed	Average Daily Flow ² (gpd)	Low Flow Rate ³ (gpd)	Peak Hour Flow Rate ⁴ (mgd)	No. of Pumps	No. Pumps Run at ADF	Pump Station Capacity (mgd)
Bell South PS	1998	211	----	0.0044	2	1	0.0518
Bolton Road PS	1972	13,250,000	4,090,000	39.7000	4	1	45.1
Cascade PS	1968	35,136	5,625	0.1560	2	1	0.2608
Flint River (2 nd stage)	1987	4,650,000	2,600,000	21.6000	5	2	21.89
Flint River PS (1 st stage)	1987	3,085,000	1,260,000	18.1000	7	3	19.35
Hanover West PS	1992	49,315	13,306	0.3145	2	1	0.2101
Highlands PS	1992	3,070	263	0.0610	2	1	0.1359
Niskey Lake PS No. 1	1968	37,208	2,197	0.5286	2	1	0.5760
Niskey Lake PS No. 2	1983	54,199	25,843	0.4086	2	1	0.3600
Northside PS	1998	2,082	200	0.0626	2	1	0.0527
Paul Avenue PS	1958	61,327	11,698	0.1750	2	2	0.0840
Philip Lee PS	1973	14,831,000	8,700,000	52.0000	4	2	57.0
Rebel Forest PS	1960	366,240	215,049	1.4767	3	1	1.2421
Rivermeade PS	1963	23,839	10,054	0.3291	2	1	0.5850
South River Industrial PS	1985	13,299	575	0.6206	2	1	0.6623
Woodward Way PS No. 1	1985	48,732	6,767	0.4522	2	1	0.3845
Woodward Way PS No. 2	2005	3,140	---	0.0068	2	1	0.4088

¹ Data reflects testing performed in 2008. Testing is performed annually to verify that performance conforms to 2008 parameters.

² Annual Average Daily Flow = total volume of wastewater entering a wastewater facility during any consecutive 365 days, divided by 365.

³ Low Flow Rate = lowest flow rate the pumping station equipment can accommodate.

⁴ Peak Hour Flow Rate = highest observed flow rate.

3.5.1.3. Force Mains

Each of the wastewater pump stations listed above has an associated force main. These wastewater force mains vary in length from less than 1,000 to over 30,000 linear feet; and in diameter, between 8 and 42 inches. Three of these wastewater pump stations are of significant size and length:

- 3,000 linear foot, 36-inch-diameter Bolton Road Pump Station Force Main
- 2,700-linear-foot, 42-inch-diameter Philip Lee Drive Pump Station Force Main
- 30,300-linear-foot, 24- and 30-inch-diameter Flint River Pump Station Force Main

Additionally, the South River pumps treated wastewater into effluent force mains - the 14,800 linear-foot, 54-inch diameter South River WRC effluent force main and the 11,400 linear-foot, 36- and 42-inch diameter Intrenchment Creek WRC effluent force mains.

3.5.1.4. Tunnels

The City's collection and transmission system includes five operating tunnels: four wastewater conveyance tunnels and one effluent discharge tunnel (Figure 3-3).

The wastewater transmission tunnels are:

- The 16-foot-diameter Nancy Creek Tunnel extends approximately 8 miles and conveys wastewater from the City (specifically the Nancy Creek Basin), DeKalb County and Roswell (through a contract with Fulton County) to the R.M. Clayton WRC. This tunnel and the associated Nancy Creek Pump Station were completed in December 2005.
- The South River Tunnel, a 10-million gallon combined storage and conveyance tunnel, was placed into service in the summer of 2011. This 14-foot-diameter tunnel spans approximately two miles and provides equalization and storage for peak flows collected within the South River Basin for treatment at the South River WRC.
- The West Area Conveyance Tunnel is a 24-foot-diameter, 8.5 mile tunnel (and also collects wastewater from the West Combined Sewer Area)
- The Intrenchment Creek Conveyance Tunnel is a 24-foot-diameter, 1.8 mile tunnel (and also collects wastewater from the East Combined Sewer Area)
- The Three Rivers Tunnel System is approximately 13 miles long and transmits treated effluent from the South River WRC to the Chattahoochee River.¹⁵

3.5.1.5. Proctor Creek Diversion Structure

The Proctor Creek Diversion Structure is also part of the collection system. This structure is located on the Proctor Creek Trunk off of Perry Boulevard in northwest Atlanta as shown in Figure 3-3. Construction of a new diversion structure was completed in 2007. The new diversion facility includes two electrically actuated sluice gates for diverting flow going to the R.M. Clayton WRC to the Utoy Creek WRC via the Bolton Road Pumping Station.

¹⁵ The term "Three Rivers Tunnel" is commonly used to refer to the entire effluent transmission line from the South River WRC to the Chattahoochee River; however, this "tunnel" is actually comprised of three sections: a force main, a tunnel, and a gravity outfall sewer.

3.5.2 Collection System - Physical Condition Evaluation

3.5.2.1. Collection System Piping

The City has an ongoing program to meet the requirements of the First Amended Consent Decree to reduce sanitary sewer system overflows. With the extension of the compliance schedule from 2014 to 2027, remaining collection system improvements are now scheduled for completion over the extended time frame. The Wastewater Management Plan effort reviewed ongoing programmatic improvements, and based on program and utility records and utility staff feedback, the wastewater collection system piping is rated in Good Condition.

3.5.2.2. Pump Stations

Influent pumping stations at the City WRCs are included in the WRC condition assessments. The City's wastewater collection system includes additional remote pump stations that are used throughout the system to pump wastewater to high points, after which the wastewater flows by gravity to the next pump station or a water reclamation center (WRC). The overall condition for the pump stations ranges from Very Poor (Flint River) to Fair. Future capital improvements to the wastewater pump stations (delineated in Section 6) will accommodate growth in projected flows, enhance operational reliability and efficiency, and provide for appropriate renewal and rehabilitation.

3.6 Combined Sewage Control Facilities

The City owns and operates six combined sewage system control facilities: two WQCFs and four CSCFs, which operate under two separate NPDES permits; one for the East Area Facilities which discharge into Intrenchment Creek, a tributary to South River; and a separate permit for the West Area Facilities which discharge into the Chattahoochee River or local streams.

As shown in Figure 3-1, the combined sewer system is located in an 11-square-mile area of the City in downtown Atlanta. The combined sewer area includes portions of the Peachtree Creek watershed (including the Tanyard Creek and Clear Creek sub-watersheds), the Proctor Creek watershed (including the North Avenue subwatershed) and the Intrenchment Creek watershed (including the Custer Avenue sub-watershed). As described above, under dry weather conditions, sewage from the combined sewer areas are transported to a WRC for treatment. During storm events, the flows from the combined sewer areas continue to be transported to the WRCs for treatment. However, if the flow volumes increase to a level that exceeds the collection system's transmission or storage capacity and/or the WRC treatment capacity, a portion of the flow is conveyed to one of the WQCFs for treatment prior to being discharged. Combined sewer flows are typically treated in this manner until such time as their respective collection tunnels are reaching storage capacity. When the heaviest rain events occur, flow volumes can exceed the combined treatment capacities of the WRCs and the WQCFs and tunnel storage capacity. In these instances, individual CSCFs are brought online, as needed, to provide additional treatment capacity prior to discharge to their respective receiving streams.

The East Area Facilities include the East Area WQCF¹⁶ and the Custer Avenue CSCF. When activated, these facilities discharge to receiving streams located in the South River Basin, which generally flows to the east and are tributaries to the Ocmulgee River.

The West Area Facilities include the West Area WQCF and the Clear Creek, North Avenue and Tanyard CSCFs. Flows from the corresponding sub-basins are conveyed to the RM Clayton WRC via the West Area Tunnel. During some wet weather events, flows from the West Area Tunnel are diverted to the West Area WQCF to provide additional treatment capacity. Both the RM Clayton WRC and the West Area WQCF discharge to the Chattahoochee River, which generally flows to the south and the west. The three CSCFs, when operating, discharge to Clear Creek, Proctor Creek, and Tanyard Creek, which also flow to the Chattahoochee River.

As the City completed the projects required by the CSO Improvement Plan under the requirements of the CSO Consent Decree, two East Area Control Facilities (McDaniel Branch and Stockade), along with the Confederate Avenue Regulator, and one West Area Control Facility (Greensferry) were decommissioned following separation of the combined sewer system in these areas.

Table 3-6 presents a summary of the facilities currently in use by the City to manage and treat combined sewage flows, along with their corresponding receiving streams and the year each facility was constructed.

TABLE 3-6
Summary of Combined Sewage Area Control Facilities

Facility	Wet Weather Discharges To	Year Constructed
East Area Facilities		
East Area WQCF	Intrenchment Creek	1983
Custer Avenue CSCF	Intrenchment Creek	Mid-1980s, upgraded 2007
West Area Facilities		
West Area WQCF	Chattahoochee	2007
Clear Creek CSCF	Clear Creek	1996
North Avenue CSCF	Proctor Creek	1994
Tanyard Creek CSCF	Tanyard Creek	1994

3.6.1 Combined Sewage Tunnels

The Intrenchment Creek Tunnel and the West Area Tunnel are part of the City’s collection and transmission system and are included in the Consolidated NPDES permit for the WRCs. In addition to serving as sewage transmission tunnels for the RM Clayton and South River WRCs, the tunnels are also used to collect, convey and store combined sewage and stormwater from the combined sewer areas in response to wet weather conditions. These

¹⁶ Historically, the East Area WQCF was referred to as the Intrenchment Creek WQCF. However, in order to eliminate confusion between the Intrenchment Creek WRC and the Intrenchment Creek WQCF, the WQCF was redesignated as the East Area WQCF in the 2015 East Area NPDES permit.

tunnels are shown in Figure 3-4. The Intrenchment Creek Tunnel is a 24-foot-diameter, 1.8 mile tunnel and the West Area Tunnel is a 24-foot-diameter, 8.5 mile tunnel.

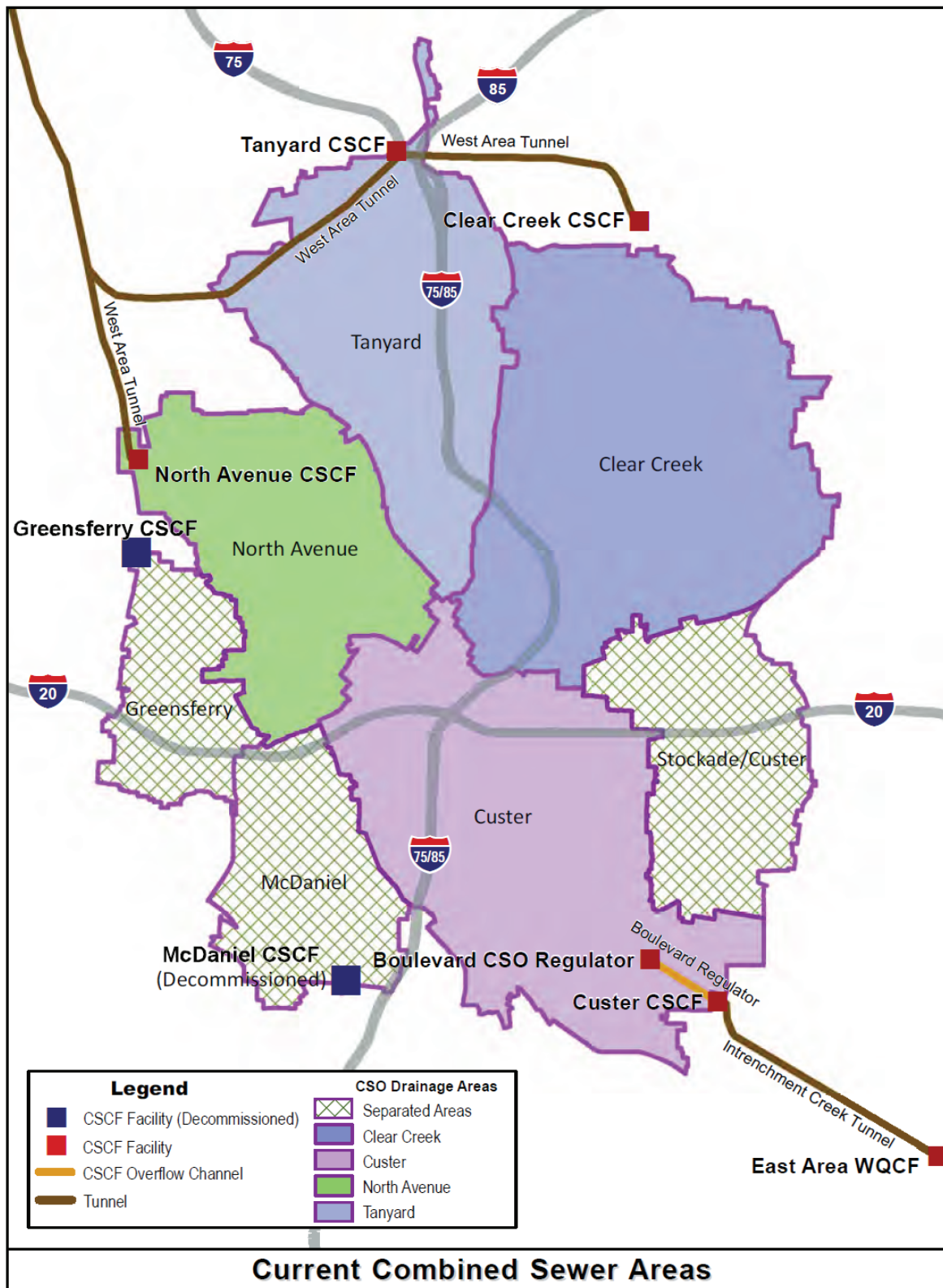
The West Area Tunnel, which collects combined flows from the Clear Creek, North Avenue, and Tanyard Creek sub-basins, was completed in 2008. Since that time, dry weather flow and some wet weather flow from combined sewer areas has been transmitted to the RM Clayton WRC for treatment. Flows can be transferred to the West Area WQCF and the CSCFs if additional treatment capacity is needed during wet weather events.

3.6.2 Flow Equalization Facilities

Although the 11-square-mile area is referred to as the "Combined Sewer Area", not all of the wastewater collection lines located within this area are combined sewers. Numerous locally-separate sanitary sewer collection lines exist within the Combined Sewer Area, but are tributary to downstream combined sewers. Ongoing work associated with the evaluation, rehabilitation, and capacity relief (as needed) of these separate sanitary sewer pipelines is also being performed within the Combined Sewer Areas.

As part of the Nine Minimum Controls listed in the East Area and West Area NPDES permits, the City is required to maximize treatment of combined sewage at the WRCs before bringing the CSS Control Facilities into operations. The City has constructed two flow equalization ponds at the Historic Old Fourth Ward and Dean Rusk Parks. There has been some localized separation of the combined sewer systems upstream from these parks so that, under dry weather conditions, the sanitary sewage is transmitted to a WRC for treatment and under wet weather conditions, the stormwater collected from the locally separated areas is transmitted to the ponds for temporary storage. Once a storm event has ended and there is treatment capacity at the WRCs, the stored stormwater is conveyed to the WRCs for treatment. This allows the City to reduce the operational frequency and the duration of discharge events at the CSS Control Facilities.

FIGURE 3-4
Current Combined Sewage Collection System



3.6.3 Combined Sewage Control Facility Treatment Processes

The East Area and West Area WQCFs use similar processes for treating flow. These treatment facilities include bar screens, fine mesh drum screens, grit removal, sodium hypochlorite disinfection and sodium bisulfite dechlorination.

The 20-mgd capacity East Area WQCF can receive and treat flows of up to 34 million gallons per day during wet weather events. The 85-mgd capacity West Area WQCF receives flow from the West Area Tunnel. Both facilities include grit removal units, primary clarification, filtration, sodium hypochlorite disinfection and sodium bisulfite dechlorination. Settled solids generated at the East Area WQCF are sent to a sludge holding tank and dewatered for landfill disposal. Settled solids at the West Area WQCF are discharged to the primary clarifiers at the R. M. Clayton WRC and processed with the other settled solids.

The four CSCFs (Clear Creek, North Avenue, Tanyard Creek, and Custer Avenue) provide coarse and fine screening of combined sewer flows. Screened waste is transferred to nearby roll-away dumpsters for landfill disposal. Combined sanitary wastewater and stormwater is screened, disinfected with sodium hypochlorite and dechlorinated with sodium bisulfite at these facilities prior to discharge.

Sodium hypochlorite is used for disinfection at each of the WQCFs and CSCFs. The City has optimized the location of the injection point for sodium hypochlorite so that disinfection occurs upstream of screening processes to allow for greater contact time. Odor control is also provided at the Tanyard Creek CSCF.

Table 3-7 shows the size and treatment characteristics for each of the WQCFs and CSCFs and also provides data on the 2015 discharge events lasting at least 50 minutes and occurring at least 48 hours since the last discharge.

TABLE 3-7
Facility Flow Parameters

Facility	Maximum Flow to WRCs (mgd)	Flow Range Through Screening/ Degritting (mgd)	Peak Hydraulic Capacity - Overflow (mgd)	Maximum Event Discharge for 2013 (MG)	Reported Number of Discharges for 2013
East Area Facilities					
Boulevard Regulator ¹	< 20	20 – 2,295	2,295	0	0
Custer Avenue CSCF ²	< 500	500 – 3,050	3,050	16.6	10
East Area WQCF	< 34	20 ³	20 ³	98.5	29
West Area Facilities					
Clear Creek Control	< 40	40 – 1,000	5,060	109.2	10
North Avenue CSCF	< 29	29 – 650	2,600	65.0	9
Tanyard Creek CSCF	< 34	34 – 385	3,600	6.2	3
West Area WQCF	< 50	30 – 80	85	191.9	29
¹ Regulator facility does not discharge. ² To Intrenchment Creek Storage Tunnel. ³ Amount that can be pumped from the tunnel.					

3.6.4 Combined Sewage Control Facilities – Physical Condition Evaluation

The CSS Control Facilities are in generally Fair condition and meet operational requirements. There is an issue regarding the effectiveness of grit and silt removal equipment that needs to be addressed. In addition, the current disinfection practices have periodically resulted in permit violations due to limited flexibility of feed systems that limit the capacity of operational staff to make adjustments. The City is planning to evaluate these systems and implement modifications.

3.6.4.1. East Area Control Facilities

The Boulevard Regulator, Custer Avenue CSCF, and Intrenchment Creek Tunnel and Pump Station are in Good condition overall. Some specific components, including chemical storage and feed facilities, odor control equipment, and controls and equipment at the Custer Avenue CSCF, are in Poor condition. The City has a team of odor control experts reviewing odor issues related to debris accumulation in the channel between the Boulevard Regulator and the Custer CSCF. Recommended repairs and replacements are included in the Department's FY 2017–2022 capital improvements project list.

3.6.4.2. East Area Water Quality Control Facility

The East Area CSCF is in Fair to Poor condition. Some specific components, including solids thickening and dewatering are in Very Poor condition. Difficulties have been encountered with the vortex grit removal units. The facility also has significant corrosion in the filter building, ineffective filter performance and a residuals handling facility that needs to be replaced. Recommended repairs and replacements are included in the Department's FY 2017–2022 capital improvements projects.

3.6.4.3. West Area Facilities

The Clear Creek, North Avenue and Tanyard CSCFs are in Good condition overall. Some specific components at these facilities, including odor control and chemical feed equipment, are in Very Poor condition, and replacement/repairs are included in the Department's FY 2017–2022 capital improvements projects.

3.6.4.4. West Area Water Quality Control Facility

The West Area CSCF is relatively new and in Fair condition. Specific components, including the filters, have not operated as efficiently as originally intended and some hydraulic and operational problems have been noted in the plant. The Wastewater Management Plan CIP includes a project to provide upgrades prior to FY 2019.

3.6.5 Permit Compliance

There are two NPDES permits covering the City's CSCFs and Control Facilities. The permits define fecal coliform limits, which are summarized in Table 3-8. The limits are the same for each of the effluent discharge locations.

TABLE 3-8
NPDES Permit Requirements

Permit Period	Fecal Coliform (per 100 mL)	Limit Definition
May – October	200	Geometric monthly mean (based on 4 or more samples in 1 month)
November – April	1,000	Geometric monthly mean (based on 4 or more samples in 1 month)
Maximum during any discharge event (May-October) ¹	2,000	One sample per discharge event
Maximum during any discharge event (November-April)	4,000	One sample per discharge event
¹ Permit requirement as of January 31, 2005.		

Table 3-9 summarizes CSO Consent Decree violations that have required payment of Stipulated Penalties over the past three calendar years for the six facilities in service. The system has been designed to achieve water quality standards with the addition of storage and treatment systems and runoff reduction/retention projects affecting both the West and East Areas. The total number of system-wide combined sewage overflows in 2004 was 155 versus 11 since capital improvement projects mandated by the CSO Consent Decree were completed in 2008. In addition, three control facilities (the Greensferry and McDaniel Control Facilities and the Confederate Regulator) were permanently decommissioned due to sewer separations that were completed for three formerly combined sewer areas which has further decreased the risk of occurrence of future CSO events.

Nine of the eleven CSO events occurred in the West Area with a 3-year rolling average of 0.83 CSO events per year and two in the East Area with a 3-year rolling average of 0.67 CSO events per year. Consistent with EPA’s CSO Control Policy and the current NPDES Permits, the System should have no more than four CSO events based on a three-year rolling average.¹⁷

With respect to stipulated penalties and instances of permit violations, DWM implements several actions following a non-compliance incident to decrease the potential for future violations including equipment inspections, operational reviews, and personnel re-training. Moving forward, DWM is also implementing a variety of programs that will reduce the frequency and duration of discharge events from these facilities, thereby reducing the potential for future CSO events or permit violations. These programs include repair and capacity projects, as well as system monitoring required to comply with the Department’s consent decrees. Projects include:

- Reducing dry weather flows on the collection and transmission system to allow additional storage of wet weather flows;

¹⁷ If the 3 year rolling average exceeds 4 CSO Events, the EPA and EPD will request a system design review to determine whether or not the design is adequate to meet the requirements of the EPA CSO Policy (which became law as part of the Clean Water Act in 2002).

- Retaining peak stormwater runoff within the combined sewer area until the collection and transmission system has adequate capacity to transfer flow to a Water Reclamation Center for treatment;
- Certifying availability of collection, transmission, and treatment capacity;
- Construction of green infrastructure on a city-wide basis to help reduce the overall amount of stormwater runoff entering and requiring treatment within the combined and separate sewer areas; and
- Evaluation and condition assessment, on an ongoing basis, to optimize operation and system efficiencies.

TABLE 3-9
CSO Consent Decree Violations (CY 2014–CY 2016)

Facility	Failure To Sample	TRC Exceedances	Fecal Exceedances	Total
Tanyard Creek	1	0	8	9
Clear Creek	1	0	8	9
North Avenue	0	0	3	3
West Area WQCF	1	1	0	2
Sub-Total	3	1	19	23
Custer	3	2	1	6
Intrenchment WQCF	4	2	2	8
Sub-Total	7	4	3	14
TOTAL	10	5	22	37

Source: CSO Control Facilities Remedial Action Program Consent Decree, Status Report, January 30, 2017

3.7 CSO Consent Decree Compliance

The City entered into the CSO Consent Decree on September 24, 1998. Through this decree, the City agreed to achieve full compliance with new NPDES permits for the CSO Control Facilities, the Georgia Water Quality Control Act and the Clean Water Act. The decree required that the combined sewage treatment facilities not violate water quality standards. The Consent Decree program was designed to improve water quality in the receiving streams by controlling and treating combined sewage prior to being discharged. This CSO improvement program required upgrades to the City’s combined sewage storage and treatment facilities.

In order to comply with the CSO Consent Decree, remedial measures required under the Consent Decree were required to be substantially complete by November 4, 2008. The City completed all 58 CSO Consent Decree milestones on or ahead of schedule. Also included in the CSO Consent Decree was the Greenway Acquisition Project, which was required to be substantially complete by March 31, 2007, a deadline with which the City complied.

After substantial completion of the CSO Remedial Measures, the City completed a two-year compliance evaluation period and successfully avoided substantial noncompliance during that timeframe. No CSO Consent Decree projects remain to be completed.

3.8 FACD Compliance

The City signed the First Amended Consent Decree (FACD) on July 29, 1999, to address issues related to operation of the WRCs and sanitary sewer overflows throughout the City. Portions of the City's sanitary sewer system were aged and allowed a significant amount of inflow and infiltration into the System. The resulting strain on capacity, compounded by growth-related increases in flows, resulted in sanitary sewer overflows (SSOs).

The City developed a systematic, comprehensive approach to achieve the goals of the FACD using industry-standard approaches to define and prioritize projects. In addition, the City implemented a Short Term Capacity Certification program that requires the City to certify it has adequate capacity before allowing additional development. This program has successfully allowed billions of dollars of development to continue while the City continues to complete its SSO Consent Decree work.

The FACD included a series of deadlines for completion of projects based on the priority of the projects. Projects were placed into six priority Sewer Groups. First priority capital improvement projects and other studies were placed into Sewer Groups 1 and 2, which were completed per the established schedule completion date of July 1, 2009. The FACD originally set a schedule for the remaining sewer groups for completion by July 1, 2014.

Non-compliance with milestone dates could have resulted in penalties for:

- Failure to meet schedule for submittals
- Uncorrected audit deficiencies
- Each prohibited sewer connection
- Each records and documentation deficiency
- Wastewater treatment project delays
- Each unpermitted discharge
- Each sewage overflow to dry land

In September 2009, the Department met with USEPA to discuss re-scheduling of FACD milestones in light of revisions to forecasted revenues occasioned by economic downturn and declining customer water usage. In April 2010, the Department submitted its Financial Capability-Based Schedule Extension Request Report to obtain approval of the proposed schedule relief. The CIP discussed herein (Section 6) reflects the Department's project re-scheduling, formal approval of which was provided in the September 24, 2012 Second Amendment to the First Amended Consent Decree filed in US District Court, Northern District of Georgia.

Prior to the issuance of the Series 2009B Bonds and submittal of its Financial-Capability Based Schedule Extension Request Report in April 2010, the Department's capital program

was focused on consent decree compliance, affording limited opportunity for investment in other System components. The CIP reflects prioritization of capital projects informed by integrated master planning and engineering assessments of facility conditions. The master plan identifies and prioritizes projects to ensure operational integrity of the Department's water and wastewater system components as well as certain watershed protection assets and services necessary to support the water and wastewater system components. It reflects requirements of the Second Amendment to the First Amended Consent Decree as scheduled, and also reflects Departmental initiatives to enhance water system reliability, improve treatment plant efficiency, and protect receiving stream water quality. In the event that future regulations impose additional revisions to the Department's capital program, such revisions will be developed under a protocol that largely preserves the level of the annual project encumbrances delineated in the Department's financial plan (Section 7) for which financial feasibility is demonstrated. This "zero-sum" protocol requires that, in the event that selected project milestones are accelerated, other projected deferrals will be instituted to ensure that net capital financing requirements will be constrained within the Department's financial capabilities while the Department continues to meet its regulatory obligations.

4.0 Watershed Protection Services

4.1 Overview

The Department delivers a broad variety of watershed protection services, frequently in collaboration with other City departments such as the Department of Public Works and the Department of Parks and Recreation. As described below, these services include a variety of activities required under the Department's NPDES permits and other water-quality related regulatory requirements.¹⁸ The Department works collaboratively to perform a number of stormwater management and drainage functions. The City's watershed protection assets serve the 132.4 square miles of area within the City of Atlanta jurisdictional boundaries. Assets are comprised of the combined sewer system (approximately 11 square miles) as discussed earlier in Section 3.6, and approximately 122 square miles of separate storm sewer management infrastructure. These systems are comprised of a broad array of stormwater management / drainage assets (e.g., culverts, inlets, outfalls) constructed primarily in conjunction with land and road development.

As defined in the City's Stormwater Management Plan, as approved by the Georgia EPD, stormwater management and control infrastructure is specifically limited to that which:

- Is located within the City of Atlanta's right-of-way along municipal roadways; or
- Discharges directly through a municipally-owned stormwater outfall; or
- Has been formally deeded to the City; or
- Was constructed by the City; or
- Is located on private property and for which a written easement has been recorded.

Nearly 65 percent of the stormwater infrastructure within the City limits has been installed to provide additional developable land for the benefit of private properties or other non-municipal government lands and has not been dedicated to the City. If the City does not have an easement, legal right or duty to access such structures; and improvements to private property at public expense are prohibited under the Georgia Constitution.

Further, the City has jurisdiction only over stormwater infrastructure that is municipally owned, and excludes systems installed to facilitate travel along state and federal roads and highways. As such, City-responsible stormwater infrastructure is comprised of systems, facilities, and features that transfer, control, convey, infiltrate, or otherwise influence either the movement of stormwater runoff or water quality, which:

¹⁸ While stormwater management activities are a fundamental requirement of the Department's NPDES permit requirements for the WRC and CSS Control Facilities, a review of the Department's recent historic and budgeted expenditures was conducted in 2013, prior to issuance of the current NPDES Permits, to assess the extent of expenditures on primarily stormwater management measures outside of the combined sewer areas and required for the City's compliance with MS4 stormwater management regulations (often performed by General Fund Departments in other jurisdictions). However, given the regulatory pressures to address stormwater management in a more robust manner, DWM has increased investment in stormwater management since 2013.

(1) are either owned by the City or for which the City has accepted an offer of dedication of an easement or other legally binding permanent right of use for stormwater drainage as defined in Part 15-07.0004 of the City's Code of Ordinances or for public use and maintenance under Title 44 of the Official Code of Georgia or as otherwise determined by Georgia law; or

(2) are structures or features that drain water from the City right-of-way and are located within the City right-of-way of the municipal street system that the City is responsible for maintaining in a condition reasonably safe for travel in the ordinary mode under Title 32 of the Official Code of Georgia.¹⁹

Consequently, about 35 percent of the stormwater infrastructure within the City of Atlanta is the responsibility of municipal government. As of 2009, the City had responsibility for an excess of 19,700 known structures and their associated transmission pipelines. Though the historical cost of these (primarily contributed) assets is approximately \$1.048 billion; as of 2012, accumulated depreciation of approximately \$915 million resulted in stormwater fixed asset book value of approximately \$130 million.²⁰

The Department places heightened emphasis on these aspects of the Department's responsibilities in response to emerging regulatory trends and infrastructure development opportunities. These regulatory changes, aspects of which have been incorporated into wastewater treatment plant permit requirements, reflect a focus on water quality improvement that requires effective management of both point source and non-point discharges to receiving waters. While System revenues historically deployed to ensure compliance with these aspects of its wastewater System regulatory requirements have been relatively limited, the Department anticipates new opportunities with emerging "green infrastructure" approaches and embrace of integrated planning by the USEPA.²¹

4.2 Regulatory Requirements

4.2.1 Regulatory History

In 1990, under the National Pollutant Discharge Elimination System (NPDES), the USEPA established a stormwater management program to regulate stormwater discharges from municipal separate storm sewer systems (MS4s). Most stormwater discharges are considered point sources and operators of these sources including the City were required to obtain an NPDES MS4 permit. The City of Atlanta was classified as a Phase 1 community – a community with a resident population greater than 100,000 people. The City applied for and obtained its initial MS4 Permit in 1992. Since that time, the City has maintained compliance with the permit requirements, as established by EPA and EPD, and in

¹⁹ Under Georgia law, Title 32, municipalities are responsible for maintaining the municipal street system in a condition reasonably safe for travel in the ordinary mode. Thus, historically, stormwater infrastructure within the right-of-way has been designed and maintained to protect public safety in the transportation corridors by efficiently and effectively removing water from the right-of-way and not for the purpose of protecting receiving waters.

²⁰ Fixed asset records for stormwater basins per City of Atlanta ORACLE query dated May 31, 2012.

²¹ USEPA Memorandum: "Integrated Municipal Stormwater and Wastewater Planning Approach Framework"; from Nancy Stoner and Cynthia Giles to EPA Regional Administrators and Regional Permit and Enforcement Division Directors; June 5, 2012.

accordance with the MS4 Stormwater Management Plan (SWMP), as approved by the Georgia EPD.

In 2015, with reissuance of the NPDES permits for the East Area and West Area CSS Control Facilities, the Georgia EPD included new requirements for development and implementation of an Integrated Plan regarding the City's approach to address metals in stormwater runoff discharged via the City's six Combined Sewage Control Facilities. The Integrated Plan is currently in progress and is on schedule for submittal to the Georgia EPD by August 17, 2017.

4.2.2 Watershed Approach

Over the last decade, USEPA has placed increasing emphasis on watershed-based approaches to implementation of the Clean Water Act - the same law that precipitated the National Pollutant Discharge Elimination System (NPDES) program and under which the City's wastewater operational permits are issued.²²

As described by the USEPA, a watershed approach is:

*...a flexible framework for managing water resource quality and quantity within specified drainage areas, or watersheds. This approach includes stakeholder involvement and management actions supported by sound science and appropriate technology.*²³

With this concept in mind, the Georgia EPD, in conjunction with USEPA, has incorporated language into the City's NPDES industrial discharge permit for its water reclamation centers (WRCs) that requires the City to "conduct a watershed assessment and to develop a protection plan for all the watersheds that are contained within the permittee's Assessment Area."²⁴ The permit defines an "Assessment Area" as "...all basins or subbasins that are served by the facilities and for the watersheds contained within the permittee's jurisdictional boundaries." There are 15 sub-watersheds that are either wholly or in part located within the City's jurisdictional limits. For the purpose of developing required Watershed Improvement Plans, the City has consolidated these into 10 watershed planning units. Some of the Watershed Improvement Plans are already complete; the rest will be completed by the end of 2017.

4.2.3 Regulatory Requirements – Stormwater Management Programs

Within the City, stormwater is currently managed under five primary NPDES permits:

- R.M. Clayton, South River & Utoy Creek – Permit No. GA0039012
- East Area Combined Sewer Overflows – Permit No. GA00371068
- West Area Combined Sewer Overflows – Permit No. GA00371068

²² Twelve years ago, the City recognized this trend and developed the Department of Watershed Management, which was given the responsibility for providing the highest quality drinking water and wastewater services to residential, businesses and wholesale customers at the lowest possible cost, while protecting urban waterways, conserving natural resources, and providing clean, safe water for downstream customers.

²³ USEPA, 2008, DRAFT Handbook for Developing Watershed Plans to Restore and Protect Our Waterways, page 2-2.

²⁴ NPDES Permit GA0039012, Part C.; effective September 15, 2010.

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- Atlanta Municipal Separate Storm Sewer System Permit – Permit No. GAD000100
- Georgia General Permit for Storm Water Discharges associated with Industrial Activity – Permit No. GAR050000.

A description of each of these permits is provided below.

RM Clayton, South River & Utoy Creek – Permit No. GA0039012. This consolidated permit addresses the treatment and discharge of wastewater, including combined sewage, at the City's three WRCs – R.M. Clayton WRC, South River WRC and Utoy Creek WRC. Part C.8 of this permit requires that the City develop watershed assessments and watershed protection plans for all the watersheds that are in the basins or sub-basins served by WRC facilities or are contained within the City's jurisdictional boundaries. This permit is currently undergoing the renewal process and is expected to be issued in the next several months.

- The watershed assessment plan must document baseline water quality and identify stressors that affect the quality of the water resources in the area. Requirements also include identification of water quality parameters and specification of monitoring frequencies for all streams within the area.
- The watershed protection plan must address the findings of the watershed assessment including determinations of baseline water quality conditions, long-term monitoring activities, and a schedule to correct water quality problems, and implementation of best management practices (BMPs) to prevent future water quality standards violations.

East Area Combined Sewage Control Facilities – Permit No. GA00371068. This permit²⁵ addresses operation and management of facilities that provide supplemental treatment capacity to address increased flows associated with stormwater runoff combined with sewage. Two CSS Control Facilities are included in this permit: the East Area Water Quality Control Facility (WQCF) and the Custer Avenue Combined Sewage Control Facility (CSCF). Under routine conditions, the permit anticipates that combined stormwater and wastewater flows from the eastern portion of the Combined Sewer Area will be transmitted to the South River WRC for treatment prior to discharge per the Consolidated NPDES Industrial Discharge Permit for the WRCs. The East Area permit outlines control and compliance requirements for operating the permitted facilities, which were designed to address the 2-year statistical storm event and anticipates an average of no more than four (4) combined sewage overflow (CSO) events annually, based on a 3-year rolling average.

A new requirement of the East Area permit issued in August 2015 requires that the City develop and implement an Integrated Plan that focuses on the use of Green Infrastructure to help reduce the amount of dissolved cadmium, copper, lead, nickel and zinc being discharged in the treated effluent from these facilities.

West Area Combined Sewer Overflows – Permit No. GA0038644. This permit²⁶ addresses operation and management of facilities that provide supplemental treatment capacity to

²⁵This permit historically included the McDaniel Street CSO Control Facility until the separation of the McDaniel Street combined sewer system was completed.

²⁶This permit historically included the Greensferry CSO Control Facility until stormwater and sanitary sewage separation was completed in this area.

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address increased flows associated with stormwater runoff combined with sewage. Four CSS Control Facilities are included in this permit: the West Area WQCF, the Clear Creek CSCF, the North Avenue CSCF, and the Tanyard Creek CSCF. Similar to the East Area permit, under routine conditions, the West Area permit anticipates that combined stormwater and wastewater flows from the western portion of the Combined Sewer Area will be transmitted to the R.M. Clayton WRC for treatment prior to discharge per the Consolidated NPDES Industrial Discharge Permit. The West Area permit also outlines control and compliance requirements for operating the permitted facilities, which were designed to address the 2-year statistical storm event and anticipates an average of no more than four (4) combined sewage overflow (CSO) events annually, based on a 3-year rolling average. As with the East Area permit, a new requirement of the West Area permit issued in August 2015 requires that the City develop and implement an Integrated Plan that focuses on the use of Green Infrastructure to help reduce the amount of dissolved cadmium, copper, lead, nickel and zinc being discharged in the treated effluent from these facilities.

Municipal Separate Storm Sewer System Permit – Permit No. GAD000100. For its municipally-responsible stormwater infrastructure, the City is required by the Georgia Environmental Protection Division (EPD), pursuant to NPDES Municipal Separate Storm Sewer System (MS4) Permit Number GAS000100, to implement a stormwater management program that is outlined and described in the City’s EPD-approved Stormwater Management Plan (SWMP). This program is incorporated by reference into the City’s MS4 permit issued, most recently, on June 11, 2014. The purpose of the SWMP is to document the City’s MS4 stormwater management program and establish implementation protocols to achieve, to the maximum extent practicable, the objective of controlling pollutants discharged from the MS4 and to prevent the discharge of non-point stormwater into the MS4.²⁷

Georgia General Permit for Storm Water Discharges associated with Industrial Activity²⁸ – Permit No. GAR050000. In accordance with both federal and state requirements, four WRC facilities are required to obtain coverage and meet the requirements of the Georgia General Stormwater Permit:

- Intrenchment Creek WRC and East Area WQCF;
- RM Clayton WRC and West Area WQCF;
- South River WRC; and
- Utoy Creek WRC.

Per the terms and conditions of the Georgia General Stormwater Permit, each of these facilities is required to implement a facility-specific Storm Water Pollution Prevention Plan (SWPPP), which includes routine stormwater inspection requirements along with facility-

²⁷ See Section 4.2.4 for information regarding City-wide structural and source control measures required by the MS4 permit.

²⁸ As a provision of the Clean Water Act, the USEPA has regulated activities that take place at industrial facilities which may be exposed to the weather, on the basis that, as runoff from rain or snowmelt comes into contact with these activities, the stormwater can pick up pollutants and transport them to a nearby storm sewer system or directly to a river, lake, or coastal water. To minimize the impact of stormwater discharges from industrial facilities, a state-wide general permit was developed by the Georgia EPD to include an industrial stormwater permitting component that covers 10 categories of industrial activity and that require authorization under an NPDES industrial stormwater permit for stormwater discharges.

specific water quality monitoring, and operation and management procedures that must be implemented.²⁹

4.2.4 Structural and Source Control Measures

City-wide structural and source control measures³⁰ required by the MS4 permit, as described in the Georgia EPD-approved SWMP, include:

- Inventory of municipally-responsible permanent stormwater control structures;
- Inspection, Maintenance and Repair for municipally-responsible permanent structural controls;
- Inspection and Enforcement of stormwater compliance requirements for municipal facilities, industrial operations and other “highly-visible” pollutant sources operating within city limits;
- Stream Walks of all major stream segments within the city limits to assess the health of habitats and native species and identify visible uncontrolled impacts from the urban environment;
- Planning Procedures to develop, implement and enforce post-construction controls in areas of new development and significant redevelopment;
- Implementation of Best Management Practices (BMPs) to control the introduction of constituents of concern into the environment including activities such as street sweeping³¹; education; and source control measures;
- Erosion and Sedimentation Control activities are inspected and monitored for all construction projects within the City that have greater than one acre of disturbed area to prevent discharge of soil and construction-related waste streams to the surface water;
- In-stream water quality monitoring under Total Maximum Daily Load (TMDL), Metro District, and Dry Weather Flow Monitoring programs.
- Pesticide, Fertilizer, Herbicide Application Program to reduce pollution by commercial and municipal applicators including training and education.

4.3 Stormwater Management Assets

Historically, this term referred almost exclusively to constructed assets such as pipelines, drains, catch basins, retention and detention ponds and other “hard” assets commonly referred to as “gray infrastructure”. However, the definition of stormwater management assets has evolved substantially over the past 20 years as designers, planners and

²⁹ Fourteen municipal facilities qualified for the No Significant Exposure Exemption provided for in the regulations.

³⁰ The City’s various stormwater control and management permits each have specific requirements that must be implemented in accordance with their respective stormwater management plans. In addition, the City is required to implement a number of City-wide measures.

³¹ The street sweeping function remains with the Department of Public Works (DPW), but DWM funds seven full time positions within DPW as part of its watershed protection programs. In addition, in FY 2014, DWM purchased four large-capacity street sweepers for DPW. Both parties are working on a formal interdepartmental agreement to standardize the street sweeping processes and protocols in support of the requirements of the City’s MS4 permit.

engineers have come to recognize that natural processes can be used to supplement more traditional “hard” assets.³²

4.3.1 “Gray” Infrastructure

As of April 2016, the City had over 19,700 “gray” stormwater assets identified by its stormwater structure inventory program.³³ The inventory also includes almost 800,000 linear feet of stormwater conveyance pipes and over 37,000 linear feet of stormwater culverts. Table 4-1 lists the most recently compiled estimate the City’s MS4 “gray” asset inventory. The Department intends to update this information with ongoing field verification activities and as new structures are installed by (or dedicated to) the City.

TABLE 4-1
Municipal Responsible Stormwater Management Structures as of April 2016

Asset Category	Number (All Basins)	Asset Category	Number (All Basins)
Catch Basins	9,579	Headwall Outlets	710
Headwall Inlets	281	Outlet Control Structures	38
Drop Inlets	2,326	Structureless Outlet	512
Single/Double Wing Catch Basin	1,818	Other Outlets	243
Other Inlets	2,396	Stormwater Manholes	1,860
		Total Structures^{1,2}	19,763
<p>1 These totals represent what is currently present in the stormwater database. 2 The number of reported structures is lower than in previous published reports because the Department has modified the way stormwater pipe and culvert segments are recorded in the asset database.</p>			

4.3.2 “Green” Infrastructure

“Green” infrastructure is an alternative approach to managing stormwater that emphasizes the use of natural drainage features to slow and clean stormwater runoff or enable it to infiltrate natural surfaces. Green infrastructure can encompass passive techniques such as greenspace and forest conservation, stream bank restoration, and floodplain protection; as well as engineered approaches using site-specific conditions and construction of structures such as green roofs, vegetated swales, permeable pavement, infiltration planters and wells, and rain harvesting/gardens. These types of green infrastructure assets are designed to mimic natural hydrologic functions and decrease the amount of stormwater runoff from sites.

³² Structural assets for collection and transmission of combined sewage in the Combined Sewer Area are covered under the Consolidated NPDES Permit for the WRCs and are excluded from the East Area and West Area NPDES permits. This is also consistent with the requirements of the First Amended Consent Decree. However, there are locally separated stormwater in the Combined Sewer Area that discharge directly to waters of the State that are covered under the MS4 Permit.

³³ The City has completed converting hard copy and electronic (PDF) maps into a GIS compatible electronic database and conducted surveying in previously unmapped areas. This information has been incorporated into a database that identifies known municipal-responsible structures. The City continues to conduct field verification of stormwater management structures. The field verification work includes locating previously mapped structures documenting newly identified structures, surveying existing structures, collecting detailed construction information, and identifying ownership. These efforts are being conducted throughout the City’s entire jurisdictional area using a basin-by-basin approach.

The City was an early adopter of green infrastructure and water conservation efforts to help reduce the demands on the City's limited drinking water supplies while simultaneously increasing long-term wastewater treatment capacity by reducing the amount of stormwater runoff processed through its wastewater treatment facilities. The first governmental green roof project in the southeastern US was installed on top of City Hall in 2005. In addition, the City has constructed or is in the process of designing and constructing projects such as bioretention basins and pervious pavement retrofits of parking lots and streetscapes with the goal of reducing the amount of stormwater being treated at the WRCs by as much as 10 million gallons per storm event. The City has championed and/or installed other green projects such as:

- 5 bioretention/rain gardens in the Mechanicsville Community in South Atlanta
- 3 bioretention/rain gardens in the Summerhill Community in Southeast Atlanta
- 6,600 square foot green roof at the Woodruff Arts Center
- Rain gardens at Atlanta's Adair Park and Fire Station 16
- Bioretention swales at the Chattahoochee Water Treatment Plant and other DWM facilities
- Over 254 acres of passive greenspace acquired in conjunction with the Consent Decree mandated Greenway Acquisition Project
- Rehabilitation of over 7,800 linear feet of streambanks in conjunction with water and sewer infrastructure projects (using biorevetment techniques vegetative stabilization)
- A 5 million gallon combined system storage vault constructed in the Media Lot at Turner Field

4.4 Future Directions: Integrated Water Management

The City's wastewater and stormwater management services, as recognized by emerging regulatory regimes like the USEPA-endorsed Integrated Planning framework, are inextricably related. The City has been required, through its Consent Decrees, to construct a network of tunnels to transport combined stormwater/wastewater flows to the R.M. Clayton and South River WRCs for treatment prior to discharge. In addition, in August 2007, the City completed separation of the sanitary and stormwater sewers in those sewersheds where such separation was feasible, which included the Greensferry, Stockade and McDaniel sewersheds.³⁴

Based on experiences gained within the City of Atlanta and by other utilities throughout the U.S., cost-effective and environmentally responsible solutions to these claims on WRC operations and System capacity are being implemented. These projects will help accommodate future growth with the City's existing infrastructure systems. Stormwater management and control measures, along with green infrastructure practices, increase natural infiltration and rainfall harvesting. These measures can attenuate the amount of

³⁴ Because of the nature of early twentieth century construction and development patterns, it is not logistically, economically, or socially feasible to extend separation further into the urban core. As a result, the urban core will continue to discharge combined stormwater and wastewater to the WRCs.

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stormwater runoff being managed by the WRCs and make available valuable treatment capacity without substantial investment in new gray infrastructure.

The City's NPDES permit for the WRCs requires the City to conduct and implement a Watershed Assessment and Watershed Protection Plan; the East Area and West Area NPDES permits require an Integrated Plan for Utilization of Green Infrastructure to reduce the amount of runoff entering the streams and sewer systems; and the MS4 NPDES permit a Stormwater Management Plan, as an expressed condition of providing public sewer service and discharging treated effluent. These documents specifically require the City to:

- Perform long-term water quality monitoring,
- Assess streams in the service area for water quality and habitat stressors,
- Develop and implement a City-wide Watershed Protection Plan and Watershed Improvement Plans for each sub-basin to address Total Maximum Daily (pollutant) Loads (TMDLs) to improve water quality in streams where needed. Sub-basin plans require:
 - Installation and maintenance of structural best management practices (BMPs) to mitigate runoff impacts including both green and gray infrastructure, retrofits of stormwater infrastructure, stream restoration, etc.;
 - Long-term maintenance of structural BMPs; and
 - Development of non-structural BMPs which include inspection and enforcement programs such as erosion control and stormwater illicit discharge detection, as well as public education programs.

These capacity management and permit requirements underscore the causal connections between wastewater treatment capacity, in-stream water quality, and urban runoff impacts from homes and businesses in the City's jurisdictional area. On a City-wide basis, design and construction of future stormwater control and management projects will help the City comply with the requirements of its federal and state environmental permits required for its wastewater and watershed protection sub-systems.

The City-wide Watershed Protection Plan was submitted in the latter part of 2015. To date, the Department has not yet received comments from the respective regulatory agencies. The Department is in the process of developing the Integrated Plan for Utilization of Green Infrastructure. The Stormwater Management Plan, which is required by the City's MS4 NPDES permit, is complete.

5.0 Water System

5.1 Overview

The City obtains its drinking water from the Chattahoochee River through two raw water intakes located downstream of Lake Lanier, a multi-purpose water reservoir owned and operated by the U.S. Army Corps of Engineers. The City is permitted to withdraw a combined total of approximately 225 mgd. The raw water is treated at the City's three water treatment plants (WTPs), one of which (along with a raw water intake) is jointly owned with Fulton County. The WTPs have a combined treatment capacity of 246.4 mgd. The City's distribution system includes over 2,800 miles of water distribution pipelines, 4 finished water pump stations, 3 re-pump stations, 11 booster pump locations (8 of which are in reserve³⁵), 2 raw water pump stations, 1 reservoir emergency draw-down pump station, 4 surge tanks and 12 ground and elevated storage tanks.

The City's retail water system serves over 150,000 active water accounts. The City's retail water service area includes the City, unincorporated areas of Fulton County (south of the City), the areas located within the cities of Sandy Springs and Chattahoochee Hills and portions of incorporated areas located in South Fulton. The City's wholesale water customers include three cities in Fulton County (Hapeville, Fairburn and Union City), and the counties of Coweta (Coweta County Water and Sewerage Authority), Clayton (Clayton County Water Authority) and Fayette. The City supplies water needed by the wholesale customer cities and a limited portion³⁶ of the total water needed by the wholesale customer counties.

The two water treatment plants within the City (Hemphill and Chattahoochee) are operated and maintained by the Office of Water Treatment and Reclamation; water transmission and distribution system assets are operated and maintained by the Office of Linear Infrastructure Operations. Table 5-1 provides a water system sales history for the period FY 2011 through FY 2016.

The drinking water system operates under permits issued by the State of Georgia Department of Natural Resources (DNR), Environmental Protection Division (EPD), requirements of the Federal and State Safe Drinking Water Acts, and two Administrative Consent Orders issued in 1997 and 2003 by EPD. To comply with these Administrative Consent Orders, which require the City to increase System reliability and to meet the demands of a growing regional population base, the City is undertaking a CIP that includes raw water supply and treatment plant upgrades, pump station improvements and the installation of new water mains.

³⁵ These 8 booster pump stations were in place to provide service from the Hemphill WTP in the area currently served by the Atlanta-Fulton County WTP. These stations are no longer required for daily operations due to the construction of the AFCWTP and are held in reserve in the event of emergency requirements.

³⁶ While these customer counties continue to have active wholesale water meters, their water demands are limited to exceptional circumstances reflecting recent demand patterns and their respective development of alternative water supply arrangements.

TABLE 5-1
Account and Water Sales History, FY 2011 through FY 2016

System History¹	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Water Utility Accounts	148,738	150,504	151,575	152,067	152,447	154,938
Water Wholesale Customers	6	6	6	6	6	6
Total Water Sales (mgd)	67.63	67.33	65.11	64.20	63.48	66.55
Wholesale Water Sales (mgd)	3.35	2.88	3.02	2.92	2.53	2.75
Retail Water Sales (mgd)	64.29	64.45	62.09	61.28	60.95	63.80
1 Data for FY 2011 – FY 2016 extracted based on monthly bill frequency distribution reporting developed to enhance the Department's revenue forecasting.						

A leak detection program is underway and there are annual contracts in place for the installation of new or replacement water mains, the testing and repair of large meters and the location, and repair and replacement of distribution system isolation valves. In addition, a contracted valve and hydrant asset assessment and main repair project was completed in FY 2012 and the Department is in the process of implementing an in-house valve and hydrant maintenance program to address flow and pressure issues, reduce customer service issues, enhance System reliability and bolster fire protection capabilities.

5.2 Water System History

The original City of Atlanta water system was constructed in 1851 and consisted of five artesian wells. In 1891, the City's Water Commission recommended withdrawing up to 10 mgd from the Chattahoochee River to address water shortages. In 1893, the City's first river intake, a 30-inch pipeline located on the east bank of the Chattahoochee River just north of Peachtree Creek, was constructed to transfer water from the river to the Hemphill WTP complex. A 36-inch main was added in 1910 and a 48-inch main was added in 1923.

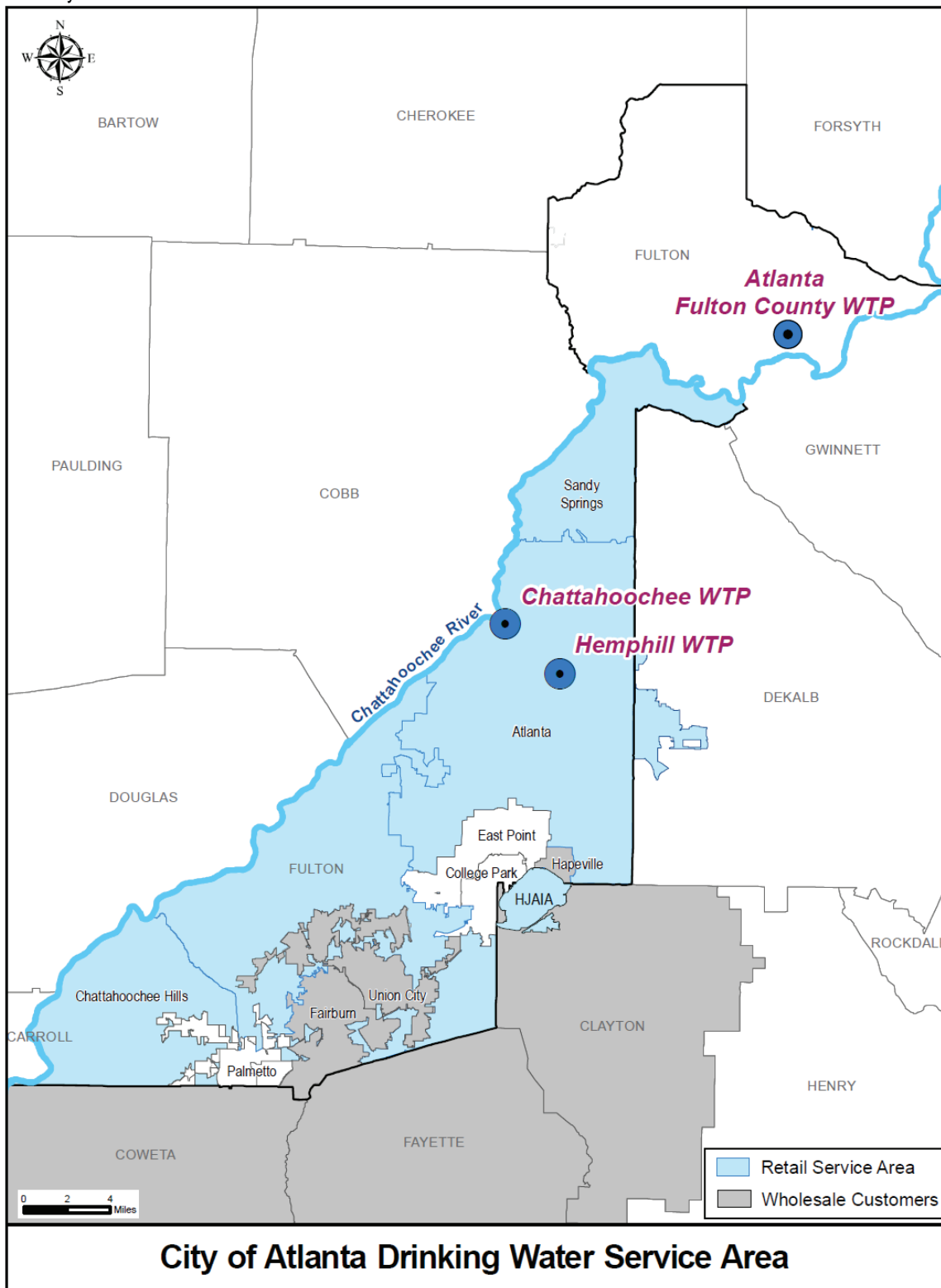
The Chattahoochee WTP was constructed and placed in service in 1960. The Atlanta-Fulton County WTP (a.k.a., the North Area WTP) was constructed and placed in service in 1991. Additionally, the City constructed 60-inch and 72-inch pipelines to transfer water from the raw water pump station to the Chattahoochee and Hemphill WTPs. Today, these three treatment plants serve more than one million people in the metropolitan Atlanta region, providing approximately 100 mgd of water each day within a 650-square-mile service area.

5.3 Service Area

The City's retail water service area is described in Section 5.1 and shown in Figure 5-1.³⁷

³⁷ The City also has many individual retail customers located within various South Fulton municipalities due to agreement and individual situations over time and recent annexations. This level of detail is not shown in this general service area map.

FIGURE 5-1
Water System Service Area



5.4 Water Treatment Facilities

The City owns the Chattahoochee WTP and the Hemphill WTP, and has fifty percent ownership in the Atlanta-Fulton County WTP. The Chattahoochee and Hemphill WTPs obtain water from the City-owned Chattahoochee River Intake and Raw Water Pump Station under a combined surface water withdrawal permit for the two treatment plants. The Atlanta-Fulton County WTP also obtains water from the Chattahoochee River, but at a different, jointly owned location and under a separate surface water withdrawal permit.

As shown on Figure 5-1, the Chattahoochee WTP is located in northwest Atlanta adjacent to the Chattahoochee River, the Hemphill WTP Plant is located in central Atlanta and the Atlanta-Fulton County WTP is located north of the Chattahoochee River in north Fulton County.

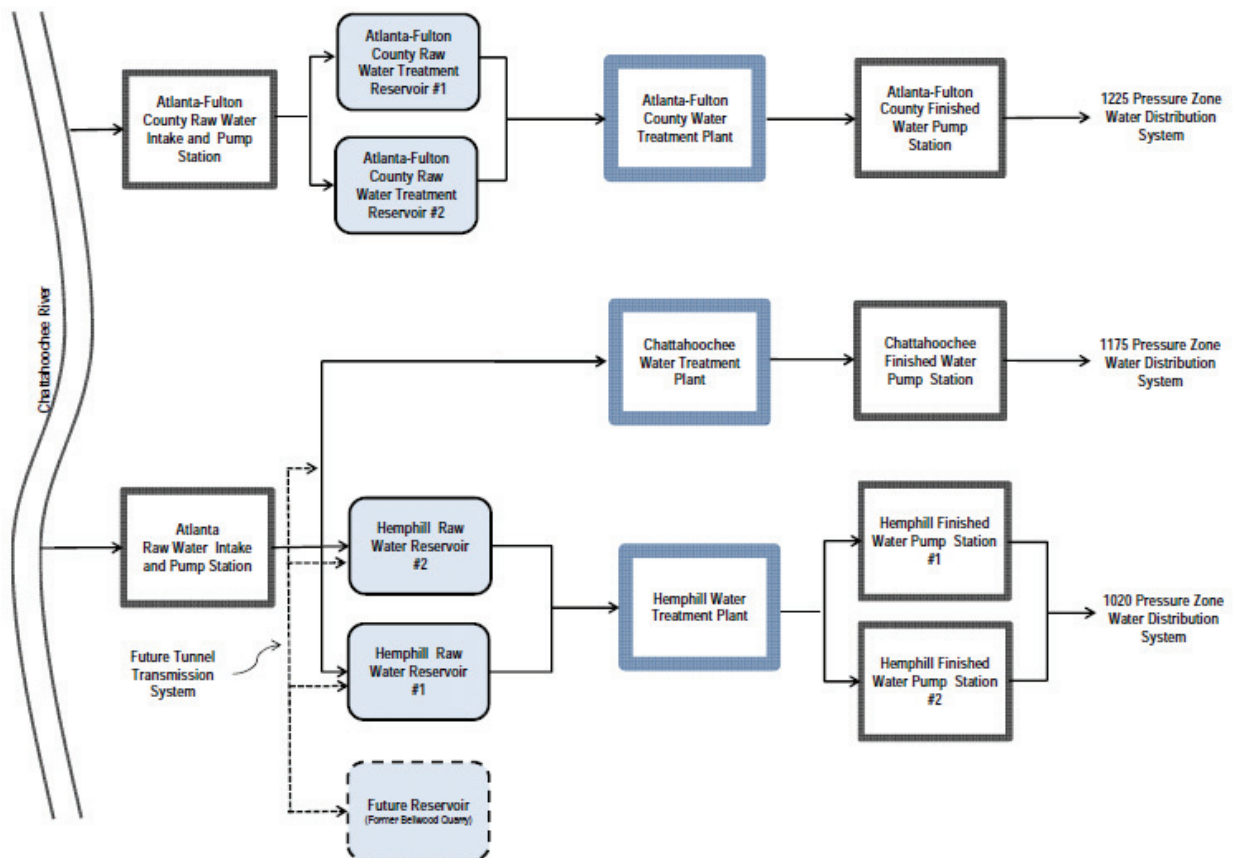
Table 5-2 presents the average and maximum daily water production for the City's water treatment plants for the period between FY 2010 and FY 2016.

TABLE 5-2
Water Plant Production, FY 2010 through FY 2016

System History	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Average Daily Production (mgd)							
Chattahoochee WTP	37.06	38.40	35.74	34.60	34.51	35.41	36.80
Hemphill WTP	42.25	43.87	47.58	45.80	45.32	46.01	47.78
Atlanta-Fulton County WTP	10.17	10.70	12.00	11.12	11.07	11.53	12.36
Total	89.48	92.96	95.32	91.52	90.90	92.96	96.93
Maximum Daily Production (mgd)							
Chattahoochee WTP	47.88	46.66	45.31	42.67	51.87	42.79	43.39
Hemphill WTP	54.90	61.44	70.61	61.33	64.87	58.61	60.80
Atlanta-Fulton County WTP	16.36	18.11	17.68	18.38	14.78	17.22	20.31
Sources: City of Atlanta Department of Watershed Management's Monthly Operating Reports (MORs).							

The following subsections describe the water treatment plants and water withdrawal facilities. Figure 5-2 provides a simple process diagram for these major treatment facilities.

FIGURE 5-2
Water Treatment Facility Schematic³⁸



5.4.1 Water Treatment Facility Descriptions

5.4.1.1. Chattahoochee River Intake and Raw Water Pump Station

The Chattahoochee River Intake has been the source of raw water for the City of Atlanta since 1893. Raw water is transferred to the Chattahoochee and Hemphill WTPs for treatment and operates under a Surface Water Withdrawal Permit (No. 051-0192-01) issued by the Georgia Environmental Protection Division. The permit, which was renewed on November 6, 2013, allows for the withdrawal of up to 180 mgd (daily average on a per month basis).³⁹ The raw water intake is located approximately 250 yards upstream of the junction of Peachtree Creek and the Chattahoochee River. The water enters through three intake pipes (48-inch, 60-inch and 78-inch diameter) and passes through a set of bar screens to remove large debris.

³⁸ The Atlanta-Fulton County WTP raw water reservoir complex is comprised of 2 raw water reservoirs.

³⁹ Absent revocation pursuant to the Georgia Water Quality Control Act, the permit will be in effect until November 1, 2021.

Raw water flows by gravity to the Chattahoochee Raw Electric Water Pump Station, which consists of five high volume service pumps that transfer water to the Hemphill WTP Reservoirs and four low volume service pumps that transfer water to the Chattahoochee WTP. The station is remotely operated 24 hours per day 7 days per week, and has a total pumping capacity of 340 mgd. The pump station has dual-feed utility power sources and backup generators. Prior to entering the wet well, raw water travels through fine screens to further remove debris that may have passed through the bar screens at the intake.

5.4.1.2. Chattahoochee Water Treatment Plant

The Chattahoochee WTP was originally constructed in 1961 and 1962. The plant was upgraded between 1968 and 1970 with the addition of seven filters to the original six plant filters. The Chattahoochee WTP has a maximum capacity of 64.9 mgd and provides approximately 40 percent of the drinking water for the City of Atlanta and parts of Fulton County. The Chattahoochee WTP provides water to the Northside and Adamsville Re-pump Stations, which deliver the water to the Buckhead and south Fulton County areas of the System, respectively.

The plant employs conventional treatment, consisting of rapid mixing, three-stage flocculation, sedimentation, dual media filtration, disinfection, finished water chemical application and finished water storage. Treated water is stored in two clear wells at the facility until it is pumped into the distribution system. Solids removed during the treatment process are transferred to the City's R.M. Clayton WRC for processing in accordance with the requirements of the Georgia General NPEDS permit for Filter Backwash Discharges (GAG640000).

5.4.1.3. Hemphill Water Treatment Plant

The Hemphill WTP was originally constructed in 1893 and has been expanded several times, most recently in 1987. The current permitted capacity of the plant is 136.5 mgd. This plant supplies approximately 48 percent of drinking water to retail, residential, commercial, industrial and institutional customers within the City and portions of Fulton County south of the Chattahoochee River, and to the City's wholesale water customers.

Raw water is pumped to this facility from the Chattahoochee Raw Water Pump Station. The Hemphill WTP has two raw water reservoirs with a total capacity of approximately 550 million gallons, although Reservoir #1 is currently undergoing repair, as discussed below, and will be restored to service by the end of the first quarter of 2017. The reservoirs are designed to receive water from the Chattahoochee Raw Water Pump Station through 30-inch cast iron, 36-inch cast iron, 48-inch cast iron and 72-inch steel pipelines. Both reservoirs are capable of providing water to the Hemphill WTP utilizing the Hemphill electric station. Under low water conditions, emergency pumps can draw water directly from Reservoir #2, though there is also a direct connection between Reservoirs #1 and #2.

The Hemphill WTP employs conventional treatment consisting of rapid mixing, hydraulic flocculation, sedimentation, dual media filtration, disinfection, finished water chemical application and finished water storage. Solids are presently being processed at the Hemphill Settled Solids Facility. Finished water is stored in two clearwells at the facility until it is

pumped into the distribution system. Future replacement of a third inactive clearwell is scheduled for later in the planned CIP, beyond the FY 2017–2022 forecast period.

5.4.1.4. Atlanta-Fulton County North Area Water Treatment Plant

The Atlanta-Fulton County WTP is a high-rate surface water filtration plant located in north Fulton County, and is managed by the Atlanta-Fulton County Water Resources Commission – a joint venture of the City and Fulton County. The facility serves approximately 12 percent of the Department’s water demand in the northernmost portion of the City’s service area.

The Atlanta-Fulton WTP is staffed by a contract operator. The plant employs conventional treatment consisting of the following components and unit processes: raw water pumps and transmission lines, raw water metering, raw water storage, rapid mixing, flocculation, sedimentation, solids thickening, gravity filtration, washwater decanting, solids dewatering, chemical handling, clearwell storage and finished water pumping. All solids removed during the treatment process are treated on site through gravity thickening and dewatered using plate and frame presses. Treated water is stored in the clearwell at the facility until it is pumped into the distribution system.

The Atlanta-Fulton County North Area WTP is located on the Chattahoochee River in Alpharetta and is permitted to withdraw up to 90 mgd of raw water at this location. The City has rights to half of the plant capacity, or 45 mgd. Raw water from the Chattahoochee River is withdrawn at the jointly owned Atlanta-Fulton County Raw Water Intake via dual 54-inch pipes and transferred to two raw water reservoirs for storage prior to treatment.

Phase 1 of the facility was completed in 1991 with an initial production capacity of 45 mgd. Phase 2 was completed in 1998 bringing plant capacity to 90 mgd. In May 2007, Phase 2.5 was completed at a cost of \$66 million. These latter improvements expanded raw water pumping capabilities and increased the capacity of raw water reservoir storage to approximately 800 million gallons. The Phase 2.5 improvements also upgraded the instrumentation and filter backwash systems resulting in improved reliability, security and energy efficiency. A Phase 3.0 project has recently been completed to convert the treatment process from using chlorine gas disinfectant to a liquid sodium hypochlorite disinfectant which has much lower safety risk. In addition, new filter underdrain and plate settler replacements were installed in the sedimentation basins.

5.4.1.5. Bellwood Quarry

In June 2006 the City purchased the former Bellwood Quarry located in northeast Atlanta. The quarry is being converted from a rock quarry into a 2.4-billion-gallon raw water reservoir. The quarry pit will be filled with water from the Chattahoochee River to a depth of approximately 300 feet and a surface area of 40 acres. The reservoir will augment the City’s water supply during high demand periods or droughts, serve as a backup water source for the Chattahoochee and Hemphill WTPs, and can serve as an emergency water source for up to 30 days. The reservoir will provide capacity to extend the City’s ability to meet peak day water demands to year 2060 as currently projected. A 180 mgd deep shaft pump station and an 8,000-foot long, 12-foot-diameter tunnel will be required to connect the Bellwood Quarry Reservoir to the Hemphill WTP.

5.4.2 Water Treatment Plant Physical Condition Evaluation

As noted in Section 1.2, the asset condition assessments presented herein were conducted in conjunction with a series of facility assessments that informed the Department's integrated master planning process. In general, engineering evaluations included limited visual inspections of selected major above ground facilities operated by the City, interviews of key staff responsible for operation of facilities and reviews of ongoing and planned capital improvements. No field-testing or detailed evaluation of facility maintenance records was performed to confirm scoring or to assign more refined condition scores. As defined in Table 1-1, a five-point scale from "Very Poor" to "Very Good" was used to assign condition scores.

5.4.2.1. Chattahoochee River Intake and Raw Water Pump Station

The Chattahoochee River Intake is in Fair condition. The Chattahoochee Raw Water Pump Station is in Fair to Good condition overall. Raw water conveyance from the pump station to the water treatment plants is in Poor condition due to age. The City is in the process of implementing an overall upgrade and replacement of the raw water conveyance and storage system by constructing a raw water tunnel, pump stations and use of the former Bellwood Quarry for raw water storage.

The City's raw water mains are some of the oldest pipes in the City's water system, dating back to the 1890s. Three of the four mains feeding the Hemphill reservoirs are reaching the end of their expected useful lives. The fourth main is steel, laid in the early 1970s, with a history of failures and documented design deficiencies. A complete failure in the raw water main system would compromise the City's ability to provide drinking water to the Hemphill WTP service area. Accordingly, the Department has evaluated a variety of strategies to meet service demands on an interim basis in the event of pipeline failures including, for example, use of currently available capacity at the Atlanta-Fulton County WTP and use of rehabilitation techniques. The Department has completed a detailed assessment of the most vulnerable sections of the raw water pipeline network (in particular, sections below the CSX Railroad Complex). The Water Supply Program will improve the intake and address any identified deficiencies, as described in Section 6.4.1.1.

5.4.2.2. Water Treatment Plant Physical Condition Evaluations

Assessment of the condition of the Department's water treatment facilities was based on observations made during prior site tours, review of operating records and review of previous evaluations prepared for the Department.

5.4.2.3. Chattahoochee Water Treatment Plant

The conditions of Chattahoochee WTP components range from Fair to Good. Areas of concern include the need for a permanent residuals handling facility, high service pump capacity and reliability, the fluoride storage and feed system, the need for plate settlers in the sedimentation basins and a powdered activated carbon feed system.

5.4.2.4. Hemphill Water Treatment Plant

The conditions of Hemphill WTP components range from Fair to Good. Areas of concern include the Reservoir No. 1 embankment and the need for a permanent residuals handling

facility and a powdered activated carbon feed system. Replacements are required of Clearwell No 1, baffle walls and weirs in the sedimentation basins, and all of the plant's filter media. Analyses are required to address hydraulic restrictions that limit plant production to less than permitted capacity.

5.4.2.5. Atlanta-Fulton County Water Treatment Plant

As noted in the description for the Atlanta-Fulton County WTP, the initial phase of this facility was completed in 1991, a second phase was completed in 1998, and upgrading of the raw water pumping, filter under-drains, conveyance and storage capacity of the facility has recently been completed. As a result, this facility is in Very Good condition with the exception of some of the plate settlers. Some of the plate settlers have been replaced recently with those remaining scheduled for near-term replacement.

Future expansion of the WTP capacity to 135 mgd, with the City maintaining rights to 50 percent of the plant capacity, is included in the City's long-term master plan. However, the timing of the expansion of this facility remains to be determined and the costs associated with such expansion are not included in the FY 2017–2022 CIP.

5.4.3 Permit Compliance

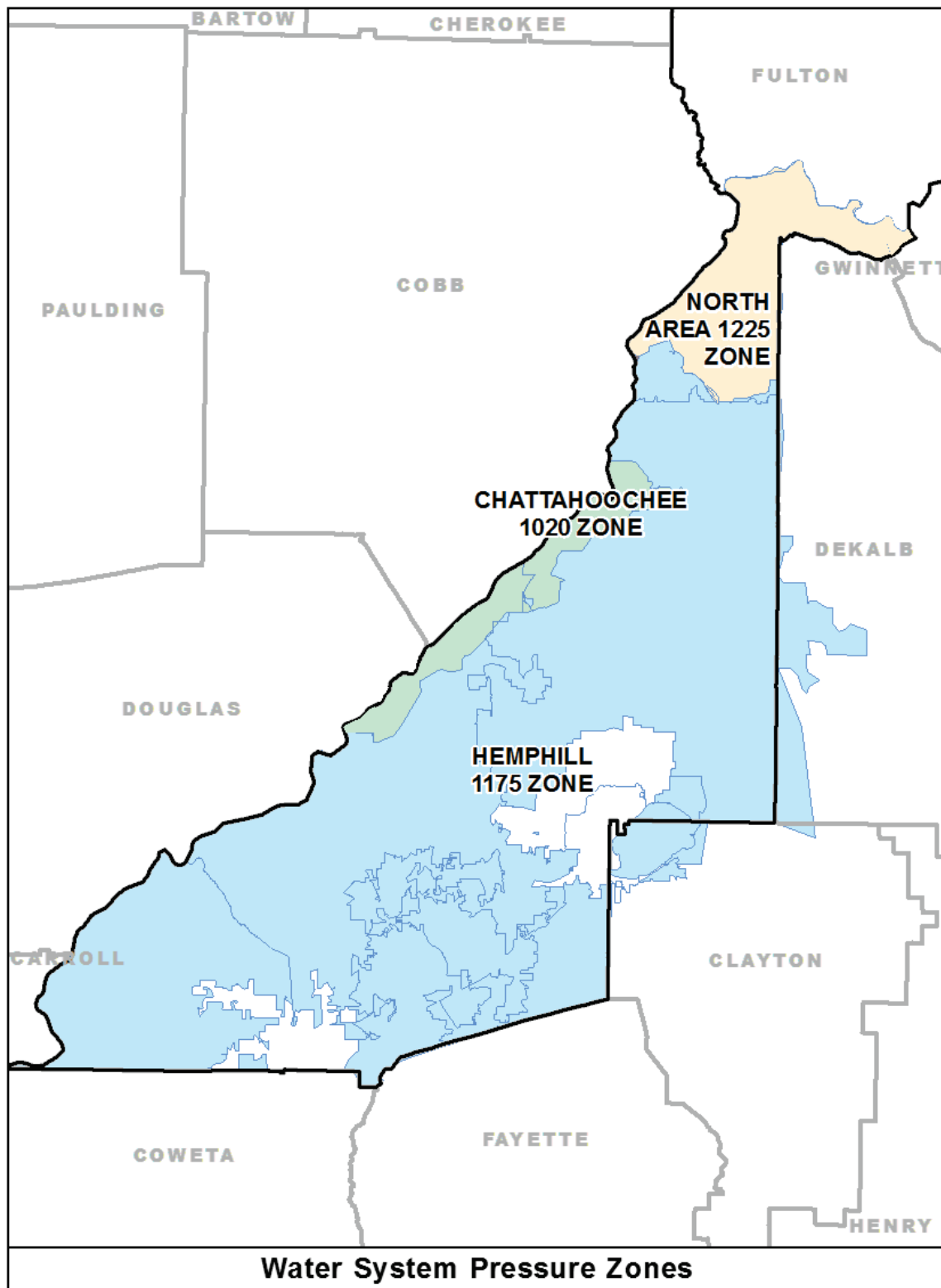
The City's drinking water system operates under permits issued by the Georgia EPD, requirements of the Federal and State Safe Drinking Water Acts, and two Administrative Consent Orders issued in 1997 and 2003 by EPD. The Office of Water Treatment and Reclamation is in compliance with its applicable permits. The water treated and delivered by the City meets or exceeds all drinking water standards established by both the U.S. and Georgia Safe Drinking Water Acts.

5.5 Water Distribution System

The City's distribution system service area varies significantly in elevation, from an elevation high of approximately 1172 feet North American Vertical Datum (NAVD) to a low of about 759 feet NAVD. Generally, the highest elevations are in the northern part of the service area, and the lowest elevations are in the areas to the west at the Chattahoochee River. Due to the range of elevations and the need to provide consistent water pressures to customers throughout the service area, the distribution system is divided into three major pressure zones.

The pressure zones, shown in Figure 5-3, are named according to a combination of their associated water treatment facilities and the water level elevations of the storage tanks that "float" (fill and draft by gravity) in each zone. Booster pump stations that control the transfer of water between the pressure zones establish the pressure zone boundaries. The three pressure zones are the Chattahoochee 1020 zone, the Hemphill 1175 zone and the North Area 1225 zone.

FIGURE 5-3
Water System Pressure Zones



5.5.1 Distribution System Components

The City's service area is depicted in Figure 5-1. The network extends north from the City across Sandy Springs to the Chattahoochee River and south of the City into South Fulton County. The City's drinking water distribution system is also used to convey water to the City's wholesale water customers that include Hapeville, Union City and Fairburn, the Clayton County Water Authority, the Coweta County Water and Sewerage Authority and Fayette County.

5.5.1.1. Pipelines

Potable drinking water is delivered to the City's retail and wholesale customers through a network of over 2,800 miles of water mains and pipelines. Water is piped to customers through pipelines ranging in diameter from 2 to 96 inches. Table 5-3 summarizes the lengths and the relative distribution of the various pipe sizes in the System.

TABLE 5-3
Water Distribution Pipelines by Size

Pipe Diameter (inches)	Length (feet)	Length (miles)	Percent of Total (%)	Pipe Diameter (inches)	Length (feet)	Length (miles)	Percent of Total (%)
<1	7,838	1	0.05%	20	229,179	43	1.54%
1	12,407	2	0.08%	24	347,491	66	2.34%
1.25	1,033	0	0.01%	30	153,495	29	1.03%
1.5	7,187	1	0.05%	32	12	0	0.00%
2	345,824	66	2.32%	36	103,121	20	0.69%
2.5	889	0	0.01%	42	33,186	6	0.22%
3	36,966	7	0.25%	48	88,292	17	0.59%
4	39,121	7	0.26%	54	3,431	1	0.02%
6	4,076,251	772	27.40%	60	6,705	1	0.05%
8	6,473,357	1,226	43.51%	66	493	0	0.00%
10	112,665	21	0.76%	72	29,631	6	0.20%
12	1,802,674	341	12.12%	78	1,431	0	0.01%
16	757,723	144	5.09%	96	1,930	0	0.01%
18	1,048	0	0.01%	Unknown	204,915	39	1.38%
				Totals	14,878,296	2,818	100.00%

Updated information provided by Department's GIS Division, October 2016

Nearly all (95 percent) of the water supply lines in the City's distribution system are ductile or cast iron and range in age from 1 year to over 75 years. The older pipes are cast iron while ductile iron was installed starting in the 1960s.

5.5.1.2. Pump Stations and Storage Tanks

The City's distribution system contains twelve storage tanks (below ground, ground level and elevated) and eleven booster station locations dispersed throughout the System to manage instantaneous water demand and pressure fluctuations in the service area. In addition, there are 4 surge tanks protecting the finished water system. Many of the pump stations are

5.0 WATER SYSTEM

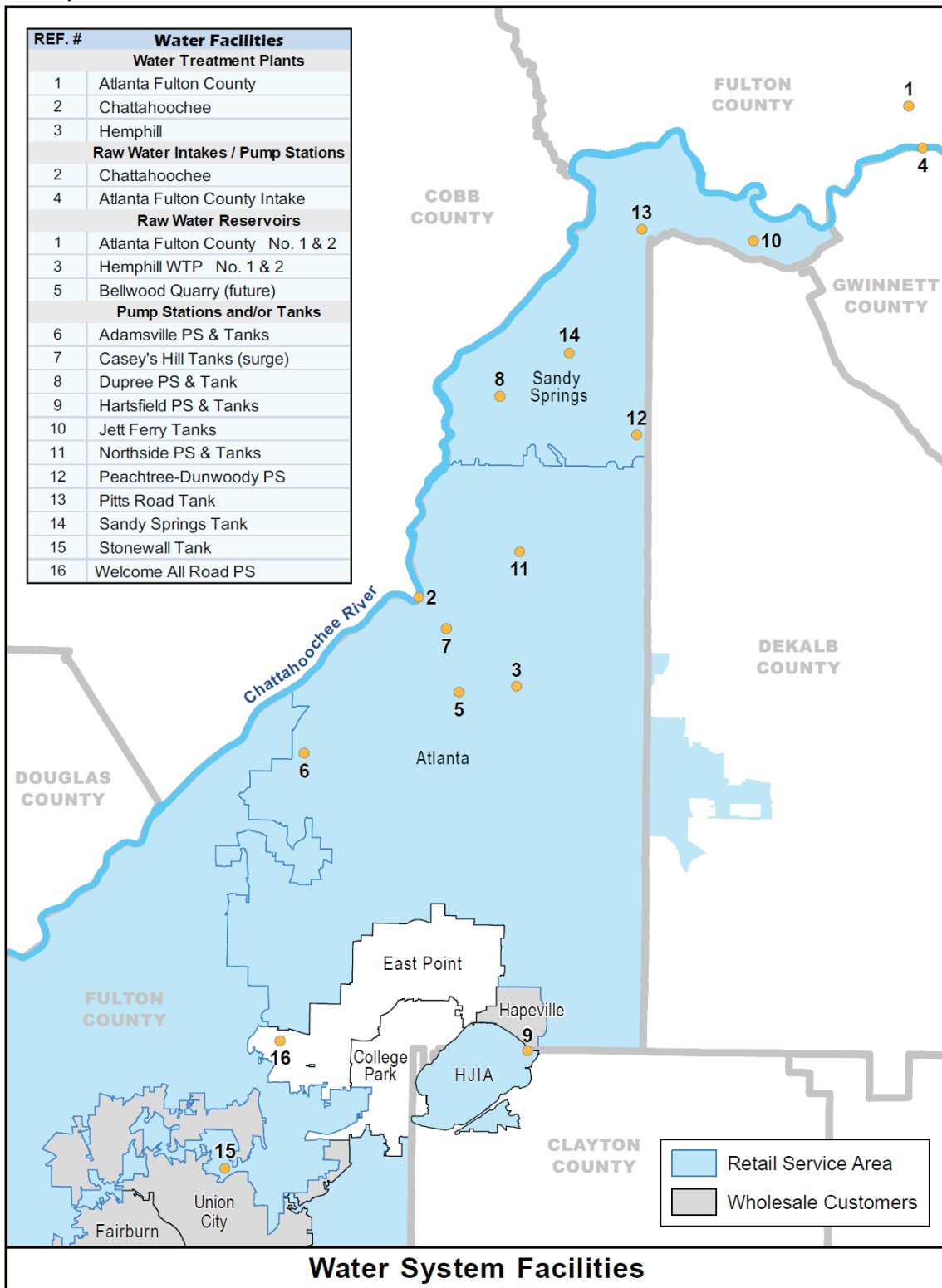
designed as in-line booster stations to augment water pressure in the outlying reaches of the distribution system. The various tanks in the distribution system have a combined finished water storage capacity of approximately 37 million gallons. The tanks provide backup water during peak demand and stabilize pressure in the System especially during peak demands.

The location of the storage tanks and the booster and re-pump stations in service within the City's distribution system are listed and summarized in Table 5-4 and shown in Figure 5-4. The facilities are presented by pressure zone; information provided includes the capacity, type and status of each facility.

TABLE 5-4
Distribution Facility Summary Table

Facility	Type	Rated Pump Capacity ¹ (mgd)	Potable Water Storage Capacity ² (mg)	Status
Chattahoochee 1020 Pressure Zone				
Adamsville	Re-pump Station (zone transfer)	45.0	N/A	Operating
	Steel Above Ground Tank	N/A	5.0	Operating
	Concrete Above Ground Tank	N/A	5.0	Operating
Northside	Re-pump Station (zone transfer)	40.0	N/A	Operating
	Steel Above Ground Tank	N/A	4.0	Operating
	Concrete Below Ground Storage Tank	N/A	6.0	Operating
Hemphill 1175 Pressure Zone				
Casey's Hill ³	Complex Surge Tank (2 tanks)	N/A	0.8 each	Operating
Dupree	Booster Station (re-pump, zone transfer)	9.0	N/A	Operating
	Steel Above Ground Tank	N/A	3.0	Operating
Hartsfield	Re-pump Station (booster)	20.0	N/A	Operating
	Concrete Below Ground	N/A	5.0	Operating
	Concrete Below Ground	N/A	5.0	Operating
Peachtree-Dunwoody	Booster Station (in-line, transfer)	1.7	N/A	Out of Service
Stonewall	Steel Elevated Tank	N/A	1.5	Operating
Welcome All Road	Booster Station (in-line)	5.0	N/A	Operating
North Area 1225 Pressure Zone				
Jett Ferry I & II	Steel Elevated Tank	N/A	0.5	Operating
	Steel Elevated Tank	N/A	0.5	Operating
Pitts Road	Steel Elevated Tank	N/A	1.0	Operating
Sandy Springs	Steel Elevated Tank	N/A	0.5	Operating
Total Capacities		124.7	37.0	
¹ Storage tanks feed the distribution system by gravity and thus do not have rated pump capacities. ² Similarly, pump stations do not have potable water storage capacities. ³ The tanks located at Casey's Hill are raw water tanks used for surge protection. They are not included in the Potable Storage Capacity total.				

FIGURE 5-4
Water System Facilities



5.5.2 Distribution System Evaluation

The City's distribution network condition ranges from Very Good to Poor depending on the structural integrity of the pipelines within the network, the ability of the pipelines to deliver the necessary flow meeting minimum pressure requirements, and the ability of the System to deliver water without impacting water quality (e.g., dead ends in the System which create brown water). The condition of the network is a function of a variety of factors including pipe age, pipe material, soil conditions, past maintenance, initial construction, activities in the vicinity of the pipeline, the amount of growth which has occurred since the pipeline was designed and constructed, and the design of the System itself.

The City evaluates the condition of its water distribution system using a variety of techniques and information. Assessments employ field inspection, hydraulic modeling, leak detection and the evaluation of complaints as well as historical operating data.

Based on the projected growth for the metropolitan Atlanta region and the condition of portions of the City's distribution system, rehabilitation and replacement of portions of the System is needed. Accordingly, the City is continuing to develop its Water Main Asset Management Program (while implementing asset management practices) to identify pipes needing rehabilitation or replacement, to sequence the projects to address highest priority needs, and to coordinate work on both the water and sewer pipeline systems. The replacement and repair of water lines in conjunction with the completion of sewer collection replacement and repair work is an example of such coordination.

The City plans to expand transmission and distribution piping, specifically the Adamsville Road Transmission Pipeline, Hemphill South I Distribution Pipeline, and the Adamsville to Campbellton Road Pipeline. It will add ground storage tanks with pump stations to support demand in downtown Atlanta, and chlorine booster stations to improve System-wide water quality.

5.5.2.1 Major Storage Tanks and Pump Station Evaluations

The physical conditions of the booster pump stations are varied. Currently, only 3 of the 11 booster pump stations are needed for normal day-to-day operation: Northside, Adamsville and Hartsfield. These 3 are in Fair condition. The other booster pump stations are useful in emergency conditions within the North Area 1225 zone, if necessary.

The Northside and Adamsville Stations provide System storage and pressure control to a significant portion of the north and southwest areas of the distribution system. These stations have undergone recent upgrades to the electrical systems, instrumentation and controls, and surge control systems. The programmable logic controls (PLCs) have radio telemetry that relays signals back to the system control center located at the Hemphill pumping station. In addition, the Department has installed standby generators and has recently re-roofed both facilities. These upgrades addressed the reliability issues associated with these pump stations that were identified in the 2003 Administrative Consent Order. As a result of these projects, the Northside Pump Station is in Good condition. The Adamsville Pump Station is also in Good condition; however, the addition of a 15 mgd (fourth) pump, along with improvements to the distribution mains, are required to improve service reliability to South Fulton.

The Hartsfield Re-pump Station supplies the additional pressure required to serve the Hartsfield-Jackson Airport, the South Fulton County area and certain wholesale customers. This pump station is in Good condition. A fourth pump has been installed to add pumping capacity and ensure reliability, in particular during peak summer months. Ensuring adequate pressure is particularly important for providing fire protection to the airport.

A water tank painting and structural repair project for the major above ground water storage tanks (there are 11 in this category) was completed in 2012. These tanks are considered to be in Excellent condition.

5.6 Regulatory Issues

5.6.1 Administrative Consent Orders

As noted earlier, the City entered into two Administrative Consent Orders related to the water treatment and distribution system: the 1997 Administrative Consent Order and the 2003 Administrative Consent Order. Most of the work required to achieve compliance with the Administrative Consent Orders is complete. The City has five projects remaining to be completed to fulfill the Administrative Consent Order requirements. To date, two projects have been indefinitely delayed because projected development and growth in the area has not occurred:

- Fairburn Road Transmission Main
- Koweta Road Pump Station & Water Main

The other three projects are either substantially complete or will be completed soon:

- River Intake Erosion Control Improvements (substantially complete)
- Northside Pump Station to Sandy Springs Pressure Zone (substantially complete)
- Hemphill Reservoir #1 Embankment Repair Interconnection (scheduled for completion in the first quarter of 2017)

In general, the Administrative Consent Orders for the water system define performance requirements rather than specific projects that must be completed by a defined date. Upon completion of the Hemphill Reservoir #1 Embankment Repair, DMW anticipates requesting closure of these two Administrative Consent Orders from the Georgia EPD

5.6.2 Fulton County Service Delivery Act Agreement

The City of Atlanta is located primarily within Fulton County, Georgia and is a party to the Fulton County Service Delivery Agreement, dated October 27, 2005 (SDS Agreement)⁴⁰. The SDS Agreement required update by the State of Georgia Department of Community Affairs, as a result of the creation of several new cities within Fulton County. Many issues were resolved between the parties following mediation. One of the main disputes resolved was over the definition of the drinking water service areas of the City of Atlanta and several municipalities located in the South Fulton area. Service areas of the cities of Fairburn,

⁴⁰As required by the Service Delivery Act, pursuant to O.C.G.A. § 36-70-20, et seq. (SDS Act).

Palmetto and Union City generally reflect the municipal boundaries of the respective jurisdictions, as of May 25, 2012, while recognizing that existing retail customer base of the respective cities remain unchanged (including the City's retail customers located within the cities as a result of annexation).

A dispute in the litigation over water service issues between the City of Sandy Springs and the City of Atlanta was voluntarily withdrawn by Sandy Springs without prejudice.

Unresolved issues are currently part of on-going litigation in the matter of Fulton County Georgia v. City of Alpharetta, Civil Action File No. 2009-CV-17723.

The City has affirmed its commitment to deliver services within its currently designated water service areas, and the City has no plans to accept any proposal to reduce or amend its current retail or wholesale service areas, unless ordered otherwise in the on-going litigation with the City of Alpharetta regarding the SDS Agreement. Except for the wholesale water service to the cities of Fairburn and Union City, the City's financial plans reflect the assumption that it will retain the water service areas to which it currently delivers services and for which it has made and will continue to make major infrastructure investments.

5.6.3 Tri-State Water Supply Litigation

The Chattahoochee River has been the source of raw water for the City since 1893. Flow in the river upstream from the City is controlled by two primary dam projects: Buford Dam, which is operated by the US Army Corps of Engineers (USACE), and Morgan Falls Dam, which is owned and operated by the Georgia Power Company. Buford Dam, which impounds the river's headwaters to create Lake Lanier, is the most important to the City. As such, the City depends upon the USACE to operate Buford Dam and control the flow of the river to ensure a sufficient water supply is available.

The USACE built and maintains Buford Dam, although their authority to operate Buford Dam and Lake Lanier as a source water supply was once disputed. However, the United States Court of Appeals for the Eleventh Circuit issued a final decision in 2011 holding that water supply is a fully authorized purpose of the project, and gave the USACE one year to reevaluate a request submitted by the State of Georgia in 2000, which seeks the reallocation of enough storage in Lake Lanier to meet the long-term water supply needs of the metropolitan Atlanta region.⁴¹ In June 2012, the USACE issued a legal memorandum concluding that it is legally authorized to grant 100 percent of the State of Georgia's water supply request. The USACE is now in the process of conducting environmental studies to determine whether to grant the entire request. A final decision is expected in 2017.

Separately, on November 3, 2014, the United States Supreme Court granted a motion by the State of Florida for leave to file an "equitable apportionment" action against the State of Georgia relating to the waters of the Apalachicola-Chattahoochee-Flint River Basin (ACF Basin).⁴² Florida's complaint against Georgia requests that the Court enter an order equitably apportioning the waters of the ACF Basin and capping Georgia's overall depletive water uses at the level then existing on January 3, 1992. Note that this original action by

⁴¹ See *In re MDL-1824 Tri-State Water Rights Litig.*, 644 F.3d 1160 (11th Cir. 2011), cert. denied 133 S. Ct. 25 (2012).

⁴² See *State of Florida v. State of Georgia*, No. 22o142 ORG, --- S. Ct. ---- (2013).

Florida is not directly related to the 2011 decision of the 11th Circuit relating to the Army's authority to operate Lake Lanier for water supply.

It is too early to predict how Florida's original action against Georgia will proceed, whether the Court will ultimately issue a decree apportioning the waters of the ACF Basin, or whether any such decree will have a material impact on the City's water supply. The City will actively assist the State of Georgia to mount a vigorous defense.

In addition, it may be noted that the City has several additional options for meeting water demand and public health and safety needs. For example, the City owns the Bellwood Quarry property, the development of which, as a 2.4-billion-gallon drinking water reservoir, will extend its raw water supply storage up to 30 days. Furthermore, the City has a long-standing commitment to effective and efficient water resource management and careful use of inherently limited water supplies. The City is practiced in management of its water and wastewater systems under uncertainty (e.g., drought, national credit crisis), and is actively engaged in examining options for water supply augmentation.

The City currently withdraws water from the Chattahoochee River under a surface water withdrawal permit issued by the EPD and with a term that runs to November 1, 2021. Future withdrawal permits will be required to be consistent with future regional and State water plans. The City provides return flows of its water withdrawals to the Chattahoochee River via the City's WRCs and it does not withdraw water from the Flint, Apalachicola, Alabama, Coosa or Tallapoosa River basins.

6.0 Capital Improvement Program

6.1 Introduction

The Department's Capital Improvement Program (CIP) has evolved significantly since the September 24, 2012 order extending the final completion date of the FACD. Most notable of the changes is the City's investment in its Water Supply Program, estimated at a total cost of approximately \$346 million. The Department has prioritized investment in water infrastructure improvements to coincide with the City's investment in infrastructure improvements under the Renew Atlanta Bond Program and to reduce the percentage of non-revenue water. The Department is also positioned to broaden its investments in green infrastructure projects with City Council adoption of Ordinance No. 14-0-1453 that allows dedication of up to 10 percent of MOST proceeds for stormwater management projects. In addition, the Department has prioritized energy management and resource recovery investments to yield both operating efficiencies and advance sustainability objectives. These marquee investments build upon a foundation of more balanced System investment that was among the reasons for the Department's request for Consent Decree schedule relief.

To develop its FY 2017-22 CIP, under the supervision of new executive leadership, the Department has and continues to review proposed capital improvement projects identified through various System evaluation and master planning efforts. Using a formal prioritization framework, projects are scored and ranked based on their projected performance relative to the following evaluation criteria:

- A - Regulatory
- B - Reliability
- C - Safety
- D - Financial
- E - Customer Impact

Based on these project evaluations, scheduling considerations, and capital financing capacities defined by the Department's financial plan, project encumbrances have been scheduled over the FY 2017 – FY 2022 forecast period. Project descriptions and associated cost estimates for projects in the forecast period are summarized herein.⁴³ Provided in the following sections is a historical review of the Department's capital program, master planning, and capital project prioritization framework. The Department's current planned CIP is described by project category and the Department's sources and uses of capital project funding is outlined. Section 7 provides a detailed review of the Department's financial plan that provides for financing the capital program primarily through current revenues and Georgia Environmental Facilities Authority (GEFA) borrowing.

⁴³ In March 2016, the Department published the *2015-2019 Capital Improvement Plan*, which updated previous forecasts of water and wastewater capital encumbrance requirements.

6.2 Historical Perspective

During the 10-year period between the entry of its SSO Consent Decree in 1999 and completion of its CSO Consent Decree requirements in 2008, the Department implemented one of the Country's most significant wastewater collection system capital improvement programs. By 2009, the Department's compliance with its Consent Orders, as well as complementary capital projects had resulted in a 97 percent reduction in sewer spill volumes, and a 75 percent reduction in the incidence of spill events.⁴⁴ During this time frame, capital program expenditures averaged more than \$225 million per year and totaled in excess of \$2.0 billion. Financing this level of expenditure precipitated rate increases that placed the City's service rates as the highest imposed by major North American metropolitan systems (refer to Section 7.4).

With completion of its CSO Consent Decree obligations and the extension of its SSO Consent Decree obligations until 2027, the Department has had an opportunity to balance the planned capital program expenditures called for in its schedule extension request (within its financial capabilities). For the Series 2017 Bonds, this balancing has been informed by facility assessments completed between 2011 and 2013, prioritization efforts led by new executive leadership, and an integrated master planning effort completed in 2014.⁴⁵ These efforts have identified, reiterated and—in some cases—revised the priority status of several major projects.

As reported for the Series 2015 Bonds, these facility assessments also suggested that several projects warranted accelerated project delivery and fundamental changes to the Department's capital project management functions. These changes included: (1) restoration and continuing improvement of program management functions, (2) use of alternative capital project delivery options (e.g., design-build, construction management at risk), (3) use of short-term debt instruments to facilitate cash-flow financing of project expenditures, and use of alternative financing vehicles such Energy Savings Contracts (ESCO).

Going forward, capital improvement plan revisions will continue to be developed under the discipline of defined financial constraints. A "zero-sum protocol" will continue to be employed whereby the addition of new projects will necessitate the elimination or deferral of other projects subject to adjustments in the Department's financial forecasts.

6.3 Capital Improvement Program – Master Planning

As noted, in 2014 the Department drafted an Integrated Utility Plan (IUP) to evaluate and prioritize competing water resource projects and needs, informed in part by facility assessments conducted between 2011 and 2013. The IUP was meant to provide a framework, based upon the EPA's Integrated Planning Framework Approach, in which to balance the Department's capital investment needs for Clean Water Act compliance with the provision of safe drinking water for the Atlanta Metropolitan region. The cornerstone of the City's IUP framework is a more holistic, integrated water resources management paradigm,

⁴⁴ First Amended Consent Decree 1:98-CV-1956-TWT - Financial Capability-Based Amendment and Schedule Extension Request, April 30, 2010, p. 2

⁴⁵ Draft Integrated Utility Plan, Department of Watershed Management, July 2014

including asset management and a focus on resiliency. The primary components of the IUP are detailed in Table 6-1. Though structured to align with individual System components, the IUP also addresses the interrelationships between the water and wastewater sub-systems as well as certain watershed protection assets and services to effect integrated water resource management.

TABLE 6-1
Integrated Utility Plan Components

Plan Component	Plan Objective
Wastewater Master Plan	Plan for long-term management of the collection, transmission, treatment, and disposal of wastewater, consistent with applicable state, regional and federal regulations and guidelines. Delineates capital improvement requirements, capacity management operational and maintenance improvements, and performance indicators /functional benchmarks for monitoring performance.
Water Supply and Conservation Management Plan	Plan that addresses the management of water supply, treatment and distribution. Delineates capital project requirements that address water resource needs in the areas of water supply and intake, treatment, storage and pumping, and transmission considering key facts such as water supply sources and demand forecasts.
Watershed Protection Management Plan	Plan that includes capital program recommendations to enhance watershed protection and support System operations and practices. Reflects an in-depth evaluation of current practices and requirements related to water quality management as required under the Department's wastewater discharge and other System permits as well as general surface water management regulations.

Collectively, the IUP informs the Department's approach to integrated water resource system development and effective asset management. The Department will periodically review and update this planning document to guide its operations and investments.

Development of the IUP also occasioned a limited restructuring of the Department's Capital Improvement Plan whereby project categories were revised to reflect the evolution of the Department's investment emphasis from enforcement action compliance to a more holistic, water resource management approach. Further revisions to reflect changing regulations and the Department's emphasis on effective stormwater management were established for the Capital Improvement Plan reported herein. Figure 6-1 summarizes the Department's current capital planning categories. The Department's FY 2017-2022 CIP is described below.

FIGURE 6-1
Capital Improvement Project Categories

WATER	<i>Water Supply</i>
	<i>Drinking Water Facilities</i>
	<i>Water Distribution</i>
WASTEWATER	<i>Water Reclamation Centers (and related facilities)</i>
	<i>Wastewater Collection</i>
	<i>Wastewater Consent Decree</i>
	<i>Watershed Protection</i>
GENERAL SUPPORT	<i>Facilities Management</i>
	<i>Support Services</i>
CSO FACILITIES	
STORMWATER	

6.4 FY 2017–2022 Capital Improvement Program

6.4.1 Water System

The Water System CIP represents ongoing and planned projects to ensure system reliability, to meet specific facility needs, and to ensure compliance with the Safe Drinking Water Act and operating permits. The Water CIP is presented in the following program categories:

- Water Supply
- Drinking Water Facilities
- Water Distribution

6.4.1.1. Water Supply

The Department’s near-term capital program is highlighted by implementation of the Water Supply Program – the most substantial water system investment since development of the Chattahoochee WTP. This program, as described below, will address acute weaknesses in the Department’s raw water supply infrastructure identified in facility assessments conducted between 2011 and 2013. These assessments elevated prioritization of raw water supply rehabilitation to the highest ranking among projects identified in the IUP. Water Supply projects require encumbrances of \$174.9 million (also \$174.9 million in nominal dollars) as identified in Table 6-2.

TABLE 6-2
 Water Supply Projects FY 2017–2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Water Supply Program - Quarry/Chattahoochee ^{1,2}	\$173,759,164
Hemphill/Chattahoochee WTP - Instrumentation & Controls System	1,091,859
Total – Current Dollar Cost Estimate	\$174,851,023
¹ Other components of the Water Supply Program have already been funded and are not included in this cost estimate. ² Reflects an estimated cost increase from \$277.0 million to \$346.8 million due primarily to scope changes to complete tunneling to the Chattahoochee River in one phase as opposed to two phases, allowing the City to make use of the reservoir sooner. In addition, the Water Supply Program was procured using Construction Manager At Risk (CMAR) contract provisions so the firm project budget has been established based on the guaranteed maximum price packages.	

Specific projects include:

- **Water Supply Program** - a major undertaking identified through the water master planning process that will improve the reliability of raw water delivery to the Chattahoochee and Hemphill drinking water plants. A deep, five-mile tunnel with a diameter of ten to twelve feet will connect the raw water intake on the Chattahoochee River to the Chattahoochee Water Plant, the Hemphill Water Plant, and the Bellwood Quarry. Use of the Quarry will add 2.4 billion gallons (estimated 30 to 90 day supply) of raw water storage to the System, making raw water storage available at the Chattahoochee plant for the first time. Raw water will be pumped up from this tunnel to the Chattahoochee plant and to the Hemphill raw water reservoirs. This conveyance and storage system will replace reliance on three old, cast-iron transmission lines that deliver water from the intake to the Hemphill plant. Corollary projects proceeding under this program include:
 - **Hemphill WTP Reservoir 1** - restoring one of the two Hemphill raw water reservoirs to full volume.
 - **Chattahoochee River Intake Pumping System Upgrades** - upgrading the pumping equipment at the existing intake.
 - **Raw Water Transmission Line Rehabilitation** - interim rehabilitation of the existing raw water transmission lines. A portion of the raw water transmission system will remain in place after completion of the program to provide redundancy and further enhance reliability.
- **Hemphill/Chattahoochee WTP - Instrumentation & Controls System** - The existing instrumentation and control systems at these facilities are old and obsolete. The new instrumentation and control system will be used to automate the operation of both plants and tunnel system from the Chattahoochee River to the Quarry and includes replacing three programmable logic controllers; variable frequency drives, and tying into the plants' supervisory control and data acquisition (SCADA) system. This work will result in improved reliability and operational efficiency of the water distribution system.

6.4.1.2. Drinking Water Facilities

Drinking Water Facilities projects are water treatment plant and pump station projects to improve treatment processes for continued compliance, instrumentation and controls, and facilities assets. The capital program forecasts encumbrances of \$9.3 million (\$9.4 million in nominal terms) over the 6-year period between FY 2017 and FY 2022 as identified in Table 6-3.

TABLE 6-3
Drinking Water Facilities Projects FY 2017–2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Chattahoochee WTP Compliance Improvements	\$5,099,710
Hemphill WTP Compliance Improvements	4,165,645
Total – Current Dollar Cost Estimate	\$9,265,355

Projects include:

- **Chattahoochee Compliance Improvements** - project will address immediate needs identified in the Water Master Plan. Elements of this project include replacing sedimentation basin valves; modifications or replacement of the alum, fluoride, and powdered activated carbon feed systems; secondary containment for chemical storage; and replacement of filter under drains.
- **Hemphill Compliance Improvements** - project includes compliance upgrades that were also identified as immediate needs in the Water Master Plan. As with Chattahoochee upgrades, these projects will further ensure continued compliance with Safe Drinking Water Act rules, regulations, and permits. Included in the Hemphill scope is overhauling the activated carbon feed system, replacement of baffle walls and overflow weirs in the sedimentation basins, replacing filter media and refurbishing one of the three filter galleys with new under drains, air-scour blowers and piping.

6.4.1.3. Water Distribution

The projects in this category are related to the transmission and distribution of finished water, and represent those projects that are intended to improve efficiency and reliability, or replace/renew assets that have reached the end of their useful life. Distribution system projects fall into the following three categories of projects:

- **Transmission main improvements** are usually large projects to provide new or improved water transmission piping in the System. These are equivalent to relief projects in the sewer system since they add delivery capacity to the System.
- **Distribution system maintenance and improvement** projects include smaller diameter water main replacement projects.
- **Annual contracts** are for services such as small meter installations, repair or replacement of large meters, System telemetry, and repair and replacement of water pipe. These contracts are forecast at a consistent level of effort to the extent that funding is available.

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The capital program outlines requirements for these projects totaling approximately \$98.9 million (\$106.1 million in nominal terms) between FY 2017 and FY 2022 as shown in Table 6-4.

TABLE 6-4
Water Distribution Projects FY 2017–2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Hartsfield Jackson Manifold Improvements	\$681,433
Small Meters - Testing, Replacement & Installation	8,458,000
Distribution System Appurtenances	15,000,000
Small Diameter Distribution System Rehabilitation & Replacement	39,580,000
Large Meter – Testing, Replacement & Installation	18,091,202
Underground Atlanta Transmission	3,000,000
Large Diameter Water System Rehabilitation & Replacement	12,300,000
Distribution System Telemetry Improvements	1,750,000
Total – Current Dollar Cost Estimate	\$98,860,635

Specific projects include:

- **Hartsfield Jackson Manifold Improvements** - project includes demolishing existing ductile iron pipe, fittings, and valves; installing new above and below-grade ductile iron pipe, fittings, and valves; installing new flow meters and constructing a reinforced concrete foundation slab. Also included within the scope of this project are structural and architectural modifications to the existing pump station building to facilitate new above-grade piping with the intent of enhancing service reliability and efficiency; providing a permanent cost-effective and sustainable solution and reliable water distribution to the Hartsfield–Jackson International Airport.
- **Small Meters- Testing, Replacement & Installation** - includes the testing, repair, replacement, and installation of meters that are two inches or less in diameter. This annual effort is accomplished by multiple annual contracts. Maintaining meter reading accuracy is essential to revenue collections and elemental to equitable billing and water loss reduction.
- **Distribution System Appurtenances** - includes an annual contract to help repair and replace valves and hydrants across the water distribution system and includes installation, repair and maintenance of valves and hydrants. The project goals are to improve operational reliability of critical assets related to public safety and system performance; isolate and minimize the impact of infrastructure failures; and more responsive and effective attention to water main breaks and public safety emergencies.
- **Distribution System Renewal and Rehabilitation** - a general project category for as-yet identified future water distribution line improvements. The distribution system is a large and diverse set of assets for which sustained funding is imperative to provide uninterrupted flow and pressure for health, business productivity, and fire flow. Replacing

mains with a high break history or those with chronic leaks also reduces real water loss. In many instances, smaller mains may be replaced with larger pipe based on hydraulic modeling.

- **Large Meter- Testing, Replacement & Installation** - project includes the testing, repair, replacement, and installation of water meters with diameters greater than two inches. There are over 3,000 large meters in the distribution system, through which approximately half the finished drinking water flows. Maintaining accuracy to AWWA standards is important for sustaining revenues, equitable billing, and reduction of apparent water loss. This program is implemented through annual contracts.
- **Underground Atlanta Transmission** - main goal of this project is to restore all feeds in the water distribution system serving South Downtown and Underground Atlanta and to eliminate any waterlines not meeting current System standards. Restoration and upgrading of the System will ensure the area has adequate fire protection in case of an emergency. Additional project goals include meeting the System water demand requirements under all conditions, maintaining finished water quality in all parts of the distribution system, and meeting the future water demands that will occur due to population growth and new developments.
- **Distribution System Telemetry Improvements** - project will upgrade the System that signals real-time pressures at critical nodes in the distribution system, as well as water levels in remote finished water storage tanks, to a centralized water delivery control center at the Hemphill water plant. The project will add telemetry transmitters in the distribution network to fine-tune operations and improve the level of service.

6.4.2 Wastewater System

The wastewater capital program is designed to address a number of acute facility needs identified in assessments of System facilities conducted between 2011 and 2013 and considered in the Department's reprioritization initiative. Funded capital projects provide for reinvestment through annual renewal and rehabilitation efforts and selected investments to enhance operational efficiency and reliability. The designated capital projects were also specified to ensure compliance with the Clean Water Act, the Georgia Clean Waters Act, and the City's NPDES permits.

6.4.2.1. Water Reclamation Centers and Facilities

The projects under this category are intended to improve efficiency and reliability, renew or replace assets, or address current or prospective regulatory requirements. These projects were identified or validated through the Wastewater Master Planning effort. The capital program will transition into an asset management approach providing a systematic way to identify and prioritize projects based on service levels, asset condition, criticality of asset, and other criteria. The capital program calls for encumbrances of \$142.6 million (\$149.4 million in nominal terms) over the 6-year period between FY 2017 and FY 2012 as outlined in Table 6-5.

TABLE 6-5

Water Reclamation Centers and Facilities Projects FY 2017–2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
RM Clayton WRC - Two Scroll Bowl Kits, Switch Gears, Emergency Generators	\$5,341,560
Utoy Creek WRC - Aeration Tanks/Slide Gates	77,271
RM Clayton WRC - Instrumentation & Controls Reliability Restoration	509,745
Intrenchment Creek WRC Decommissioning/South River WRC Primary Clarifiers Replacement	34,104,821
Utoy Creek WRC Improvements - Group 1	3,435,000
Plant Capital Maintenance - Small Capital	8,000,000
Intrenchment Creek Viaduct Rehabilitation	950,000
Bolton Road Sewage Pump Station Rehabilitation	9,571,651
Flint River Sewage Pump Station Replacement	12,859,345
South River WRC Various Projects Group 1 (phases 1& 2)	53,221,917
Treatment Plant Facilities - Various	5,890,000
Sewage Pump Stations Improvement:	8,640,000
Total – Current Dollar Cost Estimate	\$142,601,310

Specific projects include:

- RM Clayton WRC - Two Scroll Bowl Kits, Switch Gears, Emergency Generators** – project includes installing spare scroll bowl kits for the sludge thickener centrifuges, replacing obsolete switch gears and providing emergency generators for the Blower Building. The spare scroll bowl kits will allow the treatment process to remove biological and chemical impurities from the wastewater in three phases: primary treatment, secondary treatment, and tertiary treatment; will help minimize downtime; and allow the facility to continuously remove biosolids. Replacing obsolete switch gear equipment and providing emergency generators for the Blower Building will help meet permit requirements.
- Utoy Creek WRC - Aeration Tanks/Slide Gates** - project includes cleaning out the aeration basin tanks of sediment, replacing aluminum slide gates and repairing and replacing any damaged air diffusers and piping. This will remove sediment collecting on the gates and in the tanks - improving efficiency and reliability of the WRC, facilitating compliance with NPDES Permit requirements, and reducing annual operating costs.
- RM Clayton WRC - Instrumentation & Controls Reliability Restoration** - project will upgrade various outdated Distributive Control Systems (DCS) and Process Logic Controller (PLC) systems as well as add optical fibers and duct banks at the WRC. These systems monitor and control process equipment and provide the interconnectivity required to treat wastewater to meet regulatory permits. The scope

of this project also includes replacing input and output modules in various buildings, consolidating DCS control processors, translating old databases for new control modules and replacing PLCs at the Incinerator and Blower Buildings. The project is intended to reduce corrective and emergency maintenance and enhance System operational reliability while facilitating compliance with regulatory requirements.

- **Intrenchment Creek WRC Decommissioning/South River WRC Primary Clarifiers Replacement** – project will consolidate treatment and is expected to result in operational cost savings. The primary clarifiers of the South River WRC are also being replaced so that WRC flows can enter ahead of primary clarification instead of directly to the South River WRC aeration basins.
- **Utoy Creek WRC Improvements - Group 1** - includes improving stormwater drainage at the headworks facility, replacing influent pumps and updating pump controls, replacing the chemical feed system, replacing heat exchanger systems, replacing sludge digester rear elevation pump boilers, and replacing secondary clarifier equipment.
- **Plant Capital Maintenance - Small Capital** - this project provides funding to help address critical maintenance needs. Plant managers have identified a comprehensive list of critical needs for each facility. Various existing and new services contracts will be used to provide servicing and repairs to key mechanical and electrical civil assets. The project will also include critical structural repairs.
- **Intrenchment Creek Viaduct Rehabilitation** - project replaces an aerial influent sewer at the Intrenchment Creek WRC. This sewer line will still be in service after the Intrenchment Creek WRC is decommissioned.
- **Flint River and Bolton Road Pump Stations** will undergo major upgrades. The Flint River Pump Station will be replaced with a pump station with a capacity of 25 MGD. The Bolton Road Pump Station will be rehabilitated and upgraded to 40 MGD with modern equipment and variable frequency drive pumps.
- **South River WRC Various Projects Group 1 (phases 1& 2)** will add a belt filter press and new centrifuges for more efficient and reliable solids handling, rehabilitate the anaerobic digesters, construct equalization storage, replace bar screens, and replace secondary clarifier equipment.
- **Treatment Plant Facilities - Various** - the scope of this project includes replacing and upgrading electrical switchgear and power distribution equipment as well as replacing telemetry and process control components. By replacing outdated and obsolete electrical and instrumentation and controls, the Department will reduce the risk of failure due to a sewage spill and minimize safety hazards.
- **Pump Stations Improvement** - equipment replacements at Phillip Lee, Rebel Forest, Woodward Way 1 and 2, Cascade, Niskey Lake #1, Highlands, SR Industrial, Rivermeade, Bell South, Paul Avenue and Hanover West pump stations.

As noted in the Series 2013 Feasibility Study and Series 2015 Feasibility Study, the Department is evaluating potential opportunities to avoid capital expenditure for rehabilitation

and replacement (R&R) of outmoded technology, gain efficiencies through facility upgrades and consolidation, and move from disposal to beneficial reuse and resource recovery.⁴⁶ While this direction could reduce the net life-cycle cost of solids treatment, implementation of the beneficial reuse and resource recovery attributes of the program will be deferred beyond FY 2017-22 in light of financial constraints and the priority funding of other System investments—especially the Water Supply Program (discussed above).

6.4.2.2. Wastewater Collection

The Wastewater Collection projects represent collection system improvements specified to assure appropriate renewal and rehabilitation of wastewater system pipelines. The capital program calls for encumbrances of \$50.6 million (\$55.3 million in nominal terms) over the 6-year period between FY 2017 and FY 2022 as identified in Table 6-6.

TABLE 6-6
Wastewater Collection Projects FY 2017-2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Peachtree Creek Trunk Sewer Stabilization	\$3,170,000
Emergency Sewer Repairs ¹	10,160,082
Sanitary Sewer Repairs ²	14,752,029
Sewer Cleaning & Pipeline Assessment	15,000,000
Raising Valve and Manhole Covers (Annual Contract), FY 2020 – FY 2022	7,500,000
Total – Current Dollar Cost Estimate	\$50,582,111
¹ \$2 million per year, except for FY 2017 (which has already been partially funded)	
² Approximately \$3 million per year	

Project descriptions include:

- **Peachtree Creek Trunk Sewer Stabilization** - this project is to stabilize the many longitudinal and circumferential cracks identified in the Peachtree Trunk to ensure structural integrity is retained under varying conditions while conveying sewage. The project includes inspecting approximately 13,900 feet of large diameter sewer using closed circuit TV, cleaning approximately 3,600 feet of large diameter sewer, removing large debris accumulation using special cleaning techniques, and installing approximately 11,000 feet of structural liner in a large diameter sewer. The derived benefits will include increasing asset life by around 50 years, restoring pipe integrity through trenchless technology, reducing pipe Infiltration/Inflow, and addressing Consent Decree requirements.⁴⁷

⁴⁶ Specific steps identified for implementing the new biosolids strategy included: (1) multi-year contracting of digested RM Clayton solids treatment with beneficial reuse; (2) consolidated production of Class A biosolids generated at Utoy and South River; (3) recovery of methane from consolidated solids digestion for electricity generation

⁴⁷ This funding requirement represents a small portion of the overall project costs, which have already been encumbered.

- **Emergency Sewer Repairs** - the intent of this contract, estimated at \$2.0 million per year⁴⁸, is to serve as an undefined scope contracting mechanism to complete emergency sanitary sewer repairs on an as-needed basis and to supplement and support sewer inspections using closed circuit TV (CCTV). The contract will provide enhanced response to emergency repairs and unexpected maintenance demands, enhance flow capacity of repaired sewers, reduce Infiltration/Inflow or extraneous flows into the sewer system, and contribute to reductions in Sanitary Sewer Overflows.
- **Sanitary Sewer Repairs - Annual Contract** - this project will facilitate the long-term sustainability and structural integrity of critical linear assets, ensuring continued operation as intended and mitigating environmental risks. The project will help ensure adequate conveyance capacity and improve treatment capacity at the Water Reclamation Centers. The project includes repairing linear sewer assets using methods such as: Cured-in-Place Pipe (CIPP) and internal and external point repairs.
- **Sewer Cleaning & Pipeline Assessment** - includes ongoing collection system asset management activities (condition assessment, scoring of risk and criticality), which is not mandated for sewer segments listed under the Second Amended Consent Decree. Cleaning is incidental to assessment.
- **Raising Valve and Manhole Cover** - project addresses the fact that coincident with street and sidewalk improvements, and as a routine matter of uncovering access to linear assets, water line valves (and lids) and manhole sections and covers must periodically be raised for continued operations and maintenance access to the distribution and collection systems.

6.4.2.3. Wastewater Consent Decree

The Wastewater Consent Decree projects represent collection system improvements required under the modified Consent Decree to assure adequate capacity of and appropriate renewal and rehabilitation of wastewater system pipelines. The capital program calls for encumbrances of \$127.6 million (\$138.0 million in nominal terms) over the 6-year period as identified in Table 6-7.

These projects are intended to improve efficiency, reliability, or replace / renew assets that have reached the end of their useful life. These projects support an asset management-based operational approach. SSO Consent Decree projects fall into two general categories:

- **Rehabilitation:** sewer facilities and appurtenances requiring structural and service improvements for adequate flow conveyance.
- **Relief:** sewer facilities and appurtenances to provide needed capacity to adequately convey flows based on existing or projected wastewater needs.

By 2013, the Department had completed required Sanitary Sewer Evaluation Survey (SSES) work for all sewer groups. This work provided a complete inventory of the wastewater collection system, including a listing of defects that existed at the time of the evaluation

⁴⁸ The FY 2017 contract is already partially funded, resulting in encumbrance needs of approximately \$160,000.

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surveys. The inventory, along with the Department's System-wide collection system model, creates the basis for defining projects for rehabilitation or relief needs. This planning basis is being transitioned to the Department's asset management systems to ensure continued and appropriate renewal and replacement of its sewer assets.

TABLE 6-7

Wastewater Consent Decree Projects FY 2017-2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
SG3 Contract C Small Diameter Rehabilitation	\$14,200,000
SG3 Capacity Relief Projects - Ashby-Jett, Lower Proctor Trunk & Terrell Creek Trunk (Phase 2)	10,823,130
SG3 Contract D Small Diameter Rehabilitation	20,200,000
SG4 Pipe Rehabilitation	17,000,000
SG4 - East Lake Outfalls (East & West) & East Lake Trunk Replacement Capacity Relief (Sugar Creek Basin)	7,498,000
SG4 - Sugar Creek Basin Trunk Replacement Capacity Relief Projects (Sugar Creek Basin)	7,728,000
SG5 Capacity Relief Project - Westminster Outfall Replacement (Nancy Creek)	6,198,900
SG5 Capacity Relief Project - Valley Road Outfall Replacement (Nancy Creek)	4,705,057
SG5 Capacity Relief Project - Buckhead Trunk Replacement (Peachtree Basin)	7,552,766
SG5 Capacity Relief Project - Landrum Drive Outfall Replacement (Utoy Creek)	2,612,000
SG5 Capacity Relief Project - South Utoy Trunk system replacement including Granada & Waits Outfall Improvements	10,253,000
SG5 CSO Rehabilitation & Capacity Relief (Phase 1)	18,845,500
Total – Current Dollar Cost Estimate	\$127,616,353

The Department will implement sewer rehabilitation and relief projects required under the Second Amended Consent Decree to ensure completion within the revised July 2027 completion date.

Example projects include:

- **Sewer Group 4R- East Lake Trunk and Outfall System Capacity Relief Projects in Sugar Creek Basin** - project is a consent-decree capacity relief project. The project scope includes pipe bursting and thus upsizing between 10,000 and 15,000 linear feet of trunk sewer in the Sugar Creek basin.
- **Sewer Group 5R- Buckhead Trunk Replacement in Peachtree Creek Basin** - project is a consent-decree capacity relief project entailing the replacement and partial realignment of approximately 4,000 feet of 21-inch-diameter sewer in the Peachtree Creek basin. The replacement sewer is planned to be 30-inch-diameter.

6.4.2.4. Watershed Protection

Watershed Protection projects provide capacity relief and stormwater retention and detention through green infrastructure and related projects that mimic the natural environment. These projects are being integrated with wastewater projects where they will facilitate compliance with recent and anticipated changes in the Department’s NPDES permit requirements that call for more proactive management of non-point source pollutant loadings. The capital program identifies encumbrance requirements totaling \$54.1 million (\$56.9 million in nominal terms) between FY 2017 and FY 2022, as outlined in Table 6-8.

TABLE 6-8
Watershed Protection Projects FY 2017–2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Upper Proctor Creek Sewer Capacity Relief - Mims Park Pond	\$11,655,931
Upper Proctor Creek- Boone Boulevard Green Infrastructure	4,500,000
Peachtree Creek - South Fork Green Infrastructure - Cheshire Bridge Road	500,000
Clear Creek Water Sewer Improvements - Civic Center Phase 2	20,000,000
Upper Proctor Creek Water Quality Facility	8,428,200
Clear Creek West Green Infrastructure	1,121,760
Green Infrastructure Maintenance	6,358,500
Streambank Restoration	1,500,000
Total – Current Dollar Cost Estimate	\$54,064,391

Projects feature green infrastructure and stormwater management measures in the combined sewer overflow sections of the wastewater system to facilitate compliance with the Department’s NPDES permit requirements, and include:

- **Upper Proctor Creek Sewer Capacity Relief - Mims Park Pond** - will provide capacity relief to the Mineral Springs and Beckwith combined trunk sewers.
- **Upper Proctor Creek- Boone Boulevard Green Infrastructure** - green infrastructure project includes parks, stormwater management greenways, community gardens and other vegetative areas, as well as constructed streams, rain gardens and bio-retention ponds. In addition to the series of connected green spaces, the vision calls for the introduction of green streets - a design approach that uses natural systems to reduce stormwater runoff, improve water quality, enhance pedestrian safety, and beautify neighborhoods. The project includes constructing bio-retention areas on the edge of the road, removing impervious surfaces, and installing pervious paving in parking and turn lanes.
- **Peachtree Creek - South Fork Green Infrastructure - Cheshire Bridge Road** - project includes constructing pervious sidewalks and street tree wells and constructing infiltration galleries and bioretention areas. Since construction of the original Peachtree Creek green infrastructure project, significant reductions in sewage spills have occurred. Accordingly, other projects are being constructed to

not only provide additional sewer capacity relief but help reduce stormwater runoff and improve water quality.

- **Clear Creek Water Sewer Improvements - Civic Center Phase 2** - in conjunction with future development opportunities, there is an opportunity to address operational efficiency issues related to the combined sewers and stormwater system at the Civic Center and surrounding area. This project combines green infrastructure measures with more traditional storage solutions and is the first phase of an overall initiative to manage peak flows in the area's two combined sewers, enhance System reliability, and improve operating efficiency.
- **Upper Proctor Creek Water Quality Facility** - will provide direct enhanced treatment of Proctor Creek water to reduce the concentrations of bacteria, sediment, and other pollutants.
- **Clear Creek West Green Infrastructure** - project includes evaluating, selecting, designing, and constructing green infrastructure to improve the reliability of the combined sewer system, reduce up to one million gallons of stormwater runoff, enhance aesthetic appearance in neighborhoods, and reduce flooding potential.
- **Green Infrastructure Maintenance** - projects to be constructed within the six-year CIP will provide 13 million gallons of stormwater capacity and lead to an additional 10 million gallons of capacity in subsequent phases. This project will maintain the Department's green infrastructure in combined sewer overflow areas to ensure these levels of performance continue over time. The projects will be implemented via an annual contract.
- **Streambank Restoration** – this project will repair riparian corridors and restore ecological habitats when the Department's sewer line repair work is conducted near streams and other waterways.

6.4.3 General Support

General Support projects are those that are not specific to the wastewater or water categories defined above but are required to support the Department's capital project initiatives. General Support projects are divided into two sub-categories: Facilities Management and Support Services.

6.4.3.1. Facilities Management

Facilities Management projects include new facilities such as the Linear Operations Warehouse and Training Center that will consolidate operations and maintenance for wastewater collection and water distribution under the Department's Office of Linear Infrastructure Operations (OLIO). Facilities Management projects also include structural and site improvements at various Department properties (including road repairs at plant sites). The capital program identifies encumbrance requirements totaling \$30.2 million (\$31.0 million in nominal terms) between FY 2017 and FY 2022, as outlined in Table 6-9.

TABLE 6-9
Facilities Management Projects FY 2017–2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Peyton Center	\$23,680,000
Facility Structural and Site Improvements	5,000,000
Landscaping	1,500,000
Total – Current Dollar Cost Estimate	\$ 30,180,000

Projects include:

- **Peyton Center** - will consolidate operations and maintenance for wastewater collection and water distribution. The Department plans to co-locate a training academy at the proposed central warehouse at property owned on Peyton Road. This training center is anticipated to include full-scale simulators and training grounds for equipment operation.
- **Facility Structural and Site Improvements** - project is comprised of general plant and building maintenance, repair or replacement of roofs, elevators, HVAC, security fencing, pavement, replacement of emergency generators, and the demolition of abandoned structures.
- **Landscaping** - project includes landscaping services and general property maintenance for Department-owned properties such as water treatment plants, water reclamation facilities, etc.

6.4.3.2. Support Services

Support services projects include continuing program management support services; asset management planning, geotechnical investigations; asphalt paving, milling, and resurfacing; small business development; and fleet replacement projects. Planned encumbrances also include a funding allowance for projects in which utility relocations are required as part of municipal or state road widening projects, bridge replacements or other improvements.

The capital program calls for encumbrances of \$80.2 million (\$88.4 million in nominal terms) between FY 2017 and FY 2022, as outlined in Table 6-10.

TABLE 6-10

Support Services Projects FY 2017–2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Program Management Services	\$9,000,000
Asset Management Implementation/Planning (CMMS)	7,119,329
Geotechnical Testing & Investigation	5,500,000
GDOT/Intra-Governmental Agreements Utility Relocate	21,370,638
Asphaltic Concrete Pavement Milling & Resurfacing	10,000,000
Small Business Development Program	750,000
DWM Fleet Replacement	26,500,000
Total – Current Dollar Cost Estimate	\$80,239,967

Specific projects include:

- **Program Management Services** - project will fund professional services related to capital project delivery including planning, tracking, scheduling, and cost estimating as well as ancillary services related to the CIP.
- **Asset Management Implementation/Planning (CMMS)** - in response to a recommendation from an inventory audit, this project will implement a single version of the CMMS (Maximo version 7.1.1.13) across all facilities including warehouses. The project includes developing and implementing an Asset Management Program for vertical and linear assets, implementing one version of the CMMS with periodic upgrades to be used by all staff, and providing CMMS training for all appropriate DWM personnel. The project will enable management of all warehouse inventory using CMMS and development of preventive maintenance programs for vertical and horizontal facilities.
- **Geotechnical Testing** - project will fund a series of contracts to sample and evaluate soil and rock borings. This testing is generally used at the concept and alignment phases of capital projects and facilitates development of good design work, especially with deep excavation or tunneling projects. Reducing the uncertainty of below-grade conditions controls the Department’s construction project costs.
- **GDOT/IntraGovernmental Agreements Utility Relocation** - project results from situations where road, bridge, and drainage improvements conflict with existing water and sewer lines. The responsibility and cost of relocating these lines is generally assigned to the utility owner, who is required to move them to maintain uninterrupted service. Transportation-driven water and sewer line relocations are recurring projects in the Department’s capital program.
- **Asphaltic Concrete Pavement** - project provides for milling and overlay of asphalt to provide continuously smooth roadway surfaces at locations where sewer rehabilitation work has disturbed the existing pavement.

- **Small Business Development Program** - the Small Business Development Program (SBDP) is an intensive program to train small, minority and/or female contractors and consultants in sewer rehabilitation techniques and construction management. The budget includes funding for a series of SBDP sessions, and associated technical services for small businesses in a declining cost contract.
- **Fleet Replacement** - project will replace vehicles and rolling equipment on a defined schedule based on age, miles, or hours of service. The Department operates approximately 800 items of rolling stock, including construction equipment, trucks, sedans, and mowers. Replacement of fleet vehicles and other rolling stock is a capitalized expenditure.

6.4.4 CSO Facilities

As a consequence of completion of the CSO Consent Decree program, relatively limited additional work is required on the Department’s CSO Control Facilities themselves. However, in part due to changes in the Department’s permits, projects under this category also include not only selected facility repairs and projects to improve operational performance but also projects in the CSO basins to limit wet weather flows to the CSO facilities. The capital program for this category of costs calls for encumbrances of \$9.5 million (\$9.5 million in nominal terms) over the forecast period as shown in Table 6-11.

TABLE 6-11
Combined Sewer Overflow Projects FY 2017-2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Custer Avenue Water Quality Control Facility - Additional Screens	\$8,531,269
Clear Creek Combined Sewer Control Facility (Package 1, Chemical System Improvements and Flow Monitoring)	568,244
East Area Water Quality Control Facility Improvements	408,160
Total – Current Dollar Cost Estimate	\$9,507,673

Specific projects include:

- **Custer Avenue Water Quality Control Facility - Additional Screens** - screening facilities will remove floatables that are discharged over the tipping weirs. The scope of this project includes installing additional screens upstream and/or downstream of the tilting weirs, installing a concrete channel, and providing for the collection, conveyance and disposal of screenings.
- **Clear Creek Combined Sewer Control Facility** - the purpose of this project is to upgrade the Sodium Hypochlorite (NaOCl) storage tanks, pump and piping system to improve System reliability. The project features various improvements to other CSCFs and WQCFs including replacing four 16,000 gallon fiberglass, reinforced plastic, NaOCl storage tanks, replacing all PVC and metallic chemical feed piping and valves, replacing chemical feed pumps, repairing concrete and special coatings within the Chemical Room and Dosing Vault, providing System flow monitoring improvements at various facilities, and rebuilding or rehabilitating drum screens at the Custer Avenue WQCF facility.

- **East Area Water Quality Control Facility Improvements** - project will rehabilitate the sludge thickening and dewatering facilities, repair the tunnel pump station outfall, repair the sedimentation basin, provide electrical improvements, replace submersible sludge pumps, upgrade chemical system equipment, and upgrade the control system software.

6.4.5 Stormwater

In December 2015, the Atlanta City Council adopted Ordinance No. 14-0-1453 that allows dedication of up to 10 percent of MOST proceeds for stormwater management related projects, In March 2016, Atlanta voters approved the extension of the 1 percent Municipal Option Sales Tax (MOST) for an additional 4 years until 2020. MOST revenues dedicated to DWM are projected to range from \$125M per annum from FY 2017 through FY 2020 to \$112M by 2022. MOST funds for stormwater projects will be used to address structural and capacity deficiencies of the City’s Municipal Separate Storm Sewer System (MS4). These projects will alleviate surface flooding and provide for water quantity control. Green infrastructure projects will also provide water quality improvement benefits.

With the exception of a combined sewer repair and rehabilitation project scheduled for 2022, the scheduled stormwater projects reflect annual investment in green infrastructure projects that mimic the natural environment yet may provide stormwater detention, retention, and/or natural treatment of non-point pollutant loadings. DWM has identified approximately 80 specific project sites in three phases of work for improvement. Annual investments are ramped up over a 3-year period to reach this level of investment.

The capital program for this category of costs calls for encumbrances of \$58.9 million (\$64.1 million in nominal terms) over the forecast period as shown in Table 6-12.

TABLE 6-12
Stormwater Projects FY 2017-2022: Current Dollar Project Cost Estimates

Project	Cost Estimate
Combined Sewer System Repair & Rehabilitation	\$5,700,000
Stormwater Projects	53,178,240
Total – Current Dollar Cost Estimate	\$58,878,240

6.5 Projected Capital Project Encumbrances, FY 2017–22

The Department has developed its CIP to effectively prioritize the Department’s capital investments in light of prevailing financial constraints as described in Section 7. Table 6-13 presents planned sources and uses of capital project encumbrances for the six-year reporting period (FY 2017 to FY 2022) in nominal dollars. Cost estimates have been inflated based on the assumed start date of each project and an annual capital cost escalation rate of 3.0 percent.

As discussed in Section 7, the Department’s funding plan continues to rely on existing fund balances, GEFA borrowing, and operating revenues to provide capital financing over the forecast period. Encumbrance requirements will also be met by capital contributions from the

6.0 CAPITAL IMPROVEMENT PROGRAM

City's IJ partners. These contributions relate to the shared costs for upgrades or improvements to wastewater treatment facilities that benefit IJ partners. The Department initially funds such projects and then bills each IJ partner for their respective share of the cost of the improvement based on contractual agreements. Eligible projects represent more than \$228.4 million of projected encumbrance requirements over the forecast period, for which approximately \$78.5 million will be billed to IJ partners.⁴⁹

TABLE 6-13
CIP Encumbrance Requirements, Sources & Uses of Funds FY 2017–2022 (in nominal dollars)¹

System	Project Category	Projected Encumbrances (\$ millions)
Water	Water Supply	174.9
	Drinking Water Facilities	9.4
	Water Distribution	106.1
	Total Water Projects	\$290.3
Wastewater	Water Reclamation Centers & Related Facilities	149.4
	Wastewater Collection	55.3
	Wastewater Consent Decree	138.0
	Total Wastewater Projects	\$399.6
General	Facilities Management	31.0
	Support Services	88.4
	Total General Projects	\$119.4
CSO Facilities		9.5
Stormwater		64.1
Total Uses of Funds		\$882.9
SOURCES of FUNDS		
2015 Commercial Paper Program		\$120.9
Re-programmed CIP Encumbrances		83.7
GEFA Proceeds		245.0
Operating Revenues and Reserves ²		433.3
Total Sources of Funds		\$882.9
¹ Slight calculation discrepancies may exist due to rounding ² Variances from information presented in Table 7-4 attributed to the exclusion of more than \$130 million in operating reserves that will be available at the end of the forecast period for future capital projects		

⁴⁹ Capital contributions of approximately \$7.2 million are also expected from ongoing projects.

6.0 CAPITAL IMPROVEMENT PROGRAM

Revisions to the Department's capital program reflect recent reprioritization efforts under new executive leadership informed by the facility assessments and master plans noted for the Series 2015 Bonds. This reprioritization examined each DWM subsystem and identified both high priority projects and target levels of annual renewal and replacements. Foremost among these requirements is completion of the Department's Water Supply Program, which will impose almost \$347 million in encumbrance requirements through FY 2017.⁵⁰ The immediate need of this project, combined with other near-term priorities of the System, results in a substantial annual encumbrance requirement during the first year of the forecast period as outlined in Table 6-14.

Other revisions to the CIP have been instituted to ensure continued coverage of the City's debt obligations, funding of System operations, and preservation of reserves and fund balances consistent with the Department's financial policies. Table 6-14 presents projected annual encumbrances in nominal dollars for the Department's capital program from FY 2017 through FY 2022 by major cost category.

TABLE 6-14
Projected Encumbrances by Major Program Element, FY 2017–2022 (in millions, nominal dollars)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	TOTAL	% of Total
Water Supply	174.9	-	-	-	-	-	174.9	19.8%
Drinking Water Facilities	5.1	4.3	-	-	-	-	9.4	1.1%
Water Distribution	16.6	27.9	9.5	10.7	27.9	13.4	106.1	12.0%
Water Subtotal	\$ 196.6	\$ 32.2	\$ 9.5	\$ 10.7	\$ 27.9	\$ 13.4	\$ 290.3	32.9%
Water Reclamation Centers	43.5	19.1	50.8	26.3	9.7	-	149.4	16.9%
Wastewater Collection	3.3	8.2	8.2	11.5	11.8	12.2	55.3	6.3%
Wastewater Consent Decree	25.0	20.8	18.0	16.6	20.8	36.8	138.0	15.6%
Watershed Protection	17.7	21.7	1.1	1.7	1.8	12.9	56.9	6.4%
Wastewater Subtotal	\$ 89.5	\$ 69.8	\$ 78.2	\$ 56.2	\$ 44.1	\$ 61.8	\$ 399.6	45.3%
Facilities Management	23.7	-	-	2.4	2.4	2.5	31.0	3.5%
Support Services	0.3	12.6	11.6	20.7	21.3	22.0	88.4	10.0%
General Support Subtotal	\$ 24.0	\$ 12.6	\$ 11.6	\$ 23.1	\$ 23.8	\$ 24.5	\$ 119.4	13.5%
CSO Facilities	\$ 9.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9.5	1.1%
Stormwater	\$ 5.0	\$ 7.2	\$ 13.3	\$ 13.7	\$ 13.3	\$ 11.7	\$ 64.1	7.3%
Total CIP Encumbrances	\$ 324.6	\$ 121.8	\$ 112.5	\$ 103.6	\$ 109.1	\$ 111.4	\$ 882.9	100.0%

6.6 Funding Forecasts and Cost Estimation

Forecasts of the Department's encumbrance requirements for water, wastewater and stormwater projects are based on projections of prioritized capital expenditures developed by Department capital project managers with select consultant support. These expenditure forecasts incorporate in-progress improvements to the Department's capital project procurement practices and capital project delivery functions noted in earlier sections. In addition, DWM's new leadership has instituted a number of measures to enhance the accuracy of project cost estimates. Rather than in-house estimation, DWM is now requiring its on-call architectural/engineering (A/E) consultants to provide cost estimates, using DWM-prescribed standard methods, for projects for which they are engaged to provide planning

⁵⁰ Reflects an updating of cost estimates for the Water Supply Program listed for the Series 2015 Bonds. Approximately, \$173.1 million was encumbered for this program through FY 2016, requiring remaining encumbrance of \$173.8 million.

and design services. Project cost estimates are also subject to independent review by DWM's program management consultants. Perhaps most fundamentally, rather than applying blanket cost contingency assumptions, DWM is tailoring assumptions to more accurately reflect stages of project planning design and implementation. In so doing, estimates for projects scheduled later in the forecast period reflect higher uncertainty while narrower cost ranges are applicable for nearer term projects..

6.7 Administrative Consent Order Compliance

The Department has completed or has in construction three⁵¹ of the remaining five projects previously identified to achieve compliance with its 1997 and 2003 Administrative Consent Orders. The remaining two transmission main projects⁵² originally identified for compliance were determined through the Water Master Plan effort to be lower priority investments given the actual and projected development patterns in the water system service area.

6.8 Historical Expenditures

In addition to the capital expenditures associated with the \$882.9 million of future encumbrance requirements outlined herein, the Department's planned capital expenditures during FY 2017–2022 also include roughly \$460 million of projects for which funding has already been secured.⁵³ As described in Section 6.1, this project backlog is a result of encumbrances that have outpaced capital spending over the preceding five-year period. Consequently, as noted in Section 6.2, the Department has implemented fundamental changes to its capital project management functions, the fruits of which are to be realized over the FY 2017-22 forecast period. These changes have included: (1) restoration and improvement of program management and consultant support, (2) use of alternative capital project delivery options (e.g., design-build, construction management at risk), and (3) use of short-term debt instruments to facilitate cash-flow financing of actual project expenditures. While historical capital expenditures have continued to be below previously forecasted levels, the Department is confident that these institutional revisions – slowed in transitions associated with new executive leadership - will allow timely execution of both future and previously encumbered projects.

6.9 Additional Capital Projects

The Department's capital improvement plan is subject to frequent review and modification based on defined prioritization criteria of the water and wastewater systems. To the extent that actual encumbrances are less than projected encumbrances during the forecast period, or additional financing capacity becomes available, the Department has identified a number of projects that stand "next in line" for funding.

⁵¹ Specifically, the River Intake and Erosion Control Improvements and the North Area Transmission Main Improvements that address the Sandy Springs Pressure Zone Interconnection, and the Hemphill Reservoir #1 Embankment Repair.

⁵² Fairburn Road Transmission Main and Koweta Road Pump Station & Water Main.

⁵³ Excluding planned re-programming of roughly \$84 million of existing encumbrances, as described in Section 7.

7.0 Financial Performance

7.1 Overview

The historical and projected financial performance of the System has been significantly impacted by capital improvement needs (including continuing Consent Decree compliance requirements), revenue impacts from dynamic economic conditions, atypical weather patterns, and acute needs for renewal and rehabilitation of select System assets. This section presents an overview of historical financial performance, utility rate adjustments and bill comparisons, and forecasts of future financial performance for the period FY 2017 through FY 2022.⁵⁴⁻⁵⁵

Forecasts have been developed using a strategic financial planning model designed to represent utility cash flows under alternative assumptions related to revenue generation, operations and maintenance expenses, and financing structures for capital investment. The Department's model incorporates recent projections developed through service revenue forecasting and operating and capital budgeting processes.

These financial tools have been used previously to support the Department's proactive management and support of a number of strategic initiatives with significant financial consequences:

- Strategic financial planning model-based cash flow analyses provided the analytical basis for the City's Financial Capability-Based Schedule Extension Request that was submitted in April 2010. Subsequent model reviews and analysis conducted through the course of negotiations with USEPA helped garner eventual approval of Consent Decree schedule relief.
- Similar analyses delineated the potential adverse consequences of loss of the Municipal Option Sales Tax (MOST) proceeds that support the City's water and wastewater systems and stormwater protection services.⁵⁶ This information was used to develop public education materials and helped secure MOST renewal through 2020.^{57,58}
- City-wide sustainability initiatives have incorporated a number of activities that promote more efficient water use and water leak reduction. Revenue forecasts incorporate assumptions of non-price-induced conservation that will be occasioned by, for example, commercial building owners' commitments to efficiency.

⁵⁴ The City's fiscal year runs from July 1 through June 30

⁵⁵ Audited information for FY 2016 was made available shortly before the publication of this report. These results are summarized in Table 7-1, which presents the historical operating performance of the System.

⁵⁶ Pursuant to the Master Bond Ordinance, Pledged Revenues do not include the proceeds from the MOST, but such proceeds may be taken into account for purposes of determining compliance with the City's rate covenant and additional bonds test under the Master Bond Ordinance.

⁵⁷ The 2016 reauthorization was approved by 74 percent of voters.

⁵⁸ Analytical updates have been used to develop response plans that reflect the expiration of the MOST in FY 2021 and outline the Department's strategy for mitigating the potential loss of this important revenue source (see Section 7.11).

- Updates reported herein also reflect incremental O&M expense reductions associated with proposed capital spending prioritized, in part, to realize operational efficiencies, as well as initiatives such as programmatic leak detection and reduction measures.

7.2 Historical Performance

Table 7-1 presents a brief overview of the financial performance of the Department from FY 2012 through FY 2016. Information is based on the Department's audited financial statements. Water and wastewater service revenues fluctuated slightly, decreasing from \$445.9 to \$445.7 million during this period. Other service revenues, which include operating plant charges from the Department's inter-jurisdictional (IJ) partners, increased from \$20.6 to \$21.2 million (2.9 percent). MOST proceeds have slowly increased from recession-era historic lows in FY 2010. This revenue source, which is dedicated to System expenses, has increased from \$115.1 million in FY 2012 to \$132.7 million in FY 2016 (15.3 percent). Pursuant to the Master Bond Ordinance, Pledged Revenues do not include proceeds from the MOST but such proceeds may be taken into account for purposes of determining compliance with the City's rate covenant and additional bonds test under the Master Bond Ordinance. Total Operating Revenues, including investment income and other miscellaneous revenue, increased 3.0 percent over the reporting period, from \$596.7 million to \$614.6 million in FY 2016.

TABLE 7-1
Historical Water and Wastewater System Operating Results¹

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Water & Wastewater Service Revenue	\$ 445.9	\$ 440.3	\$ 418.5	\$ 435.1	\$ 445.7
Other Service Revenue	20.6	7.9	18.1	24.5	21.2
MOST Revenue	115.1	118.8	124.3	131.6	132.7
Other Revenue	15.1	9.5	14.8	10.0	15.1
Total Operating Revenue	\$ 596.7	\$ 576.5	\$ 575.7	\$ 601.2	\$ 614.6
Operating Expenses	192.2	205.5	210.3	202.6	225.0
Net Revenue Available for Debt Service	\$ 404.5	\$ 371.0	\$ 365.4	\$ 398.6	\$ 389.7
Principal	46.1	48.4	51.4	53.7	56.3
Interest	180.9	178.8	158.9	124.4	155.2
Debt Service²	\$ 227.0	\$ 227.2	\$ 210.3	\$ 178.1	\$ 211.6
<i>Senior Lien Coverage Ratio</i>	<i>1.78</i>	<i>1.63</i>	<i>1.74</i>	<i>2.24</i>	<i>1.84</i>

1 - Slight calculation discrepancies may exist due to rounding

2 - Reported annual debt service for FY 2014 and FY 2015 does not include approximately \$9.8 million and \$26.6 million, respectively, that was contributed to escrow as part of the economic refunding associated with these bonds

Source: City of Atlanta, Comprehensive Annual Financial Reports, FY 2012 through FY 2016.

Over the same time period, Operations and Maintenance expenses increased 17.1 percent, from \$192.2 million to \$225.0 million. As a consequence, net revenues available to pay debt service decreased from \$404.5 million to \$389.7 million, a 3.7 percent reduction. Annual debt

service decreased from \$227.0 million in FY 2012 to \$211.6 million in FY 2016 due to the City's recent long-term debt refinancing.⁵⁹

The Department's minimum parity debt service coverage requirement per its Master Bond Ordinance is 1.10 times average annual debt service. However, the Department targets to achieve not less than 1.20x annual debt service coverage. Actual annual debt service coverage ranged between 1.63x (FY 2013) and 2.24x (FY 2015) over the reporting period. Debt service coverage of 1.84x in FY 2016 reflects ongoing efforts by the Department to enhance operational efficiencies of the System, as well as annual debt service savings associated with the Series 2013 Bonds and Series 2015 Bonds.

7.3 Financial Management

A system of fund accounting is used to track revenues and expenses associated with the Department's various operating functions and bond ordinances. These are not "funds" as the term is used in generally accepted accounting principles, but are separate accounts used to facilitate the accounting and reporting of operating and capital asset-related financial transactions.

7.3.1 Operating Funds

The Department records operating revenues and operating expenditures in its Revenue Fund (Fund 5051). Within this fund, appropriations are allocated and operating expenditures are accounted for in the Department's offices. At the end of the fiscal year, the remaining balance is transferred to the Renewal & Extension Fund, except for \$500,000 that remains in the Revenue Fund as an opening balance for the next fiscal year.⁶⁰

The Renewal & Extension (R&E) Fund is the Department's other primary fund originally established to finance capital improvements such as asset renewals, replacements, and extensions of the System. The R&E Fund (Fund 5052) also includes non-operating revenues received from capital reimbursements owed under inter-jurisdictional service agreements. The available cash balance within the R&E Fund varies due to carryover from the Revenue Fund and the timing and magnitude of capital project expenditures. In addition, the fund maintains a reserve account that can also be used to meet unanticipated expenditure needs.

7.3.2 Debt Management Funds

Other funds are used by the Department to track and report proceeds associated with various debt instruments such as revenue bonds or Georgia Environmental Facilities Authority (GEFA) loans. A new fund is created for each debt instrument associated with the capital program. Debt proceeds are deposited into each fund, appropriated to various capital projects, and disbursed as required to pay for invoices and services related to the capital projects.

⁵⁹ Reported annual debt service for FY 2014 and FY 2015 does not include approximately \$9.8 million and \$26.6 million, respectively, that was contributed to escrow as part of the economic refunding associated with these bonds.

⁶⁰ For Strategic Financial Planning purposes, the Department has employed an informal planning policy to retain a minimum Operating Fund balance equal to 60 days of projected Operations and Maintenance expenses consistent with industry standards.

During the last several years, Department staff have analyzed each of these funds and identified several with remaining proceeds resulting from discontinued projects or re-alignment of capital priorities. To the extent that capital projects associated with these older funds have been completed, these funds have been closed and the remaining proceeds transferred to an account that is used to retire existing debt or pay for alternative capital projects.

The Department’s analysis and subsequent monetary transfers represent a proactive approach to fund management, and more closely align existing funds with high-priority projects. A summary of existing bond funds is shown in Table 7-2, which indicates the Department will re-program balances from three previous bond issues: the Water and Wastewater Revenues Bonds, Series 2001A (the “Series 2001A Bonds”), Series 2004 Bonds, and Series 2009A Bonds.

TABLE 7-2
Analysis of Outstanding Bond Funds as of December 2016

Fund Name	Debt Issue	Resulting Action
5057	Series 2001A Bonds	Of the remaining balance of \$14.2 million, \$13.2 million is held as retainage or to otherwise pay for existing projects in progress and \$1.0 million will be reprogrammed to fund near-term, high-priority capital projects.
5058	Series 2004 Bonds	Of the remaining balance of \$3.7 million, \$1.0 million is held as retainage or to otherwise pay for existing contracted projects while \$2.7 million will be reprogrammed for re-alignment to high-priority projects.
5066	Series 2009A Bonds	Of the remaining balance of \$68.7 million, \$34.2 million will be reprogrammed to fund near-term priority CIP while the remainder will be spent on existing open project contracts that represent prioritized needs of the water and wastewater systems.

7.4 Historical Rate Adjustments

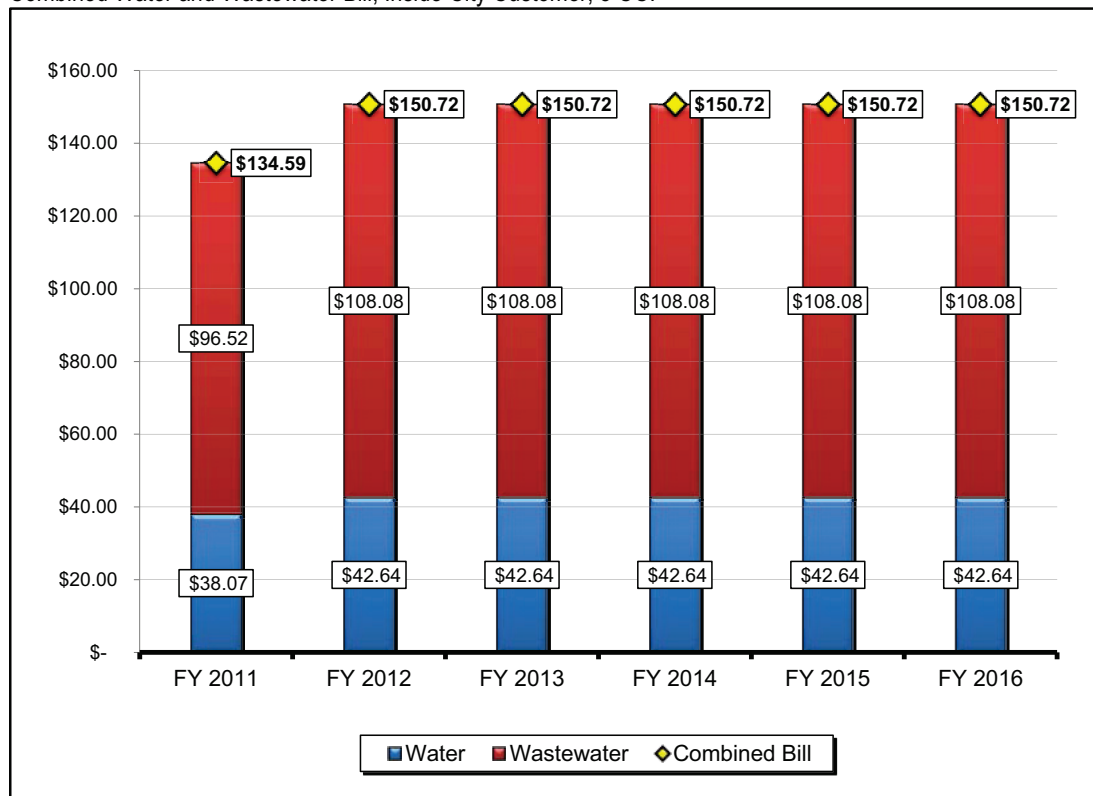
Between FY 2004 and FY 2012, the City has adopted significant water and wastewater rate increases designed to generate sufficient revenues to support financing of the Clean Water Atlanta initiative. In early 2004, a multi-year rate plan was adopted that contemplated the near doubling of water and wastewater bills for typical users. At that time, the City Council voted to make several structural modifications to the Department’s uniform volume rate structure. To assure the affordability of low-volume usage and encourage conservation, an inclining block rate structure—which imposes higher charges for higher volumes of usage—was established for both water and wastewater service. In addition, the Department offered a discount to low-income seniors and implemented a security surcharge (that ended in 2011) to fund security improvements to the Department’s water facilities.

Again in June 2008, the City Council approved a 4-year rate plan that resulted in a cumulative increase in water and wastewater bills of approximately 80 percent for all Department ratepayers between FY 2008 and FY 2012. At that time, the Department had initiated O&M cost containment measures as customers responded to state-imposed water use restrictions. The rate plan was developed to ensure the Department met its financial performance targets such as debt service coverage and minimum fund balance requirements

in the face of decreasing demand patterns. The last of these annual rate increases occurred at the beginning of FY 2012, a 12.0 percent increase implemented on July 1, 2011.

Figure 7-1 presents the combined water and wastewater bill, by component, from FY 2011 through FY 2016. Bill calculations are based on usage of 8 hundred cubic feet (CCF) per month for residential customers living inside the City. The combined water and wastewater bill increased 12.0 percent over this five-year period, from \$134.59 in FY 2011 to \$150.72 in FY 2016 due entirely to the last imposed rate adjustment in FY 2012.

FIGURE 7-1
Combined Water and Wastewater Bill, Inside City Customer, 8 CCF



7.5 2014 Water and Wastewater Bill Comparisons

A national rate survey of combined water and wastewater bills across major metropolitan areas is published bi-annually, with the most recent data available for 2014.⁶¹ Table 7-3 presents this data for selected metropolitan areas for residential users of 10 CCF and commercial users of 500 CCF.

This survey demonstrates that, as of 2014, the City’s water and wastewater rates were the highest in the United States among major metropolitan communities that responded to the rate survey. The Department recognizes that these bill impacts may impose hardships, particularly for low-income ratepayers. For ratepayers that may fall behind on bill payments,

⁶¹ From 2014 American Water Works Association (AWWA) Water and Wastewater Rate Survey conducted by Raftelis Financial Consulting, Inc.

the Department provides opportunities to establish payment plans. The Department’s Care & Conserve program also provides assistance to low income customers through limited payments of their water and wastewater bills, plumbing repairs and retrofit, installation of water-saving conservation devices, and conservation counseling. The program is available to customers whose incomes fall below 150 percent of the federal poverty index.⁶²

TABLE 7-3
Water and Wastewater Monthly Bill Comparisons as of Calendar Year 2014

Service Provider*	10 CCF Residential User			500 CCF Commercial User		
	Water Charges	Wastewater Charges	Combined W/WW Bill	Water Charges	Wastewater Charges	Combined W/WW Bill
Atlanta, GA	\$54.96	\$139.46	\$194.42	\$3,073.36	\$7,827.56	\$10,900.92
San Francisco, CA	\$59.50	\$97.41	\$156.91	\$2,732.20	\$4,800.00	\$7,532.20
Seattle, WA	\$50.28	\$101.94	\$152.22	\$1,990.17	\$5,097.15	\$7,087.32
Portland, OR	\$44.96	\$87.50	\$132.46	\$1,751.64	\$4,367.50	\$6,119.14
PRASA	\$64.19	\$55.72	\$119.91	\$5,810.57	\$4,658.76	\$10,469.33
Richmond, VA	\$43.66	\$72.75	\$116.41	\$229.71	\$373.59	\$603.30
Austin, TX	\$42.09	\$67.63	\$109.72	\$2,150.22	\$3,233.88	\$5,384.10
San Diego, CA	\$57.93	\$51.31	\$109.24	\$2,145.03	\$2,678.73	\$4,823.76
Cleveland, OH	\$36.44	\$65.55	\$101.99	\$1,573.89	\$3,169.70	\$4,743.59
New Orleans, LA	\$56.34	\$45.07	\$101.41	\$944.02	\$1,901.66	\$2,845.68
Gwinnett County, GA	\$42.58	\$58.18	\$100.76	\$1,806.56	\$2,664.14	\$4,470.70
New York City, NY	\$35.80	\$56.92	\$92.72	\$1,790.00	\$2,846.10	\$4,636.10
Washington, DC	\$37.23	\$53.91	\$91.14	\$2,536.74	\$3,856.96	\$6,393.70
Raleigh, NC	\$37.90	\$44.76	\$82.66	\$1,510.96	\$1,950.09	\$3,461.05
Houston, TX	\$34.93	\$44.55	\$79.48	\$1,461.98	\$2,064.23	\$3,526.21
Aurora, CO	\$51.48	\$27.68	\$79.16	\$2,159.32	\$1,236.11	\$3,395.43
Broward Co., FL	\$32.04	\$45.59	\$77.63	\$1,813.45	\$1,656.17	\$3,469.62
Philadelphia, PA	\$43.56	\$32.55	\$76.11	\$1,546.90	\$1,337.85	\$2,884.75
Henrico County, VA	\$33.25	\$41.00	\$74.25	\$1,404.73	\$1,492.03	\$2,896.76
Augusta, GA	\$29.76	\$43.87	\$73.63	\$1,118.68	\$1,259.97	\$2,378.65
Tulsa, OK	\$28.60	\$43.36	\$71.96	\$1,009.31	\$1,933.28	\$2,942.59
Dallas, TX	\$24.97	\$41.05	\$66.02	\$1,255.46	\$1,323.60	\$2,579.06
San Antonio, TX	\$27.82	\$30.92	\$58.74	\$1,337.54	\$1,190.22	\$2,527.76
Chicago, IL	\$24.80	\$22.82	\$47.62	\$1,240.00	\$1,140.80	\$2,380.80
Albuquerque, NM	\$29.11	\$16.39	\$45.50	\$244.01	\$851.27	\$1,095.28
Pocatello, ID	\$23.48	\$21.83	\$45.31	\$637.25	\$1,152.98	\$1,790.23
Phoenix, AZ	\$15.80	\$24.13	\$39.93	\$1,418.81	\$1,122.13	\$2,540.94
Salt Lake City, UT	\$19.24	\$15.30	\$34.54	\$516.72	\$1,370.00	\$1,886.72

* Table is sorted by combined residential utility bill

7.6 Municipal Option Sales Tax Revenues

The MOST is a 1 percent tax that applies to nearly all goods and services (excludes motor fuels, food and beverages, natural gas used to produce electricity, hotels/motels and motor

⁶² While the Department does not have specific income distribution data for its retail customers that may be income-eligible for Care and Conserve program assistance, it may be noted that approximately 24.3% of the population within the Atlanta-Sandy Springs-Marietta, GA Metro Area were reported to be living below the federal poverty line based on the 2008-2012 American Community Survey conducted by the U.S. Census Bureau.

vehicles)⁶³ purchased in the City of Atlanta. The MOST was established as a dedicated supplemental funding source for the Clean Water Atlanta program, and provides for a reduction to the Department's operating expenses. Visitors who use the City's water and wastewater infrastructure, but do not pay for service as City of Atlanta residents, help pay for upgrading and maintaining the System infrastructure.

The MOST was initially approved in July 2004, and reauthorized by voters in 2008, 2012, and again in 2016 by wide margins.⁶⁴ From implementation of the tax in 2004 through FY 2016, the MOST has provided approximately \$1.4 billion to support the Department's operation and maintenance of System assets and distribute costs of the Department's Consent Decree and Consent Order compliance program regionally. Based upon current legislative authorization, the MOST is scheduled to expire after the first quarter of FY 2021 (October 2020).

The financial plan summarized in this report anticipates state legislative, and local voter, approval of extension of the MOST beyond FY 2021. As part of the City's strategy to reduce the Department's reliance on MOST proceeds, and for purposes of this report, it is anticipated that the share of MOST proceeds available to the Department will decline by 5 percent per year over the renewal period. The MOST has consistently received strong local voter support in renewal referendums - in part because extensive public communication has highlighted the significant water and wastewater rate adjustments that would be required in the event of immediate withdrawal of MOST funding support.

Given the possibility that the MOST extension could fail to gain either state legislative or local voter approval, the Department has developed an alternative financial plan that anticipates the expiration of MOST funding in 2020 as stipulated under the enabling legislation. As expected, this alternative financial plan requires higher rate increases earlier in the forecast period to replace the lost revenue stream from the MOST. The revised funding plan under this scenario, including adjustments to the schedule of proposed capital encumbrances, is presented in Section 7.11.

7.7 Capital Financing

The Department's CIP contemplates encumbrance requirements of \$882.9 million between FY 2017 and FY 2022 as outlined in Section 6. Table 7-4 identifies projected capital project encumbrances and matching sources of funds. Capital requirements will be funded through four sources: the 2015 Commercial Paper Program (11.9 percent), re-programmed CIP encumbrances (8.2 percent), GEFA loan proceeds (24.1 percent), and operating revenues and other reserves from the Department's operating funds (55.7 percent).⁶⁵

⁶³ "Summary of Sewer Sales Tax" Memo from Robert Ashe, Intergovernmental Affairs Manager to Atlanta City Council, June 2, 2004.

⁶⁴ The 2008 reauthorization was approved by 71 percent of voters, the 2012 reauthorization by 85 percent, and the 2016 reauthorization by 74 percent.

⁶⁵ Although the 2016 Supplemental Ordinance authorizes the issuance of up to \$75.0 million in new money bonds, the Department has elected not to use this potential funding source at this time.

The remaining line of credit from the 2015 Commercial Paper Program will be used to encumber \$120.9 million of projected capital improvement projects.⁶⁶ Proceeds from previous bonds in the amount of \$83.7 million will be re-programmed to fund higher-priority projects identified through recent integrated planning efforts. Loans from the Georgia Environmental Finance Authority (GEFA) totaling \$245.0 million are expected to be available to fund the CIP over the forecast period. The costs for eligible projects are initially encumbered and paid by the Department through the Renewal and Extension Fund. Once contractor invoices have been paid, the Department submits reimbursement requests to GEFA and deposits proceeds from the low-interest loans back into the Renewal and Extension Fund. Currently, the Department is working on the RM Clayton Headworks project, which was approved by GEFA in FY 2015 for funding in the amount of \$51.4 million. As of August 2016, the Department had received \$17.2 million based upon approved invoices for this project and expects to receive the remainder of the loan proceeds in FY 2017 and FY 2018. The financial plan assumes that the Department will continue to take advantage of this low-interest funding source, with anticipated annual loan approvals of \$50.0 million throughout the forecast period.⁶⁷

TABLE 7-4
Capital Program Sources and Uses of Funds¹

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	TOTAL	Percent
Projected Capital Encumbrances	\$ 324.6	\$ 121.8	\$ 112.5	\$ 103.6	\$ 109.1	\$ 111.4	\$ 882.9	100.0%
2015 Commercial Paper Program	120.9	-	-	-	-	-	120.9	11.9%
Re-Programmed CIP Encumbrances	83.7	-	-	-	-	-	83.7	8.2%
GEFA Loan Proceeds ²	5.0	40.0	50.0	50.0	50.0	50.0	245.0	24.1%
Operating Revenues and Reserves ^{3, 4}	159.8	120.0	88.0	80.0	68.0	50.0	565.8	55.7%
Used (Unused) Balance ⁵	(44.8)	(38.2)	(25.5)	(26.4)	(8.9)	11.4	(132.5)	
Total Funds	\$ 324.6	\$ 121.8	\$ 112.5	\$ 103.6	\$ 109.1	\$ 111.4	\$ 882.9	100.0%

1 - All numbers in millions, slight calculation discrepancies may exist due to rounding

2 - Although the Department expects \$50 million per year to be available, this forecast reflects the delay associated with project approval, completion, and subsequent application for reimbursement

3 - Represents transfers from the Department's operating funds (System revenues) and previously accumulated operating reserves

4 - Includes capital contributions from IJ partners for ongoing and future CIP projects

5 - After making current revenue transfers from the Department's operating funds, more than \$130 million will remain (unused balance) to enable levelized CIP encumbrances (roughly \$94 million per year in current dollars) beyond the forecast period

In addition to the capital funding sources outlined above, the Department expects to rely on transfers from the Renewal and Extension Fund and other operating revenues to contribute \$565.8 million for cash financing of capital encumbrance requirements.

- The Department expects reimbursements from IJ partners to contribute \$77.7 million to this total as part of its regional water delivery strategy.⁶⁸ Under these agreements, the Department manages the construction of inter-jurisdictional projects and pays contractor invoices. IJ partners are then invoiced based on their pro-rata share of

⁶⁶ The Department is using the 2015 Commercial Paper Program as a short-term financing instrument. This financial plan anticipates the issuance of the Series 2018 Bonds to repay the 2015 Commercial Paper Program; however, the City may also evaluate retention of the liquidity facility at that time.

⁶⁷ Table 7-4 presents the anticipated schedule of GEFA *reimbursements* which reflects the delay associated with project procurement and delivery, subsequent contractor invoicing, and—ultimately—the availability of loan proceeds for future capital encumbrances of the Department.

⁶⁸ IJ partners include Fulton and DeKalb counties as well as the cities of College Park, East Point, and Hapeville.

each project. The timing and availability of these reimbursements is based on the Department's current expectations of project completion timeframes, an assumed 12-month collection period, and the Department's procedural requirements to make these funds available for future capital projects.

- In addition to IJ capital contributions, \$24.2 million of the operating revenues total is attributed to tap fees that are established to recover capacity-increasing costs necessary to provide service to new development.
- Approximately \$47.5 million over the forecast period will be received from the City's General Fund as repayment for an existing inter-fund loan.
- The remaining \$416.4 million will largely be available as a consequence of previously adopted rate increases, operating reserves available at the beginning of FY 2017, and the Department's efforts to implement operational efficiencies.⁶⁹
- By design, transfers from operating revenues will result in a balance of more than \$130 million in capital reserves at the end of FY 2022. These funds will enable the Department to maintain annual CIP encumbrances of roughly \$94 million per year (current dollars) beyond the reporting period, even as the MOST proceeds continue to decline.

The Department's capital improvement plan is subject to frequent review and modification based on evolving priorities of the water and wastewater systems. To the extent that actual encumbrances are less than projected encumbrances in a given forecast year, the Department will reduce cash financing amounts of the capital program and/or reschedule and re-program previously deferred capital project spending.

7.8 Forecasted Operating Results

Table 7-5 presents the cash flow forecasts for the Department's operating funds (Revenue Fund and R&E Fund) on a combined fund basis. Viable financial plans are developed to ensure compliance with the Department's policies to maintain reserve balances equal to two months of operating expenditures, to achieve minimum targeted debt service coverage (1.20x), and to provide opportunities to equity-finance a significant portion of capital projects during the forecast period.⁷⁰ Despite rising costs attributed to inflation, the forecast includes a limited increase in base Operating Expense (Fund 5051) and Renewal and Extension (Fund 5052) expenditures over the forecast period as a result of Department initiatives to enhance operating efficiencies.

⁶⁹ After making the current revenue transfers from the Department's operating funds, more than \$130 million will remain (unused balance) to enable levelized funding of capital projects beyond the forecast period.

⁷⁰ These financial planning protocols have been employed throughout the Clean Water Atlanta program-financing period to determine rate revenue requirements and support program debt financing. Meeting these financial performance targets was facilitated by the rate increase programs for the FY 2004-08 and FY 2009-12 periods.

TABLE 7-5

Forecasted Sources and Uses of Cash, Combined Funds (5051 and 5052), FY 2017 - FY 2022 (millions of dollars)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
<i>Beginning Cash Balance</i> ¹	\$ 237.6	\$ 177.1	\$ 142.7	\$ 135.2	\$ 123.9	\$ 106.8
Water & Wastewater Service Revenue	\$ 433.9	\$ 433.1	\$ 433.4	\$ 433.6	\$ 443.7	\$ 454.2
Other Service Revenue	16.9	16.9	16.9	17.0	17.0	17.1
MOST Revenue	125.0	125.0	125.0	125.0	118.8	112.5
Other Revenue	4.0	4.0	4.0	4.0	4.0	4.0
IJ Capital Contributions	22.0	10.8	21.4	15.9	4.1	3.5
Repayment from General Fund	10.5	10.4	10.3	10.2	6.3	-
Total Sources	\$ 612.2	\$ 600.2	\$ 611.0	\$ 605.7	\$ 593.8	\$ 591.3
Operating Expenses (5051)	\$ 172.2	\$ 172.2	\$ 172.2	\$ 175.6	\$ 179.1	\$ 182.7
Renewal & Extension (5052)	44.4	44.4	44.5	45.4	46.3	47.2
Incremental Operating Expense	(0.2)	(1.7)	(6.9)	(8.9)	(11.6)	(12.0)
PILOT, Direct, Indirect Charges	58.5	58.3	59.6	60.8	62.1	63.4
Other Expense ²	21.5	22.1	20.9	21.5	22.1	22.8
Senior Lien Debt Service ^{3,4}	203.9	202.9	224.0	223.9	223.6	223.4
Other Debt Service	12.6	16.4	16.3	18.8	21.3	23.9
Equity Financing of Capital	159.8	120.0	88.0	80.0	68.0	50.0
Total Uses	\$ 672.8	\$ 634.6	\$ 618.4	\$ 617.1	\$ 610.9	\$ 601.3
<i>Ending Cash Balance</i>	\$ 177.1	\$ 142.7	\$ 135.2	\$ 123.9	\$ 106.8	\$ 96.8

1 - Represents the unrestricted cash balance in the Department's combined operating funds (Funds 5051 and 5052)

2 - Includes Other Post-Employment Benefits (OPEB), GEFA loan processing fees, and Commercial Paper issuance costs

3 - Includes debt associated with repayment of the Department's \$250 million Commercial Paper Program (see Section 7.8.3.2)

4 - Reflects anticipated debt service savings associated with Series 2017 Bonds

7.8.1 Revenues

7.8.1.1. Water Demand Patterns

The Department forecasts water and wastewater service revenues based upon billing determinant data reported by its customer information system. Billing system data includes number of bills, number of units billed, and total volume billed by volume increment (CCF) by customer class.⁷¹ These billing data populate a detailed revenue-forecasting model designed to project revenues under historical operating conditions,⁷² as well as estimate revenue impacts of changes to the rate structure or individual rate tiers.

Since FY 2012, annual billed water volumes have decreased just over 3.0 percent, a compounded annual growth rate of -0.75 percent over the four-year period. Adjusted use per customer unit, a metric the Department tracks to understand customer response to rate increases and abnormal weather patterns, has declined from 5.58 CCF to 5.30 CCF per month for inside-City residential users over the same time period. The four-year compounded growth rate for consumption per unit for these customers is approximately -1.3 percent. Commercial customers have seen a slightly larger decline (-2.4 percent), while government and institutional customers have seen a change in per unit consumption over the same time period of -5.1 percent. The revised usage patterns are attributed in part to the

⁷¹ The Department's billing system provides data for a set of customer classifications including residential, non-residential and selected governmental account types – though all customers are currently billed under a common rate structure.

⁷² Adjustments to revenue forecasts may be developed in the event that Georgia EPD imposes drought-response water use restrictions.

success of the City's water conservation programs reinforced by the cumulative effect of historic service rate increases.

7.8.1.2. Water and Wastewater Service Revenues

As in its previous municipal debt offerings, the Department has adopted a conservative approach to revenue forecasting that is consistent with the observed reduction in water and wastewater billed volumes and decrease in consumption per account metrics. The revenue forecast assumes some permanent conservation practices will be exhibited, lasting responses to previously adopted rate increases, and implementation of the City's expanding sustainability and water conservation programs. Average water use per unit for FY 2017 has been adjusted to reflect actual observed usage statistics in the Department's billing data through the end of FY 2016. Across all retail customer classes, forecasts of water consumption per unit are further reduced 0.5 percent in FY 2018 and 0.25 percent in both FY 2019 and FY 2020 to account for customers' response to the Department's water conservation initiatives and general public acceptance of conservation practices. Notably, the Department's revenue forecasting model estimates the impact of decreasing consumption patterns across the City's higher-cost rate tiers, since decreases in consumption are often exhibited as a reduction of volume from the higher tiers of the rate structure.

Billing data suggests steady growth of residential water and sewer customer accounts over the last six to seven years, and the Department has assumed a 0.7 percent growth rate for residential water customers (both inside and outside the City) through the forecast period. Residential sewer customers are expected to increase at a rate of 0.5 percent per annum over the same time period. The number of commercial and institutional accounts is expected to remain constant.

The City last increased water and wastewater rates at the beginning of FY 2012, by 12.0 percent. Since that time, the Department has re-prioritized capital spending to ensure funding of critical projects at existing water and wastewater rate levels. Prospectively, the Department's financial plan assumes that rates will remain the same through FY 2020, but rate increases of 2.5 percent per year will be required in FY 2021 and FY 2022 in order to offset the assumed reduction in MOST proceeds. An elasticity of demand factor equal to -1.50 percent has been applied to water and wastewater sales revenue forecasts to account for reduced demand in response to projected rate increases.⁷³

The forecast of service revenues anticipates that general billing and collection challenges will continue to impact collection of the Department's main revenue categories—water and wastewater service revenues. Adjustments are made to estimate uncollectible service revenues (in addition to the conservative assumptions of persistence of reduced water use patterns) such that the Department's financial plan assumes annual reductions in billed water and wastewater revenues of approximately \$17.5 to \$18.3 million per year over the forecast

⁷³ Application of the elasticity factor reduces the impact of each rate increase; for every 1.0 percent increase in rates, this analysis assumes that the City sees a 0.15 percent reduction in water use. Estimated elasticity of demand adjustments are applied to forecasted water consumption *in addition to* price-independent water consumption assumptions discussed in this section.

period (or 4.0 percent of billed revenues).⁷⁴ The forecasted water and wastewater service revenues in Table 7-5 account for these collection adjustments.

Though the Department has implemented a number of measures to enhance revenue collection that are expected to improve the accuracy of meter readings and reduce billing adjustments (replaced small meters, implemented Automated Meter Reading systems, audited installed meters), the Department's revenue forecasts do not include positive adjustments for improvements that may be attributed to these initiatives.

Despite the projected declines in water consumption per account, annual water sales revenues are forecast to increase from \$180.7 million in FY 2017 to \$190.9 million in FY 2022 as a result of moderate account growth and proposed rate increases in the latter part of the forecast period. Wastewater service sales revenues are also projected to increase, from \$239.3 million to \$249.4 million over the same time period. Total water and wastewater sales revenues are projected to increase 4.8 percent, from \$420.0 million in FY 2017 to \$440.3 million in FY 2022.

The water and wastewater service revenues category also includes tap fee revenues, industrial waste revenues, license and permit fees, water repairs, and other charges associated with the Department's operation of the System. Water and wastewater tap fee forecasts are distributed across meter sizes and customer classes in a manner similar to recent historical experience. The Department received \$5.8 million per year, on average, during the last three fiscal years for tap sales. The Department conservatively expects these fees to generate approximately \$4.0 million per year over the forecast period, less than one percent of total System revenues. Together, other water and wastewater service revenues are expected to total \$13.9 million per annum throughout the forecast period.

With System-wide rate increases of 2.5 percent beginning in FY 2021 (and coincident with planned declines in receipt of MOST proceeds), total water and wastewater service revenues of the System are projected to increase from \$433.9 million in FY 2017 to \$454.2 million in FY 2022 (4.7 percent).

7.8.1.3. Other Service Revenues

Other service revenues of the Department include operating plant charges, grease permits, land and building rentals, and other miscellaneous revenues. Operating plant charges are revenues recovered through the Department's inter-jurisdictional service agreements and recover operations and maintenance costs incurred to provide wastewater treatment and conveyance services to the City's wholesale wastewater customers. During the last three fiscal years, operating plant charges have averaged \$20.3 million per annum. The Department conservatively expects revenues from this source to be \$16.0 million in FY 2017 and increase to \$16.2 million by FY 2022. In aggregate, including minor fees and charges, Other Service Revenues are expected to increase 1.2 percent, from \$16.9 million in FY 2017 to \$17.1 million in FY 2022.

⁷⁴ The Department's 2016 CAFR indicates that collections were 101.8 percent in FY 2016, 99.3 percent in FY 2015, and 98.2 percent in FY 2014 (page 7).

7.8.1.4. Municipal Option Sales Tax Revenues

Under the authorizing legislation, the MOST was initially placed into effect for a four-year term beginning on October 1, 2004, and could be renewed for three additional four-year terms. In March 2008, Atlanta voters elected to renew the MOST for an additional four-year period by a nearly 3 to 1 margin. Voters again renewed the MOST in March 2012 and, most recently, in March 2016 with an overwhelming majority of the vote.

Pursuant to the Master Bond Ordinance, Pledged Revenues do not include the proceeds from the MOST but such proceeds may be taken into account for purposes of determining compliance with the City's rate covenant and additional bonds test under the Master Bond Ordinance. MOST proceeds were \$124.3 million in FY 2014, \$131.6 million in FY 2015, and \$132.7 million in FY 2016.⁷⁵ The Department's financial plan anticipates annual MOST proceeds of approximately \$125.0 million through FY 2021, followed by a 5.0 percent reduction per year under assumed legislative re-authorization.⁷⁶ The projected level of MOST proceeds, which is consistent if not lower than recent trends for this revenue source, is expected to provide approximately \$731.3 million for the Department between FY 2017 and FY 2022.

7.8.1.5. Other Revenues

Other Department revenues include interest revenues from various reserve accounts and operating funds. Interest earnings accrue in the R&E Fund (Fund 5052), the Series 2001 Bond Fund (Fund 5057), the Series 2004 Bond Fund (Fund 5058), the Series 2009A Bond Fund (Fund 5055), and various debt service reserve accounts. This revenue source has fluctuated between \$5.2 million and \$8.3 million over the last four fiscal years depending on a number of factors, including the level of remaining balances in the Department's bond funds. This financial plan assumes interest revenues will be lower—\$4.0 million per year—as the Department draws down reserves to fund the capital improvement program.

7.8.1.6. IJ Capital Contributions

Inter-jurisdictional capital contributions reflect reimbursements to the Department for costs incurred to provide wastewater system capacity to its regional service delivery partners. Contributions are estimated by project for each IJ partner and include payments for previously constructed, ongoing, and future capital projects. The timing and availability of these reimbursements is based on the Department's current expectations of project duration and completion timeframes, a 12-month collection period, and the Department's procedural requirements to make these funds available for future capital projects. As discussed in Section 7.7, the Department expects the availability of \$77.7 million in reimbursements from IJ partners between FY 2017 and FY 2022.

7.8.1.7. Loan Repayment from General Fund

In December 2008, the City's Department of Finance and the Department executed a Memorandum of Understanding formalizing arrangements for repayment to the Department of an aggregate \$116.2 million obligation of the City's General Fund (the "General Fund

⁷⁵ City of Atlanta, Department of Watershed Management FY 2016 Comprehensive Annual Financial Report, page 33.

⁷⁶ For the MOST to continue beyond FY 2021, legislation will need to be passed by the State of Georgia General Assembly.

MOU”). This obligation is attributable to use of the City’s cash pool to address historical operating deficits of the City’s Solid Waste, Emergency 911, and capital financing funds. The City has addressed operational issues with the City’s Solid Waste and E911 Funds and restructured financing of Public Safety and rolling stock acquisitions. Accordingly, the General Fund has been paying and can reasonably be expected to continue to repay the aggregate principal and simple interest on outstanding balances. The terms of the General Fund MOU call for principal reduction of \$10 million for an 11-year period and \$6.3 million in FY 2021. Under a restructured agreement, City Council approved a reduction in the interest rate of the obligation from 3 percent to 1 percent for the remainder of the repayment period. Payments equaling these principal amounts plus accrued interest commenced on July 1, 2009. The Department expects to receive a total of \$47.5 million from FY 2017 through FY 2021, at which point the terms of the agreement will be fulfilled and the loan terminated.

7.8.1.8. Total System Revenues

In FY 2017, total System revenues of \$612.2 million are projected to include water and wastewater service revenues (70.9 percent), other service revenues (2.8 percent), MOST revenues (20.4 percent), other revenues (0.6 percent), IJ capital contributions (3.6 percent), and repayment from the General Fund (1.7 percent). As a result of decreasing MOST proceeds, the expected termination of the General Fund loan agreement, and fluctuations in IJ capital contributions, total System revenues are projected to decrease 3.4 percent, from \$612.2 million in FY 2017 to \$591.3 million in FY 2022.

7.8.2 Operating Expenses

Total System operation and maintenance expenses were \$190.8 million in FY 2015 and \$203.1 million in FY 2016. O&M costs have increased 3.9 percent per year (compounded annual growth rate) from FY 2012 to FY 2016 as the Department has increased spending to address maintenance-related issues at the treatment plants and for additional electricity and chemicals attributed to wet-weather events.

System operating expenses are accounted for in two primary funds, the Revenue Fund and the Renewal & Extension Fund, as previously discussed. Expenditures are grouped into various categories for each of these funds such as Personnel Expense, Other Operating Expense, Contracted Services, Capital Outlay, and Reserve for Appropriation. Personnel expenses are composed of salaries and wages expense, overtime pay, life and health insurance expense, and pension expenses. Other Operating Expense is composed of expenses required to properly operate and maintain the facilities. Expense sub-categories include operational and administrative supplies, utilities and rentals, outside services, special purchases, and service and repairs, among others. Contracted Services expense is made up of professional services expense, duplication and word processing costs, as well as fuel and repairs for motorized equipment. Leases of equipment, land, and buildings constitute the majority of expense for the Capital Outlay category. Reserves for Appropriation is a category used to set aside funds that are used for other minor capital expenses.

For forecasting purposes, most of the expense sub-categories are escalated at 3.0 percent annually to reflect inflation. However, some sub-categories have been increased at higher rates to account for current market conditions. Labor expenses have been escalated at 4.0 percent per annum to account for merit salary increases and the increasing cost of employee

benefits. Natural gas and chemical supplies have been increased annually at 5.5 percent. The aggressive escalation of some cost categories represents a conservative approach to the forecasted fund performance of the Department. Despite the significant inflationary pressure on these O&M cost categories, this financial plan assumes that the Department will implement budget austerity measures to offset price escalation and maintain total **base** operating expense at current levels through FY 2019. In FY 2020 through FY 2022, these same measures will be employed to limit increases to the overall budget to 2.0 percent per annum.

In addition to forecasted changes to the base operating budget, the Department also anticipates incremental operating savings associated with various projects identified in its capital improvement program. For example, plant realignments and improvements, like the decommissioning of the Intrenchment Creek WRC, promise potentially significant facility operating cost savings. Similarly, energy management and treatment process optimization initiatives across both water and wastewater systems hold the potential for operational cost savings. Based upon a detailed operational review to determine potential cost increases or expense savings by project, the Department established a net incremental cost schedule that demonstrates annual savings that range between \$0.2 million in FY 2017 and \$12.0 million in FY 2022.

Combined operating and maintenance expenditures paid from the Revenue Fund and the Renewal & Extension Fund were \$203.1 million in FY 2016 and are projected to increase 6.6 percent to \$216.4 million in FY 2017 (including operational cost savings). Total O&M is expected to increase 0.7 percent by FY 2022, to \$217.9 million. This minimal five-year increase reflects the significant historical increase of base operating expenses noted above and planned budget austerity measures and operational efficiencies projected to be realized by the Department.

Projected operations and maintenance expenses differ from the Department's approved budgets to reflect an assumption that expenditures will not be more than 92 percent of budgeted amounts. This assumption is based on certain structural aspects of the City's budgeting process including, for example, the practice of full-year funding of budgeted positions that will be filled over the course of a given fiscal year. This assumption is carried forward throughout the forecast period.

7.8.2.1. Direct and Indirect Charges, PILOT and Franchise Fees

The Department is also charged for both direct and indirect costs for services provided by various General Fund Departments. Direct charges are for costs of services to directly support the Department's operations and capital programs including executive offices, information technology, finance, procurement, human resource, internal audit, and legal. Direct charges are based on the provision of the associated services, and are forecasted between \$25.0 million in FY 2017 and \$28.1 million in FY 2022. Indirect charges are allocated to the Department based on a city-wide indirect cost study and provide for payment of general government functions including, but not limited to, communications, facilities, and City Management. These charges are forecasted to range from \$14.1 million in FY 2017 to \$15.1 million in FY 2022. Payments in Lieu of Taxes (PILOT) and franchise fees are expected to total \$19.4 million in FY 2017 and are assumed to remain relatively constant

over the forecast period, increasing to \$20.1 million in FY 2022. Direct and indirect costs, PILOT and franchise fees are expected to be \$58.5 million in FY 2017 and increase to \$63.4 million by the end of the forecast period.⁷⁷

7.8.2.2. Other Expense

This expense category includes expenses such as Other Post-Employment Benefits (OPEB), miscellaneous expense items such as GEFA processing fees, and issuance costs associated with the 2015 Commercial Paper Program. In FY 2011, the City negotiated a landmark restructuring of its pension obligations that will constrain and reduce uncertainties associated with future pension obligations. These expenses are projected to increase from \$19.1 million in FY 2017 to \$22.2 million in FY 2022. GEFA processing fees are assumed to be approximately \$0.6 million per year to account for new loan issuance as well as fees associated with the re-financing of final year balloon payments for existing loans. Commercial paper issuance costs such as facility and dealer fees are expected to total \$1.8 million per year through FY 2018, when the program ends.

Other expenses, in total, are projected to increase from \$21.5 million in FY 2017 to \$22.8 million in FY 2022.

7.8.3 Debt Service

Projected debt service requirements include debt service for both existing and proposed debt issues.

7.8.3.1. Existing Debt Service

The Department is currently repaying nine revenue bond issues: Series 1999 Bonds, Series 2001A Bonds, Series 2004 Bonds, Series 2008 Bonds, Series 2009A Bonds, Series 2009B Bonds, Series 2013A Bonds, Series 2013B Bonds, and Series 2015 Bonds. Currently, the combined annual principal and interest payment for the nine outstanding bond issues is approximately \$204 million per year.⁷⁸ Debt service on all fixed rate System bonds has been calculated using the actual fixed coupons. Debt service on all variable rate System bonds has been calculated using the 12-month historical average plus associated credit spread costs. Additionally, existing debt service includes the net swap payments (calculated at the 4.09 percent swap rate less the 12-month historical net swap receipt rate) on the swaps associated with the Series 2008 Bonds, Series 2013A Bonds, and Series 2015 Bonds. The swaps were originally associated with the City's Water and Wastewater Refunding Bonds, Series 2001B and the City's Water and Wastewater Refunding Bonds, Series 2001C. However, various refundings necessitated assigning the swaps to the Series 2008 Bonds, the Series 2013 Bonds, and Series 2015 Bonds. Par amounts and retirement years for the outstanding bond issues, prior to the proposed Series 2017 Bonds, are shown in Table 7-6.

⁷⁷ The PILOT and Franchise Fee charges are being challenged by a lawsuit filed on April 30, 2014. The City filed a motion to dismiss the lawsuit which was granted by the Superior Court of Fulton County. Plaintiffs appeal to the Georgia Court of Appeals was denied. On December 8, 2016 Plaintiffs filed a petition for writ of certiorari with the Georgia Supreme Court where the matter is presently pending. The case is styled Newton et al. v City of Atlanta, Civil Action File No. 2014CV245692.

⁷⁸ Debt service payments for previous and planned revenue bonds are structured so that the combined payment remains relatively constant.

The Department is also repaying loans issued by the Georgia Environmental Facilities Authority (GEFA). Repayment for existing GEFA notes was approximately \$11.3 million in FY 2016. Costs associated with subordinate debt—including GEFA fees, Commercial Paper LOC fees, and surveillance fees—totaled \$1.9 million in FY 2016.

TABLE 7-6
Outstanding Revenue Bonds¹

Series	Original Par Amount ¹	Outstanding Principal	Calendar Year Retired
Series 1999 Bonds	\$ 1,096.1	\$ 204.4	2022
Series 2001A Bonds	\$ 415.3	\$85.1	2027
Series 2004 Bonds	\$ 849.3	\$ 134.1	2030
Series 2008 Bonds	\$ 106.8	\$ 106.8	2041
Series 2009A Bonds	\$ 750.0	\$49.5	2019
Series 2009B Bonds	\$ 449.0	\$ 434.5	2039
Series 2013A Bonds	\$ 328.2 ²	\$ 326.6	2038
Series 2013B Bonds	\$ 200.1	\$ 177.0	2030
Series 2015 Bonds	\$ 1,237.4	\$ 1,236.3	2043
Total	\$5,432.2	\$2,754.2	
1 - Numbers are expressed in millions of dollars.			
2 - Includes \$150 million in direct purchase bonds			

7.8.3.2. Forecasted Senior Lien Debt

The Department's capital financing plan does not anticipate the issuance of revenue bonds to fund encumbrance requirements during the forecast period. However, reflecting updates to the Series 2015 Feasibility Study, this financial plan does assume the Department will issue the Series 2018 Bonds in late FY 2018 to repay the outstanding amounts under the 2015 Commercial Paper Program as that program comes to an end. Forecasted debt service for the Series 2018 Bonds assumes a 30-year term, an average interest rate of 6.50 percent, and issuance costs of 1.50 percent of par. Funded reserve expenses of 7.66 percent are also added to the par amount of the bond to establish annual debt service.

Forecasted debt service associated with the Series 2017 Bonds is expected to result in debt service savings of approximately \$1.3 million annually over the forecast period. Total senior lien debt service costs are expected to be \$203.9 million in FY 2017, and are forecasted to increase to \$223.4 million in FY 2022 as a result of the anticipated issuance of the Series 2018 Bonds in FY 2018 to repay the outstanding amounts under the 2015 Commercial Paper Program.

7.8.3.3. Forecasted Other Debt

Repayment of GEFA loans is considered other debt, and excluded from the parity coverage requirements and senior lien debt service coverage calculations. The analysis assumes that the City will receive reimbursements from GEFA according to the schedule outlined in Table

7-4. Future GEFA loans are assumed to have 20-year terms at interest rates that vary between 2.6 and 2.8 percent⁷⁹, with loan application fees of 1.0 percent.⁸⁰ Interest costs associated with GEFA draws (prior to project completion and amortization of each loan) were added to the par amounts for each GEFA loan. The interest costs were estimated using a level spend-down assumption for capital projects and an assumed 2-year construction period. The Department has extensive experience in applying for and administering GEFA loans and is working with GEFA on an ongoing basis to ensure that prospective projects will qualify for available funding.

Other debt service also includes estimated interest expense on the 2015 Commercial Paper Program. Forecasted interest expense on this credit facility is based upon the anticipated construction schedule of the Department's Water Supply program, which was financed via the Commercial Paper program. Commercial paper interest expense is expected to total \$1.4 million in FY 2017 and \$2.6 million in FY 2018.

Other debt service is expected to total \$12.6 million in FY 2017 and is increase to \$23.9 million by FY 2022. The increase can be attributed to issuance of annual GEFA loans for construction of eligible projects during the forecast period.

Combined annual debt service costs (both senior lien and other debt) are projected to be \$216.5 million in FY 2017 and are forecasted to increase to \$247.3 million in FY 2022.

7.8.4 Equity Financing of Capital

The Department's financing plan assumes that \$565.8 million will be drawn from the Department's reserves and combined operating fund balances (including IJ capital contributions) over the 6-year forecast period to fund the capital program.⁸¹ Equity financing amounts vary based on the projected performance of the combined operating funds, but are expected to range between \$50.0 million and \$159.8 million over the forecast period. The Department's capital financing plan provides for achievement of debt service coverage and fund balances in excess of established performance targets, and relies primarily on equity financing of prospective capital to minimize borrowing costs and limit outstanding senior lien indebtedness.

7.8.5 Repayment of Commercial Paper

The 2015 Commercial Paper Program was issued as Other System Obligations under the Master Bond Ordinance, payable from and secured by System revenues subject to previously issued senior and subordinate debt. The \$250 million maximum aggregate principal amount of the 2015 Commercial Paper Program provides flexibility in project procurement and scheduling for the Water Supply Program, one of the Department's highest

⁷⁹ Assumed borrowing rates based on forward rate curve for notes with a 20-year maturity.

⁸⁰ Although GEFA loans are issued for an initial 20-year term, DWM typically re-finances the balloon payment in the 20th year resulting in an effective loan term of 30 years. Projected subordinate debt costs therefore are based on a 30 year levelized repayment schedule and forecasted loan application fees are increased to account for the re-financing of the balloon payment.

⁸¹ By design, more than \$130 million will remain available in the Department's project reserve balance for capital encumbrance requirements beyond FY 2022. These reserves will enable levelized encumbrances of high-priority projects (roughly \$94 million per year in current dollars) even as MOST proceeds that are available to the Department begin to decline.

priority projects. Three-year agreements with liquidity providers for the 2015 Commercial Paper Program will end in April 2018.

As part of the issuance of the Series 2015 Bonds, the City authorized and pre-validated the Series 2018 Bonds to repay the outstanding amounts under the 2015 Commercial Paper Program. This financial plan assumes the Series 2018 Bonds will be issued as senior lien debt in FY 2018, subject to the City's compliance with the additional bonds test as set forth in the Master Bond Ordinance.

7.8.6 Fund Balances

The Department's policy is to maintain cash reserves equal to three months of budgeted operating expenditures (approximately \$53 million) to provide adequate working capital for the Department's operations. Despite a plan to equity finance \$565.8 million of CIP over the forecast period, the projected ending cash balance for the Department's combined fund far exceeds the minimum requirement. The unrestricted ending cash balance of the Department's combined operating funds (Funds 5051 and 5052), projected to range from \$177.1 million in FY 2017 to \$96.8 million in FY 2022, reflects the effect of budget austerity measures, IJ capital contributions, and debt service savings associated with the Series 2015 Bonds and Series 2017 Bonds. Drawing down of these balances enables financing of the Department's revised capital program without reliance on future senior lien debt or near-term service rate increases.

7.9 Projected Debt Service Coverage

Table 7-7 presents the forecasted performance of the Department relative to its targeted debt service coverage metrics including forecasted net operating revenues, expenses, debt service, and debt service coverage through FY 2022. As indicated, revenues were forecasted on a conservative basis and expenses were estimated based on historical spending patterns, adjusted for anticipated inflation. O&M expense projections also reflect implementation of cost control measures and incremental O&M cost savings associated with new infrastructure.

Adjustments are made to both operating revenues and operating expenses to exclude items that are not included in the calculation of debt service coverage. IJ capital contributions and loan repayments from the General Fund are excluded from annual operating revenues. Direct and indirect costs for services provided by various General Fund Departments of the City are added to annual operating expense, as well as costs for the OPEB program. Annual operating expenses are reduced to account for personnel expense in the R&E Fund that is capitalized. The \$20.0 million per year estimate is based on representative adjustments during the last four fiscal years and is consistent with audit procedures of the Department.

Annual net operating revenues available to pay debt service decrease 0.2 percent, from \$325.1 million in FY 2017 to \$324.5 million in FY 2022.

Senior lien debt service coverage is evaluated in terms of the System as a whole (combined water and wastewater). For new debt issues, the City has a minimum parity coverage requirement of 1.10x average annual debt service for senior lien debt, but also targets minimum annual senior lien debt service coverage of 1.20x. Forecasted senior lien debt

service coverage is estimated to range from 1.45x to 1.60x over the six-year period as shown in Table 7-7.

TABLE 7-7
Projected Senior Debt Service Coverage, FY 2017–2022¹

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Water & Wastewater Service Revenue	\$ 433.9	\$ 433.1	\$ 433.4	\$ 433.6	\$ 443.7	\$ 454.2
Other Service Revenue	16.9	16.9	16.9	17.0	17.0	17.1
MOST Revenue	125.0	125.0	125.0	125.0	118.8	112.5
Other Revenue	4.0	4.0	4.0	4.0	4.0	4.0
Non-Service Revenue	32.5	21.2	31.7	26.1	10.3	3.5
- IJ Capital Contributions ²	(22.0)	(10.8)	(21.4)	(15.9)	(4.1)	(3.5)
- Repayment from General Fund ²	(10.5)	(10.4)	(10.3)	(10.2)	(6.3)	-
Total Operating Revenues	\$ 579.8	\$ 579.0	\$ 579.3	\$ 579.6	\$ 583.5	\$ 587.8
Operating Expenses	216.4	214.9	209.7	212.1	213.8	217.9
+ Direct and Indirect Charges	39.1	38.5	39.6	40.8	42.0	43.3
+ OPEB	19.1	19.7	20.3	20.9	21.5	22.2
- Capitalized Expense	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)
Total Operating Expense	\$ 254.6	\$ 253.1	\$ 249.6	\$ 253.8	\$ 257.3	\$ 263.3
Net Revenue Available for Debt Service	\$ 325.1	\$ 325.9	\$ 329.7	\$ 325.8	\$ 326.2	\$ 324.5
Existing Senior Debt Service ³	203.9	202.9	203.0	203.0	202.6	202.5
Series 2018 Debt Service ⁴	-	-	20.9	20.9	20.9	20.9
Total Senior Debt Service	\$ 203.9	\$ 202.9	\$ 224.0	\$ 223.9	\$ 223.6	\$ 223.4
Projected Senior Lien Coverage Ratio⁵	1.59	1.60	1.47	1.45	1.45	1.45

1- Slight calculation discrepancies may exist due to rounding, numbers in millions

2- Non-Service Revenue includes a loan repayment from the General Fund and IJ capital contributions, which are adjusted out of Operating Revenues in order to establish the projected debt service coverage ratio

3- Reflects the impact of anticipated Series 2017 Bonds

4- Anticipated debt associated with the repayment of the 2015 Commercial Paper Program (see Section 7.8.3.2)

5- Debt service coverage metrics rounded down to the second significant digit

As indicated in Table 7-1, average senior lien debt service coverage over the last three fiscal years was 1.94x. Projected coverage in FY 2017 of 1.59x is based upon forecasted net revenues available for debt service of \$325.1 million, a decrease of \$64.6 million (16.6 percent) over net revenues available for debt service in FY 2016. This forecasted value reflects the conservative nature of the operating and non-operating revenue projections as well as anticipated increases in O&M expense to address maintenance-related issues at the treatment plants and for additional electricity and chemicals attributed to wet-weather events.

7.10 Key Assumptions

Projected financial performance of the System relies on a number of key assumptions, summarized in Table 7-8. While these assumptions are discussed in greater detail in relevant sections of the report, a brief synopsis of each is included below the table.

TABLE 7-8
Key Financial Planning Assumptions

Elasticity of demand factor	-1.5
Bad debt expense (% of billed revenue)	4.0%
General cost inflation factor	3.0%
Capital cost inflation factor	3.0%
Actual expense to O&M budget factor	92.0%
Average annual growth in customers	varies
Average annual consumption trends	varies

- Elasticity of demand factor: interpreted as the assumed percentage decrease in System-wide consumption for every 10 percent increase in rates.
- Bad debt expense: the assumed percentage of billed annual revenues that are not collected.
- General cost inflation factor: the default cost factor used to estimate future costs, although various cost categories are subject to higher inflation factors as previously outlined.
- Capital cost escalation factor: the escalation factor used by the Department to estimate future encumbrance requirements based on the timing of construction and current cost estimates.
- Actual expense to O&M budget factor: the ratio that is applied to budgeted O&M totals to reflect institutional limits on the extent to which budgeted expenditures may be effected (due to, for example, procurement and human resource processing requirements).
- Average annual growth in customer accounts: for residential water accounts, 0.7 percent per year; for residential sewer accounts, 0.5 percent per year; and commercial and institutional water and sewer accounts are assumed to remain constant. Although these assumed growth trends vary by customer class, the compounded average System-wide growth in customer accounts from FY 2017 to FY 2022 is approximately 0.3 percent.
- Average annual consumption trends: the change in per unit consumption from FY 2017 to FY 2022 for all customers (residential, commercial and institutional). Price-independent decreases of 0.5 percent are applied in FY 2017 and FY 2018, while 0.25 percent decreases are applied in FY 2019 and FY 2020. Elasticity of demand assumptions result in additional decreases of 0.38 percent when rate increases of 2.5 percent per year are implemented in FY 2021 and FY 2022. When factoring together both elasticity of demand adjustments and price-independent changes in consumption, the compounded annual decline in consumption per account is -0.37 percent.⁸²

⁸² If MOST is not extended, and higher rate increases are required to maintain debt service coverage, the elasticity of demand impacts to consumption are greater. For this scenario, the compounded annual change in consumption per account is -0.8 percent.

In addition, the projections of financial performance assume the Series 2017 Bonds will refund currently outstanding bonded indebtedness at an average interest rate of 3.6 percent and the Series 2018 Bonds will be issued at an average interest rate of 6.5 percent.

7.11 Planning Scenario for MOST Expiration

The financial plan summarized in this report anticipates state legislative, and local voter, approval of extension of the MOST beyond FY 2021. The MOST has consistently received strong local voter support in renewal referendums - in part because extensive public communication has highlighted the significant water and wastewater rate adjustments that would be required in the event of withdrawal of MOST funding support.

Given the possibility that the MOST extension could fail to gain either state legislative or local voter approval, the Department has developed an alternative financial plan for the expiration of MOST funding in October 2020 as provided for under the enabling legislation. As expected, this alternative financial plan requires higher rate increases earlier in the forecast period to replace the lost revenue stream from the MOST. Service rate increases of 3.5 percent per year (rather than 2.5 percent) will be initiated earlier, in FY 2019 rather than FY 2021, and annual rate increases of 7.5 percent will be required in FY 2021 and FY 2022 – the years immediately following MOST expiration – to preserve debt service coverage and capital project funding levels. The revised funding plan under this scenario, including adjustments to the schedule of proposed capital encumbrances, is presented in this section.

7.11.1 Capital Financing, MOST Expiration Scenario

If the MOST is not extended, the Department will reduce planned capital encumbrances during the latter part of the six-year forecast period by \$57.2 million, from \$882.9 million to \$825.7 million. Table 7-9 identifies projected capital project encumbrances and matching sources of funds. Capital requirements would be funded through four sources: the 2015 Commercial Paper Program (12.1 percent), re-programmed CIP encumbrances (8.4 percent), GEFA loan proceeds (24.4 percent), and operating revenues and other reserves from the Department's operating funds (55.2 percent).

Like the Department's base case scenario, the proposed capital financing strategy would include the issuance of the Series 2018 Bonds to refund the outstanding amounts under the 2015 Commercial Paper Program in FY 2018 as the only planned long-term debt issue. The Department would continue to anticipate annual GEFA borrowing of approximately \$50 million per year. Transfers from operating revenues will result in a balance of more than \$175 million in capital reserves at the end of FY 2022, enabling the Department to maintain annual CIP encumbrances of roughly \$79 million per year (current dollars) beyond the reporting period without the benefit of MOST proceeds.

TABLE 7-9
Capital Program Sources and Uses of Funds, MOST Expiration Scenario¹

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	TOTAL	Percent
Projected Capital Encumbrances	\$ 324.6	\$ 121.8	\$ 112.5	\$ 86.3	\$ 88.9	\$ 91.6	\$ 825.7	100.0%
2015 Commercial Paper Program	120.9	-	-	-	-	-	120.9	12.1%
Re-Programmed CIP Encumbrances	83.7	-	-	-	-	-	83.7	8.4%
GEFA Loan Proceeds ²	5.0	40.0	50.0	50.0	50.0	50.0	245.0	24.4%
Operating Revenues and Reserves ^{3, 4}	159.8	120.0	88.0	80.0	100.0	5.0	552.8	55.2%
Used (Unused) Balance ⁵	(44.8)	(38.2)	(25.5)	(43.7)	(61.1)	36.6	(176.8)	
Total Funds	\$ 324.6	\$ 121.8	\$ 112.5	\$ 86.3	\$ 88.9	\$ 91.6	\$ 825.7	100.0%

- 1 - All numbers in millions, slight calculation discrepancies may exist due to rounding
- 2 - Although the Department expects \$50 million per year to be available, this forecast reflects the delay associated with project approval, completion, and subsequent application for reimbursement
- 3 - Represents transfers from the Department's operating funds (System revenues) and previously accumulated operating reserves
- 4 - Includes capital contributions from IJ partners for ongoing and future CIP projects
- 5 - After making current revenue transfers from the Department's operating funds, more than \$175 million will remain (unused balance) to enable leveled CIP encumbrances (roughly \$79 million per year in current dollars) beyond the forecast period

7.11.2 Forecasted Operating Results, MOST Expiration Scenario

As indicated, the MOST expiration scenario will require higher rate increases that occur earlier in the six-year forecast period. Water and wastewater service revenues total \$2,779.2 million, \$147.3 million more than reported under the Department's base case planning scenario. This increase can be attributed entirely to the higher rate increases; all other revenue projections remain the same.

The forecasted uses of funds for the Department remains unchanged under the MOST expiration scenario, other than anticipated transfers from operating revenues. The additional operating revenues generated from higher rate increases are used to pay O&M and debt service costs of the System. Current revenue transfers used to finance capital encumbrances decrease \$13.0 million.

The projected annual ending cash balances for the Department's combined fund still exceed the minimum requirement, ranging from \$177.1 million in FY 2017 to \$57.0 million in FY 2022. As expected, the Department will draw down fund balances even further under the FY 2021 MOST expiration scenario and maintains its strategy to limit future revenue bond issuances to fund capital projects. Sources and uses of the Department's combined operating funds under the MOST expiration scenario, including estimated current revenue transfers and ending cash balances, are presented in Table 7-10.

TABLE 7-10

Forecasted Sources and Uses of Cash, Combined Funds (5051 and 5052), FY 2017 - FY 2022 (millions of dollars)
Most Expiration Scenario

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
<i>Beginning Cash Balance</i> ¹	\$ 237.6	\$ 177.1	\$ 142.7	\$ 147.6	\$ 161.3	\$ 69.3
Water & Wastewater Service Revenue	\$ 433.9	\$ 433.1	\$ 445.8	\$ 458.7	\$ 488.2	\$ 519.5
Other Service Revenue	16.9	16.9	16.9	17.0	17.0	17.1
MOST Revenue	125.0	125.0	125.0	125.0	31.3	-
Other Revenue	4.0	4.0	4.0	4.0	4.0	4.0
IJ Capital Contributions	22.0	10.8	21.4	15.9	4.1	3.5
Repayment from General Fund	10.5	10.4	10.3	10.2	6.3	-
Total Sources	\$ 612.2	\$ 600.2	\$ 623.4	\$ 630.8	\$ 550.8	\$ 544.1
Operating Expenses (5051)	\$ 172.2	\$ 172.2	\$ 172.2	\$ 175.6	\$ 179.1	\$ 182.7
Renewal & Extension (5052)	44.4	44.4	44.5	45.4	46.3	47.2
Incremental Operating Expense	(0.2)	(1.7)	(6.9)	(8.9)	(11.6)	(12.0)
PILOT, Direct, Indirect Charges	58.5	58.3	59.6	60.8	62.1	63.4
Other Expense ²	21.5	22.1	20.9	21.5	22.1	22.8
Senior Lien Debt Service ^{3,4}	203.9	202.9	224.0	223.9	223.6	223.4
Other Debt Service	12.6	16.4	16.3	18.8	21.3	23.9
Equity Financing of Capital	159.8	120.0	88.0	80.0	100.0	5.0
Total Uses	\$ 672.8	\$ 634.6	\$ 618.4	\$ 617.1	\$ 642.9	\$ 556.3
<i>Ending Cash Balance</i>	\$ 177.1	\$ 142.7	\$ 147.6	\$ 161.3	\$ 69.3	\$ 57.0

1 - Represents the unrestricted cash balance in the Department's combined operating funds (Funds 5051 and 5052)

2 - Includes Other Post-Employment Benefits (OPEB), GEFA loan processing fees, and Commercial Paper issuance costs

3 - Includes debt associated with repayment of the Department's \$250 million Commercial Paper Program (see Section 7.8.3.2)

4 - Reflects anticipated debt service savings associated with Series 2017 Bonds

7.11.3 Projected Debt Service Coverage, MOST Expiration Scenario

Table 7-11 presents the forecasted performance of the Department relative to its targeted debt service coverage metrics including forecasted net operating revenues, expenses, debt service, and debt service coverage if MOST is not re-authorized beyond FY 2021.

Without the MOST proceeds to offset operating expense, and despite higher rate increases, net revenues available for debt service decreases \$47.8 million over the forecast period. The decrease in net revenues is especially evident in FY 2021 and FY 2022, after the MOST expires. In FY 2022, net revenues for debt service drops to \$277.3 million compared with \$324.5 million under the Department's base case planning scenario. The resulting change in annual net operating revenues is -14.6 percent.

Consistent with the base case planning scenario, adjustments are made to both operating revenues and operating expenses to exclude items that are not included in the calculation of debt service coverage. Forecasted senior lien debt service coverage, evaluated in terms of the System as a whole (combined water and wastewater), is estimated to range from 1.24x in FY 2022 to 1.60x in FY 2018. Projected senior lien coverage is above the minimum parity coverage requirement (1.10x) as well as the Department's targeted coverage level (1.2x).

TABLE 7-11

Projected Senior Debt Service Coverage, MOST Expiration Planning Scenario, FY 2017–2022¹

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Water & Wastewater Service Revenue	\$ 433.9	\$ 433.1	\$ 445.8	\$ 458.7	\$ 488.2	\$ 519.5
Other Service Revenue	16.9	16.9	16.9	17.0	17.0	17.1
MOST Revenue	125.0	125.0	125.0	125.0	31.3	-
Other Revenue	4.0	4.0	4.0	4.0	4.0	4.0
Non-Service Revenue	32.5	21.2	31.7	26.1	10.3	3.5
- IJ Capital Contributions ²	(22.0)	(10.8)	(21.4)	(15.9)	(4.1)	(3.5)
- Repayment from General Fund ²	(10.5)	(10.4)	(10.3)	(10.2)	(6.3)	-
Total Operating Revenues	\$ 579.8	\$ 579.0	\$ 591.7	\$ 604.7	\$ 540.5	\$ 540.6
Operating Expenses	216.4	214.9	209.7	212.1	213.8	217.9
+ Direct and Indirect Charges	39.1	38.5	39.6	40.8	42.0	43.3
+ OPEB	19.1	19.7	20.3	20.9	21.5	22.2
- Capitalized Expense	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)
Total Operating Expense	\$ 254.6	\$ 253.1	\$ 249.6	\$ 253.8	\$ 257.3	\$ 263.3
Net Revenue Available for Debt Service	\$ 325.1	\$ 325.9	\$ 342.1	\$ 350.9	\$ 283.1	\$ 277.3
Existing Senior Debt Service ³	203.9	202.9	203.0	203.0	202.6	202.5
Series 2018 Debt Service ⁴	-	-	20.9	20.9	20.9	20.9
Total Senior Debt Service	\$ 203.9	\$ 202.9	\$ 224.0	\$ 223.9	\$ 223.6	\$ 223.4
Projected Senior Lien Coverage Ratio⁵	1.59	1.60	1.52	1.56	1.26	1.24

1- Slight calculation discrepancies may exist due to rounding, numbers in millions

2- Non-Service Revenue includes a loan repayment from the General Fund and IJ capital contributions, which are adjusted out of Operating Revenues in order to establish the projected debt service coverage ratio

3- Reflects the impact of anticipated Series 2017 Bonds

4- Anticipated debt associated with the repayment of the 2015 Commercial Paper Program (see Section 7.8.3.2)

5- Debt service coverage metrics rounded down to the second significant digit

Table 7-12 presents a summary of rate increases under each scenario: one in which MOST is extended but proceeds are reduced by 5 percent per annum, and the other in which the MOST expires in FY 2021 as provided for under the enabling legislation. Projected debt service coverage metrics are also compared.

TABLE 7-12

Rate Increases and Debt Service Coverage Under Alternative Planning Scenarios

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Rate Increases						
MOST extended, reduced 5% annually	0.0%	0.0%	0.0%	0.0%	2.5%	2.5%
MOST not extended	0.0%	0.0%	3.5%	3.5%	7.5%	7.5%
Projected Senior Debt Coverage						
MOST extended, reduced 5% annually	1.59	1.60	1.47	1.45	1.45	1.45
MOST not extended	1.59	1.60	1.52	1.56	1.26	1.24

7.12 Conclusions

This financial analysis has presented forecasts of revenues, expenses, debt service, and debt service coverage to indicate financial feasibility of the Department's 6-year capital improvement plan, including consent decree, administrative consent order projects, and continued investment in System operational efficiency and reliability.

The forecast of the financial performance of the System for FY 2017 through FY 2022 is summarized as follows:

- Total System revenues, including proceeds from MOST, General Fund MOU repayment, and IJ capital contributions, are forecasted to decrease 3.4 percent, from \$612.2 to \$591.3 million. System-wide rate increases of 2.5 percent will be required in FY 2021 and FY 2022 coincident with the planned decline in receipt of MOST proceeds.
- Including estimated net operational cost savings related to new infrastructure, the Department's total Operating Expenses (Revenue fund and R&E fund) increase 0.7 percent over the forecast period, from \$216.4 million to \$217.9 million.
- Total annual expenses, excluding equity financing of capital encumbrances, are forecasted to increase by 7.5 percent, from \$513.0 million in FY 2017 to \$551.3 million in FY 2022.
- The Department's CIP reflects priority needs of the System identified in recent planning efforts and, after adjusting for inflation, is expected to require encumbrances of \$882.9 million between FY 2017 and FY 2022. These capital projects will be funded by the 2015 Commercial Paper Program (\$120.9 million, 11.9 percent), re-programmed CIP encumbrances (\$83.7 million 8.2 percent), Georgia Environmental Finance Authority loan proceeds (\$245.0 million, 24.1 percent), and System operating revenues—including IJ capital contributions—and other reserves (\$565.8 million, 55.7 percent).⁸³
- The combined use of the 2015 Commercial Paper Program, timely collections of IJ capital contributions, operating revenues, GEFA borrowing, and the drawing down of existing fund balances will enable the City to finance the Department's capital program without reliance on service rate increases until FY 2021.
- Net revenues of the Department are projected to be sufficient to meet future debt service obligations, including a 1.1x parity coverage requirement on senior lien debt and a 1.0x coverage requirement for subordinate debt. The Department targets senior lien debt service coverage in excess of 1.20 times annual debt service. The Department's revised operating expense and capital expenditure plan for the FY 2017 to FY 2022 time period reflects a continuing commitment to cost control measures. Projected senior lien debt service coverage is estimated to range between 1.45x and 1.60x between FY 2017 and FY 2022.

⁸³ After making these transfers, more than \$130 million will remain available in the Department's project reserve balance for capital encumbrance requirements beyond FY 2022. These reserves will enable continued implementation of high-priority projects even as MOST proceeds begin to decrease.

- Using available strategic planning tools, the Department has developed an alternative financial plan that assumes MOST expires in FY 2021 (as provided for under the enabling legislation). Highlights of the alternative plan include the following:
 - a) Projected capital encumbrances are \$57.2 million lower, totaling \$825.7 million between FY 2017 and FY 2022. Annual encumbrances for FY 2023 through FY 2026 (beyond the forecast period for this report), in current dollar terms, are projected to decrease from approximately \$94 million to \$79 million.
 - b) Rate increases will be required in FY 2019 (3.5 percent), FY 2020 (3.5 percent), FY 2021 (7.5 percent) and FY 2022 (7.5 percent) to fund capital projects and maintain debt service coverage. These rate increases are consistent, in terms of order of magnitude, with those communicated during public education campaigns in support of MOST renewal efforts.
 - c) The projected fund balance (for the combined water and wastewater operating funds) is expected to range between \$57.0 million and \$177.1 million, above the targeted minimum balance of the Department.
 - d) Projected senior lien coverage is projected to range between 1.24x (FY 2022) and 1.60x (FY 2018), above the Department's minimum parity coverage requirement (1.10x) as well as the targeted coverage level (1.2x)
- The financial projections reported herein outline alternative strategies to reduce reliance on MOST proceeds and resume limited rate adjustments. These projections demonstrate that, through proactive financial management, the Department can support the Series 2017 Bonds throughout the forecast period from projected System revenues.

8.0 Rate Schedule

Table 8-1 provides the Department's current and projected water and wastewater rates, by component, based on the proposed schedule of rate increases outlined in Section 7. Annual rate increases of 2.5 percent are expected in FY 2021 and FY 2022 as MOST proceeds begin to decline. Rate increases are subject to City Council approval.

TABLE 8-1
Proposed Water and Wastewater Rate Schedule

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Proposed Rate Increases¹	0.00%	0.00%	0.00%	0.00%	2.50%	2.50%
Water System Service Rates²						
Base Charge³	\$6.56	\$6.56	\$6.56	\$6.56	\$6.73	\$6.90
Inside-City Retail						
1 – 3 CCF Usage (per CCF)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.65	\$2.72
4 – 6 CCF Usage (per CCF)	\$5.34	\$5.34	\$5.34	\$5.34	\$5.48	\$5.62
7 CCF and Above Usage (per CCF)	\$6.16	\$6.16	\$6.16	\$6.16	\$6.32	\$6.48
Outside-City Retail						
1 – 3 CCF Usage (per CCF)	\$3.51	\$3.51	\$3.51	\$3.51	\$3.60	\$3.69
4 – 6 CCF Usage (per CCF)	\$6.48	\$6.48	\$6.48	\$6.48	\$6.65	\$6.82
7 CCF and Above Usage (per CCF)	\$7.47	\$7.47	\$7.47	\$7.47	\$7.66	\$7.86
Wholesale						
All Usage (per CCF)	\$3.70	\$3.70	\$3.70	\$3.70	\$3.80	\$3.90
Wastewater System Service Rates²						
Base Charge³	\$6.56	\$6.56	\$6.56	\$6.56	\$6.73	\$6.90
1 – 3 CCF Usage (per CCF)	\$9.74	\$9.74	\$9.74	\$9.74	\$9.99	\$10.24
4 – 6 CCF Usage (per CCF)	\$13.64	\$13.64	\$13.64	\$13.64	\$13.99	\$14.34
7 CCF and Above Usage (per CCF)	\$15.69	\$15.69	\$15.69	\$15.69	\$16.09	\$16.50

1 - Based on DWM's 'base case' planning scenario which assumes a 5% reduction of MOST proceeds beginning in FY 2021

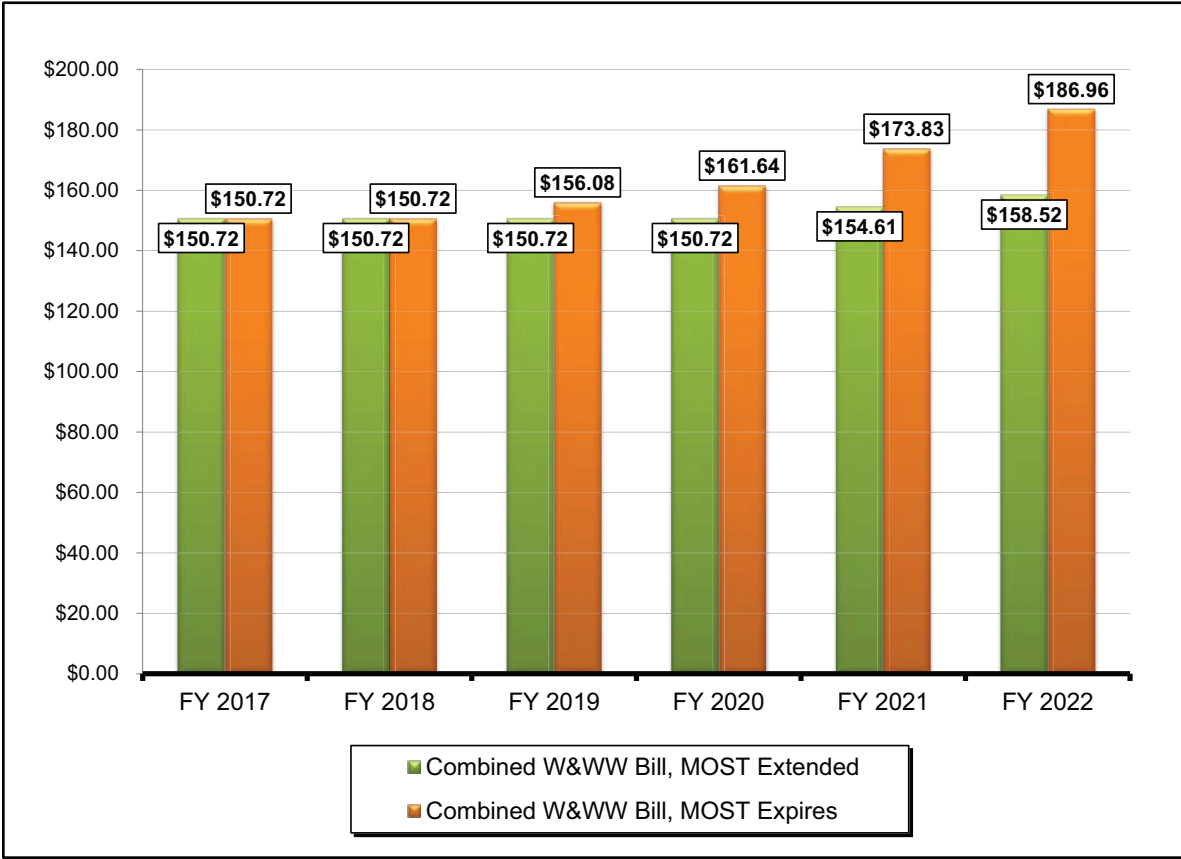
2 - Rates are for water usage metered approximately monthly

3 - Base charges are applied to each customer unit on a monthly basis

Figure 8-1 presents the combined water and wastewater bill, by component, from FY 2017 through FY 2022 for two scenarios: the Department's base case scenario that assumes the MOST is extended but available proceeds begin to decrease in FY 2021; and the scenario in which the MOST expires in FY 2021 as scheduled.

Bill calculations are based on usage of 8 hundred cubic feet (CCF) per month for residential customers living inside the City. The combined water and wastewater bill is expected to increase 5.2 percent over this six-year period, from \$150.72 in FY 2017 to \$158.52 in FY 2022 under the Department's base case scenario. In contrast, the combined bill would increase 24.0 percent if the MOST expires in FY 2021 and the Department implements a more aggressive rate schedule to replace the MOST.

FIGURE 8-1
Projected Water and Wastewater Bill for Financial Planning Alternatives (Inside City Customer, 8 CCF)



APPENDIX C

SUMMARY OF CERTAIN PROVISIONS OF THE BOND ORDINANCE

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APPENDIX C

SUMMARY OF CERTAIN PROVISIONS OF THE BOND ORDINANCE

This Appendix C is only a brief summary of certain provisions of the Bond Ordinance. This summary is not comprehensive nor is it definitive, nor is it intended to be a full statement of the terms of such documents and, accordingly, is qualified by reference to the Bond Ordinance in its entirety, for a complete statement of the detailed provisions thereof.

DEFINITIONS

Certain words and terms used in this Official Statement and in this Appendix C are defined herein.

“Additional Interest” means, for any period during which any Pledged Bonds are owned by a Credit Issuer pursuant to a Credit Facility or Credit Facility Agreement, the amount of interest accrued on such Pledged Bonds at the Pledged Bond Rate less the amount of interest which would have accrued during such period on an equal principal amount of Bonds at the Bond Rate.

“Authorized Denominations” means, with respect to the Series 2017A Bonds, \$5,000 and any integral multiple of \$5,000 in excess thereof.

“Balloon Bonds” means any series of Senior Bonds or Subordinate Bonds 25% or more of the original principal amount of which (i) is due (whether at maturity or by mandatory redemption) in any 12-month period, or (ii) may, at the option of the registered owners, be required to be redeemed, prepaid, purchased directly or indirectly by the City, or otherwise paid in any 12-month period.

“Balloon Date” means any date on which more than 25% of the original principal amount of related Balloon Bonds mature or are subject to mandatory redemption or could, at the option of the registered owners, be required to be redeemed, prepaid, purchased directly or indirectly by the City, or otherwise paid.

“Bonds” means any revenue bonds authorized by and authenticated and delivered pursuant to the Bond Ordinance including the Senior Bonds, any Parity Bonds and any Subordinate Bonds.

“Bond Ordinance” means the Master Bond Ordinance as it may from time to time be modified, supplemented, or amended by Supplemental Ordinances.

“Bond Rate” means the rate of interest per annum payable on specified Bonds other than Pledged Bonds.

“Book Value” means the value of the real property and the personal property comprising the System, net of accumulated depreciation and amortization, as reflected in the most recent

audited financial statements of the System which have been prepared in accordance with generally accepted accounting principles.

“City” means the City of Atlanta, a municipal corporation created and existing under the laws of the State.

“Code” means the Internal Revenue Code of 1986, as amended, and any regulations promulgated or applicable thereunder.

“Credit Facility” means any letter of credit, insurance policy, guaranty, surety bond, standby bond purchase agreement, line of credit, revolving credit agreement, or similar obligation, arrangement, or instrument issued by a bank, insurance company, or other financial institution which is used by the City to perform one or more of the following tasks: (i) enhancing the City's credit by assuring owners of any of the Bonds that principal of and interest on such Bonds will be paid promptly when due; (ii) providing liquidity for the owners of Bonds through undertaking to cause Bonds to be bought from the owners thereof when submitted pursuant to an arrangement prescribed by a Series Ordinance; or (iii) remarketing any Bonds so submitted to the Credit Issuer (whether or not the same Credit Issuer is remarketing the Bonds). The term Credit Facility shall not include a Reserve Account Credit Facility.

“Credit Facility Agreement” means an agreement between the City and a Credit Issuer pursuant to which the Credit Issuer issues a Credit Facility and may include the promissory note or other instrument evidencing the City's obligations to a Credit Issuer pursuant to a Credit Facility Agreement. The term Credit Facility Agreement shall not include a Reserve Account Credit Facility.

“Credit Issuer” means any issuer of a Credit Facility then in effect for all or part of the Bonds. The term Credit Issuer shall not include any Reserve Account Credit Facility provider. Whenever in the Bond Ordinance the consent of the Credit Issuer is required, such consent shall only be required from the Credit Issuer whose Credit Facility is issued with respect to the Bonds for which the consent is required.

“Debt Service Requirement” means the total principal and interest coming due, whether at maturity or upon mandatory redemption, in any specified period. If any Bonds Outstanding or proposed to be issued under the Bond Ordinance bear interest at a variable rate, the interest coming due in any specified future period will be determined as if the variable rate in effect at all times during such future period equaled, at the option of the City, either (a) the average of the actual variable rates which were in effect (weighted according to the length of the period during which each such variable rate was in effect) for the most recent twelve month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a twelve month period), or (b) the current average annual long term fixed rate of interest on securities of similar quality having a similar maturity date as certified by a financial advisor to the City. If any compound interest Bonds are Outstanding or proposed to be issued under the Bond Ordinance, the total principal and interest coming due in any specified period will be determined, with respect to such compound interest bonds, by the supplemental ordinance of the City authorizing such compound interest bonds.

With respect to any Senior Bonds or Subordinate Bonds secured by a credit facility, Debt Service Requirement will include: (a) any commission or commitment fee obligations with respect to such credit facility, (b) unreimbursed draws or advances on such credit facility and interest thereon, (c) any additional interest owed on Senior Bonds or Subordinate Bonds owned by a Credit Issuer while they are so owned, and (d) any remarketing agent fees. With respect to any Senior Bonds or Subordinate Bonds hedged by a hedge agreement, the interest on such hedged bonds, for so long as the provider of the related hedge agreement has not defaulted on its payment obligations thereunder, will be calculated by adding (x) the amount of interest payable by the City on such hedged bonds pursuant to their terms and (y) the amounts (other than termination, indemnity, and expense payments) payable by the City under the related hedge agreement and subtracting (z) the amounts (other than termination, indemnity, and expense payments) payable by the provider of the related hedge agreement at the rate specified in the related hedge agreement; provided, however, that to the extent that the provider of any hedge agreement is in default thereunder, the amount of interest payable by the City on the related hedged bonds will be the interest calculated as if such hedge agreement had not been executed. In determining the amounts (other than termination, indemnity, and expense payments) payable or receivable under a hedge agreement which are not fixed (i.e., which are variable), payable or receivable for any future period, such payments or receipts for any period of calculation (the "Determination Period") will be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent twelve month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a twelve month period). For the purpose of calculating the Debt Service Requirement on Balloon Bonds (a) which are subject to a commitment to refinance, or (b) which do not have a Balloon Date within 12 months from the date of calculation, such bonds will be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years at an assumed interest rate (which shall be the interest rate certified by a financial advisor to the City to be the interest rate at which the City could reasonably expect to borrow the same amount by issuing bonds with the same priority of lien as such Balloon Bonds and with a 20-year term); provided, however, that if the maturity of such bonds (taking into account the term of any commitment to refinance) is in excess of 20 years from the date of issuance, then such bonds will be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such bonds to maturity (including the commitment to refinance) and at the interest rate applicable to such bonds. For the purpose of calculating the Debt Service Requirement on Balloon Bonds (a) which are not subject to a commitment to refinance, and (b) which have a Balloon Date within 12 months from the date of calculation, the principal payable on such bonds on the Balloon Date will be calculated as if paid on the Balloon Date. The principal of and interest on Senior Bonds and Subordinate Bonds and payments under hedge agreements relating thereto will be excluded from the determination of Debt Service Requirement to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or bond proceeds to be deposited on the date of issuance of proposed bonds) in the Project Fund, the Sinking Fund, or a similar fund for Subordinate Bonds.

“Debt Service Reserve Account” means the Debt Service Reserve Account within the Sinking Fund.

“Expenses of Operation and Maintenance” means all expenses reasonably incurred in connection with the operation and maintenance of the System, including salaries, wages, the cost of materials and supplies, rentals of leased property, if any, management fees, payments to others for the purchase of water, if any, and for the treatment and disposal of sewage, the costs of audits, Paying Agent's and Bond Registrar's fees, payment of premiums for insurance required by the Bond Ordinance and other insurance which the City deems prudent to carry on the System and its operations and personnel, and generally, all expenses, exclusive of interest on the Bonds and depreciation or amortization, which under accounting principles generally accepted for municipal utility purposes are properly allocable to operation and maintenance; however, only such expenses as are reasonably and properly necessary or desirable for the proper operation and maintenance of the System shall be included. “Expenses of Operation and Maintenance” also includes the City's obligations under any contract with any other political subdivision or public agency or authority of one or more political subdivisions pursuant to which the City undertakes to make payments measured by the expenses of operating and maintaining any facility which constitutes part of the System and which is owned or operated in part of the City and in part by others. “Expenses of Operations and Maintenance” excludes Franchise and Pilot Payments. “Expenses of Operation and Maintenance” also excludes any expenses described above to the extent that the same were or are reasonably expected to be paid with taxes levied or imposed and in effect on or before the date of calculation.

“Fiscal Year” means the 12-month period used by the City for its general accounting purposes, as it may be changed from time to time.

“Fitch” means Fitch Investors Service, L.P., or, if such limited partnership is dissolved or liquidated or otherwise ceases to perform securities rating services, such other nationally recognized securities rating agency as may be designated in writing by the City.

“Governing Body” means the City Council of the City and any predecessor or successor in office to such present body, and any Person to whom or which may hereafter be delegated by law the duties, powers, authority, obligations, or liabilities of the present body, either in whole or in relation to the System.

“Hedge Agreement” means, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the City determines is to be used, or is intended to be used, to manage or reduce the cost of any Bonds, to convert any element of any Bonds from one form

to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty.

“Hedge Receipts” means amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

“Interest Payment Date” means each date on which interest is to be paid as established in the Series Ordinance for such Bonds.

“Interest Subaccount” means the Interest Subaccount within the Payments Account.

“Investment Earnings” means all interest received on and profits derived from investments made with Pledged Revenues or any moneys in the funds and accounts established under the Bond Ordinance.

“Master Bond Ordinance” means the Master Bond Ordinance adopted by the Governing Body on March 31, 1999 (99-O-0399), as modified, supplemented and amended by various supplemental ordinances.

“Moody's” means Moody's Investors Service, Inc. or, if such corporation is dissolved or liquidated or otherwise ceases to perform securities rating services, such other nationally recognized securities rating agency as may be designated in writing by the City.

“Net Operating Revenues” means Operating Revenues, after provision for payment of all Expenses of Operation and Maintenance.

“Operating Revenues” means all income and revenue of any nature derived from the operation of the System, including monthly water and sewage billings, service charges, other charges for water and sewage service and the availability thereof (other than any special assessment proceeds), connection or tap fees (whether accounted for as revenues or as contributed capital), hydrant rentals, and local, state, or federal grants, capital improvement contract payments, or other moneys (other than taxes) that may be used for the payment of Expenses of Operation and Maintenance, but excluding local, state, or federal grants, loans, capital improvement contract payments, or other moneys that are required to be used for capital improvements to the System and excluding Investment Earnings.

“Other System Obligations” means obligations of any kind, including but not limited to Government Loans, general obligation bonds, revenue bonds, capital leases, installment purchase agreements, or notes (but excluding Bonds and related obligations to Credit Issuers, Reserve Account Credit Facility Providers, and Qualified Hedge Providers), incurred or issued by the City to finance or refinance the cost of acquiring, constructing, reconstructing, improving, bettering, or extending any part of the System.

“Outstanding” means, when used in reference to the Bonds, all Bonds which have been duly authenticated and delivered under the Bond Ordinance, with the exception of (a) Bonds in

lieu of which other Bonds have been issued under agreement to replace lost, mutilated, stolen, or destroyed obligations, (b) Bonds surrendered by the owners in exchange for other Bonds under the Bond Ordinance, (c) Bonds for the payment of which provision has been made in accordance with the Bond Ordinance and (d) Variable Rate Bonds that have been duly called for mandatory tender or as to which the Modal Holder thereof gave notice of optional tender and, in either case, for the purchase of which the Purchase Price is held by the Tender Agent for the payment thereof.

“Parity Bonds” means Bonds issued with a right to payment and secured by a lien on a parity with Outstanding Senior Obligations.

“Payments Account” means the Payments Account within the Sinking Fund.

“Person” or “person” means any individual, corporation, partnership, limited liability company, joint venture, association, joint stock company, trust, unincorporated organization, body, authority, government, or agency or political subdivision thereof.

“Pledged Bond” means any Bond purchased and held by a Credit Issuer pursuant to a Credit Facility Agreement. A Bond shall be deemed a Pledged Bond only for the actual period during which such Bond is owned by a Credit Issuer pursuant to a Credit Facility Agreement.

“Pledged Bond Rate” means the rate of interest payable on Pledged Bonds, as may be provided in a Credit Facility or Credit Facility Agreement.

“Pledged Revenues” means Operating Revenues, Investment Earnings, Hedge Receipts, and all moneys paid or required to be paid into, and all moneys and securities on deposit from time to time in, the funds and accounts specified in the Bond Ordinance, but excluding any amounts required in the Bond Ordinance to be set aside pending, or used for, rebate to the United States government pursuant to Section 148(f) of the Code, including, but not limited to, amounts in the Rebate Fund.

“Principal Subaccount” means the Principal Subaccount within the Payments Account.

“Prior Ordinance” means the Master Ordinance, as supplemented and amended by the First Supplemental Ordinance, the Series 2001 Ordinance, the Series 2004 Ordinance, the Fifth Supplemental Ordinance, the Series 2008 Ordinance, the Seventh Supplemental Ordinance, the Series 2009A Ordinance, the Series 2009B Ordinance, the First Twelfth Supplemental Ordinance, the Second Twelfth Supplemental Ordinance, the Series 2013A Ordinance, the Series 2013B Ordinance, the Series 2015 Ordinance and the Series 2015 Commercial Paper Ordinance.

“Project Fund” means the City of Atlanta Water and Sewer Project Fund established under the Bond Ordinance.

“Qualified Hedge Provider” means an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally

guaranteed by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as the third highest Rating of each Rating Agency, but in no event lower than any Rating on the related Hedged Bonds at the time of execution of the Hedge Agreement, or (ii) in any such lower Rating which each Rating Agency indicates in writing to the City will not, by itself, result in a reduction or withdrawal of its Rating on the related Hedged Bonds that is in effect prior to entering into the Hedge Agreement. An entity's status as a "Qualified Hedge Provider" is determined only at the time the City enters into a Hedge Agreement with such entity and cannot be redetermined with respect to that Hedge Agreement.

"Rating" means a rating in one of the categories by a Rating Agency, disregarding pluses, minuses, and numerical gradations.

"Rating Agencies" or **"Rating Agency"** means Fitch, Moody's, and Standard & Poor's or any successors thereto and any other nationally recognized credit rating agency then maintaining a rating on any Bonds at the request of the City. If at any time a particular Rating Agency does not have a rating outstanding with respect to the relevant Bonds, then a reference to Rating Agency or Rating Agencies shall not include such Rating Agency.

"Record Date" means, with respect to any semiannual Interest Payment Date, the 15th day of the calendar month immediately preceding such Interest Payment Date, and, for any Bonds paying interest other than semiannually, any record dates designated by the City in a Series Ordinance.

"Refunded Bonds" for purposes of the Series 2016 Ordinance, means the portion of the Series 2009B Bonds to be refunded as identified in the Series 2017 Supplemental Pricing Resolution.

"Renewal and Extension Fund" means the City of Atlanta Water and Sewer Renewal and Extension Fund established under the Bond Ordinance.

"Reserve Account Credit Facility" means the letter of credit, insurance policy, line of credit, or surety bond, together with any substitute or replacement therefor, if any, complying with the provisions of the Bond Ordinance, thereby fulfilling all or a portion of the Debt Service Reserve Requirement.

"Reserve Account Credit Facility Provider" means any provider of a Reserve Account Credit Facility.

"Revenue Bond Law" means an Act of the General Assembly of the State of Georgia known as the "Revenue Bond Law", codified as Article 3 of Chapter 82 of Title 36 of the Official Code of Georgia Annotated.

"Revenue Fund" means the City of Atlanta Water and Sewer Revenue Fund established under the Bond Ordinance.

“Sales Tax Revenues” means the tax revenues to be received by the City from the special one-percent sales and use tax to fund water and sewer projects and costs effective on October 1, 2004.

“Senior Bonds” means the Outstanding Parity Bonds and any additional revenue bonds of the City issued on a parity basis with the Outstanding Parity Bonds.

“Series 2017A Bonds” means the City’s Water and Wastewater Revenue Refunding Bonds, Series 2017A, in the original aggregate principal amounts authorized by the Series 2016 Ordinance and specified in the Series 2017 Supplemental Pricing Resolution.

“Series 2016 Ordinance” means the Series 2016 Bond Ordinance authorizing the issuance of the Series 2017A Bonds.

“Series 2017 Registrar and Paying Agent” means U.S. Bank National Association.

“Series 2017 Supplemental Pricing Resolution” means the City’s ordinance or resolution supplementing the Series 2016 Ordinance to set forth certain pricing terms, including the portion of the Series 2009B Bonds to be refunded.

“Series Ordinance” means a bond ordinance or bond ordinances of the City (which may be supplemented by one or more bond ordinance(s)) to be adopted prior to and authorizing the issuance and delivery of any series of Bonds.

“Sinking Fund” means the City of Atlanta Water and Sewer Sinking Fund established under the Bond Ordinance.

“Standard and Poor's” or **“S&P”** means Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc., or, if such corporation is dissolved or liquidated or otherwise ceases to perform securities rating services, such other nationally recognized securities rating agency as may be designated in writing by the City.

“State” means the State of Georgia.

“Subordinate Bonds” means Bonds issued with a right to payment from the Pledged Revenues and secured by a lien on the Pledged Revenues expressly junior and subordinate to the Senior Bonds.

“Supplemental Ordinance” means (a) any Series Ordinance, and (b) any modification amendment or supplement to the Master Bond Ordinance other than a Series Ordinance.

“System” means the combined drinking water, sanitary sewer, and wastewater system of the City, as it now exists and as it may be hereafter added to, extended, improved, and equipped, either from the proceeds of the Bonds or from any other sources at any time hereafter, including, without limitation, (a) all wells, pumping stations, purification plants, and other sources of supply of water and all pipes, mains, and other parts of the facilities for the distribution of water

and all equipment and property used in connection therewith, (b) all sanitary sewers, all wastewater disposal and treatment plants, all pumping stations, and all equipment used in connection therewith, all facilities for the collection, treatment, and disposal of sewage and wastewater, including industrial wastes, and (c) all other facilities or property of any nature or description, real or personal, tangible or intangible, now or hereafter owned or used by the City in the supply, treatment, and distribution of water and in the collection, treatment, and disposal of sewage. The City may own a partial interest in any drinking water facility or sanitary sewer facility, the remaining interest in which may be owned by or on behalf of a political subdivision of the State or any agency or authority thereof. In case of such ownership, the rights and interests possessed by the City in such facility shall be included as part of the System.

“Term Bonds” means Bonds which mature on one maturity date, yet a portion of which are required to be redeemed, prior to maturity, under a schedule of mandatory redemptions established by the Bond Ordinance.

SUMMARY OF THE BOND ORDINANCE

Introduction

The Master Bond Ordinance, adopted March 31, 1999, as supplemented and amended by that certain First Supplemental Bond Ordinance adopted on March 5, 2001, that certain Series 2001 Bond Ordinance adopted on December 5, 2001, that certain Series 2004 Bond Ordinance adopted on August 16, 2004, as supplemented by that certain Supplemental Series 2004 Bond Ordinance adopted on September 15, 2004, that certain Fifth Supplemental Bond Ordinance adopted on November 19, 2007, that certain Series 2008 Bond Ordinance adopted on March 17, 2008, that certain Seventh Supplemental Bond Ordinance adopted on October 6, 2008, that certain Series 2009A Bond Ordinance adopted on May 4, 2009, as supplemented by that certain Supplemental Series 2009A Bond Ordinance adopted on June 17, 2009, that certain Series 2009B Bond Ordinance adopted on October 5, 2009, as supplemented by that certain Supplemental Series 2009B Bond Ordinance adopted on October 14, 2009, that certain First Twelfth Supplemental Ordinance adopted on February 5, 2010, that certain Second Twelfth Supplemental Ordinance adopted on July 18, 2011, that certain Series 2013A Bond Ordinance adopted on July 15, 2013, as supplemented by that certain Series 2013A Supplemental Pricing Resolution adopted on August 28, 2013, that certain Series 2013B Bond Ordinance adopted on July 15, 2013, as supplemented by that certain Series 2013B Supplemental Pricing Resolution adopted on August 28, 2013, that certain Series 2015 Bond Ordinance adopted on January 5, 2015, as supplemented by that certain Series 2015 Supplemental Pricing Resolution adopted on February 26, 2015, that certain 2015 Commercial Paper Ordinance adopted on March 16, 2015, and that certain Series 2016 Bond Ordinance adopted on October 26, 2016 (collectively the “Bond Ordinance”), is a contract between the City and the Bondholders that specifies the terms and details of revenue bonds, and other obligations and which defines the security for such revenue bonds and other obligations. The following is a summary, which does not purport to be comprehensive or definitive, of certain provisions of the Bond Ordinance. Reference is made to the Bond Ordinance in its entirety for a complete recital of the detailed provisions thereof.

System

The Bond Ordinance defines the “System” as the combined drinking water, sanitary sewer, and wastewater system of the City, as it now exists and as it may be hereafter added to, extended, improved, and equipped, either from the proceeds of the Bonds or from any other sources at any time after the date of adoption of the Bond Ordinance, including, without limitation, (a) all wells, pumping stations, purification plants, and other sources of supply of water and all pipes, mains, and other parts of the facilities for the distribution of water and all equipment and property used in connection therewith, (b) all sanitary sewers, all wastewater disposal and treatment plants, all pumping stations, and all equipment used in connection therewith, all facilities for the collection, treatment, and disposal of sewage and wastewater, including industrial wastes, and (c) all other facilities or property of any nature or description, real or personal, tangible or intangible, owned or used on or after the date of adoption of the Bond Ordinance by the City in the supply, treatment, and distribution of water and in the collection, treatment, and disposal of sewage. The City may own a partial interest in any drinking water facility or sanitary sewer facility, the remaining interest in which may be owned by or on behalf of a political subdivision of the State or any agency or authority thereof. In case of such ownership, the rights and interests possessed by the City in such facility shall be included as part of the System.

Pledged Revenues

Bonds issued under the Bond Ordinance are secured by a pledge of, and lien on, Pledged Revenues. The Bond Ordinance provides that this pledge (which may be expanded for additional Parity Bonds) ranks superior to all other pledges which may be made after the date of adoption of the Bond Ordinance of any of the Pledged Revenues, except for pledges of the Pledged Revenues made by the City in Hedge Agreements (relating to Bonds issued under the Bond Ordinance) to secure payments thereunder (other than termination, indemnity, and expense payments), which may rank on a parity with the pledge as to the related hedged bonds. Pledged Revenues do not include the Sales Tax Revenues. Such Sales Tax Revenues may, however, be taken into account for purposes of determining compliance with the City's rate covenant and additional bonds test under the Bond Ordinance. See “**Rate Covenant**” herein.

Additional Parity Obligations

Under the Bond Ordinance, the City may from time to time issue Senior Bonds, which are additional parity obligations which will be equally and ratably secured on a parity basis with the Outstanding Parity Bonds.

Funds Created by the Bond Ordinance and Flow of Funds

The Bond Ordinance creates and requires the City to maintain the following funds:

- (a) the Revenue Fund;
- (b) the Sinking Fund and therein the following two accounts:

- (i) Payments Account, and
- (ii) Debt Service Reserve Account;
- (c) the Renewal and Extension Fund;
- (d) the Rebate Fund; and
- (e) the Project Fund.

Revenue Fund. The Bond Ordinance requires the City to deposit and continue to deposit all operating revenues of the System in the Revenue Fund from time to time as and when received. Under the terms of the Bond Ordinance, moneys in the Revenue Fund are to be applied by the City from time to time to the following purposes and, prior to the occurrence and continuation of an event of default under the Bond Ordinance, in the order of priority determined by the City in its sole discretion (a) to pay Expenses of Operation and Maintenance of the System, (b) to deposit into the Sinking Fund the amounts described below, (c) to deposit into the Rebate Fund the amounts required to make provision for arbitrage rebate payments to the United States government, (d) to pay any amounts due to any issuer (a “Credit Issuer”) of a credit facility (such as an insurance policy, letter of credit, guaranty, surety bond, standby bond purchase agreement, or line of credit) providing credit or liquidity support for any Senior Bonds or subordinate bonds issued under the Bond Ordinance, (e) to pay any amounts due any Reserve Account Credit Facility Provider (as hereinafter defined), (f) to make provision for the payment of debt service on bonds issued under the Bond Ordinance that are junior and subordinate in lien and right of payment to the Senior Bonds (“Subordinate Bonds”) and the payment of amounts (other than termination, indemnity, and expense payments) due to providers of hedge agreements (such as interest rate swap agreements) relating to Subordinate Bonds, and (g) to pay any amounts required to be paid with respect to any other obligations issued by the City to finance or refinance the System.

In addition, the Bond Ordinance allows the City from time to time to deposit into the Renewal and Extension Fund any moneys and securities held in the Revenue Fund in excess of 30 days' estimated Expenses of Operation and Maintenance of the System.

Payments Account. The Bond Ordinance requires the City to deposit sufficient moneys in periodic installments from the Revenue Fund into the Payments Account for the purpose of paying debt service on the Senior Bonds when due and for the purpose of paying amounts (other than termination, indemnity, and expense payments) due to providers of hedge agreements (such as interest rate swap agreements) relating to Senior Bonds.

Debt Service Reserve Account. The Bond Ordinance requires the City to maintain the Debt Service Reserve Account at an amount determined from time to time by the City as a reasonable reserve for the payment of debt service on the Senior Bonds. The City initially determined this amount to be the maximum annual Debt Service Requirement with respect to Senior Bonds in the then current or any succeeding fiscal year. Under the terms of the Bond

Ordinance, the City may in its sole discretion change, reduce, or increase this amount without the consent of the owners of the Senior Bonds, but in no event may the City reduce this amount (a) below the greater of (i) 50% of the average annual Debt Service Requirement with respect to Senior Bonds in the then current or any succeeding fiscal year, or (ii) the maximum annual Debt Service Requirement with respect to the Series 1999 Bonds in the then current or any succeeding fiscal year, and (b) unless each rating agency rating the Senior Bonds indicates in writing to the City that such reduction will not, by itself, result in a reduction or withdrawal of its current rating on the Senior Bonds. In connection with the issuance of Parity Bonds, the Bond Ordinance permits the City to fund any increase in the required balance of the Debt Service Reserve Account by making deposits thereto over a period not exceeding 60 months from the date of issuance of such Parity Bonds in equal monthly amounts. The Bond Ordinance allows the City to satisfy in whole or in part the required balance of the Debt Service Reserve Account by means of a letter of credit, insurance policy, line of credit, or surety bond issued by a provider (a "Reserve Account Credit Facility Provider") with a credit rating not less than the then current rating on the related series of Senior Bonds. In the event a Reserve Account Credit Facility Provider becomes insolvent or has its credit rating withdrawn or reduced below the rating on the Senior Bonds, the City is required to obtain a substitute credit facility within 60 days or to fund the Debt Service Reserve Account to its required balance in not more than 24 equal monthly deposits.

Renewal and Extension Fund. In addition to the deposits to be made to the Renewal and Extension Fund described above, the Bond Ordinance requires the City to deposit in the Renewal and Extension Fund all termination payments received under any hedge agreements relating to Senior Bonds or Subordinate Bonds. Under the terms of the Bond Ordinance, amounts held in the Renewal and Extension Fund must be used first to prevent default in the payment of debt service on the Senior Bonds when due and then will be applied by the City from time to time, as and when the City shall determine, to the following purposes and, prior to the occurrence and continuation of an event of default under the Bond Ordinance, in the order of priority determined by the City in its sole discretion (a) for the purposes for which moneys held in the Revenue Fund may be applied as described above, (b) to pay any amounts which may then be due and owing under any hedge agreement relating to Senior Bonds or Subordinate Bonds (including termination payments, fees, expenses, and indemnity payments), (c) to pay any governmental charges and assessments against the System or any part thereof which may then be due and owing, (d) to make acquisitions, betterments, extensions, repairs, or replacements or other capital improvements (including the purchase of equipment) to the System deemed necessary by the City (including payments under contracts with vendors, suppliers, and contractors for the foregoing purposes), (e) to acquire Senior Bonds by redemption or by purchase in the open market at a price not exceeding the callable price, and (f) to make annual transfers to the General Fund of the City, on or after December 15 of each year, of an amount not to exceed the sum of (i) 5% of the gross operating revenues of the System for the preceding fiscal year of the City, and (ii) the ad valorem property taxes that would be due to the City (and not to any other governmental body) in the current calendar year, if title to the System were vested in an entity subject to ad valorem taxation, assuming that the fair market value of the System equaled its book value for purposes of determining the assessed value of the System.

The gross revenues derived by the City from the ownership and operation of the System may be used only in accordance with the provisions of the Bond Ordinance described above and, except as described above, may not be transferred to either the General Fund or any other fund of the City.

Rebate Fund. The City established the Rebate Fund under the terms of the Bond Ordinance to hold amounts to be paid to the United States government as arbitrage rebate payments.

Project Fund. The City established the Project Fund under the terms of the Bond Ordinance to hold proceeds of the sale of Senior Bonds and Subordinate Bonds. The Bond Ordinance requires amounts held in the Project Fund to be applied to the payment of costs related to the acquisition, construction, reconstruction, improvement, betterment, extension, or equipping of the System.

Investments. Under the terms of the Bond Ordinance, moneys in the funds and accounts established thereunder must be invested in permissible investments under Georgia law which have (or are collateralized by obligations which have) a rating by any rating agency then rating any bonds issued under the Bond Ordinance which is equal to or greater than the third highest long term rating category or the second highest short term rating category of such rating agency. Such investments may contain such maturities as are deemed suitable by the City and must be valued at fair market value on each interest payment date.

Rate Covenant

The City has covenanted in the Bond Ordinance to prescribe, fix, maintain, and collect rates, fees, and other charges for the services, facilities, and commodities furnished by the System fully sufficient at all times to (a) provide for 100% of the Expenses of Operation and Maintenance of the System and for the accumulation in the Revenue Fund of a reasonable reserve therefor, and (b) produce Net Operating Revenues of the System in each fiscal year of the City which (together with investment earnings on the funds held under the Bond Ordinance):

- (i) will equal at least 110% of the Debt Service Requirement on all Senior Bonds then outstanding for the year of computation and 100% of the Debt Service Requirement on all Subordinate Bonds then outstanding for the year of computation;
- (ii) will enable the City to make all required payments, if any, into the Debt Service Reserve Account and the Rebate Fund and to any Credit Issuer, any Reserve Account Credit Facility Provider, and any Qualified Hedge Provider;
- (iii) will enable the City to accumulate an amount to be held in the Renewal and Extension Fund, which in the judgment of the City is adequate to meet the costs of major renewals, replacements, repairs, additions, betterments, and improvements to the System, necessary to keep the same in good operating condition or as is required by any governmental agency having jurisdiction over the System; and

(iv) will remedy all deficiencies in required payments into any of the funds and accounts mentioned in the Bond Ordinance from prior fiscal years of the City.

If the City fails to prescribe, fix, maintain, and collect rates, fees, and other charges, or to revise such rates, fees, and other charges, as described above, the Bond Ordinance allows the owners of not less than 25% in aggregate principal amount of the Senior Bonds then outstanding, without regard to whether any event of default thereunder shall have occurred, to institute and prosecute in any court of competent jurisdiction an appropriate action to compel the City to prescribe, fix, maintain, or collect such rates, fees, and other charges, or to revise such rates, fees, and other charges, in accordance with the requirements of the Bond Ordinance described above.

Parity and Subordinate Bonds

Upon satisfaction of certain conditions, the Bond Ordinance permits the City to issue additional Senior Bonds without express limit as to principal amount to finance capital improvements to or expansions of the System (or to refinance obligations issued for such purposes), which will be equally and ratably secured on a parity basis with the Senior Bonds under the Bond Ordinance. The Bond Ordinance allows revenue bonds issued to refund Senior Bonds to constitute Parity Bonds if the City obtains a report from an independent certified public accountant or a financial advisor, demonstrating that the refunding will reduce the total debt service payments on outstanding Senior Bonds on a present value basis. The Bond Ordinance also allows revenue bonds to constitute Parity Bonds if the City obtains either:

(a) a report by an independent certified public accountant to the effect that the historical net operating revenues of the System and investment earnings on the funds held under the Bond Ordinance for a period of 12 consecutive months of the most recent 18 consecutive months prior to the issuance of the proposed Parity Bonds were equal to at least 110% of the average annual Debt Service Requirement on all Senior Bonds which will be outstanding immediately after the issuance of the proposed Parity Bonds, in the then current or any succeeding fiscal year of the City; or

(b) a report by a nationally recognized firm of engineers or utility consultants (a "Consultant") to the effect that (i) the forecasted Net Operating Revenues of the System and investment earnings on the funds held under the Bond Ordinance from the date of issuance of the Parity Bonds until the date of completion of the financed improvements are expected to equal at least 100% of the Debt Service Requirement during such period on all Senior Bonds which will be outstanding immediately after the issuance of the proposed Parity Bonds, and (ii) the forecasted Net Operating Revenues of the System and investment earnings on the funds held under the Bond Ordinance for each of the five consecutive fiscal years of the City following the date of completion of the financed improvements are expected to equal at least 110% of the average annual Debt Service Requirement on all Senior Bonds which will be outstanding immediately after the issuance of the proposed Parity Bonds, in the then current or any succeeding fiscal year of the City.

The report by the independent certified public accountant described in paragraph (a) above may contain pro forma adjustments to historical Net Operating Revenues of the System

equal to 100% of the increased annual amount attributable to any revision in the schedule of rates, fees, and charges for the services, facilities, and commodities furnished by the System, imposed prior to the date of delivery of the proposed Parity Bonds and not fully reflected in the historical Net Operating Revenues of the System actually received during such 12-month period.

The report by the Consultant described in paragraph (b) above may not take into consideration any rate schedule to be imposed in the future, unless such rate schedule has been adopted by ordinance of the Governing Body. Such rate schedule adopted by ordinance may contain, however, future effective dates.

The Bond Ordinance also allows the City to issue obligations (including, without limitation, Subordinate Bonds) secured by the Pledged Revenues, which are junior and subordinate to the Senior Bonds as to lien and right of payment. The Bond Ordinance permits the accession of Subordinate Bonds and related hedge agreements to the status of complete parity with the Senior Bonds and related hedge agreements if, among other things, as of the date of accession, the report described in paragraph (a) above is obtained on a basis that includes all outstanding Senior Bonds and such Subordinate Bonds.

Hedge Agreements

In connection with the issuance of any Senior Bonds or Subordinate Bonds or at any time thereafter so long as such bonds remain outstanding, the Bond Ordinance permits the City to enter into hedge agreements (such as interest rate swap agreements) with providers rated (directly or through guarantees of their obligations under such hedge agreements) either (a) at least as high as the third highest rating category of each rating agency rating any revenue bonds of the System, but in no event lower than any rating on the related hedged bonds at the time of execution of the hedge agreement, or (b) in any such lower rating category which each rating agency rating any revenue bonds of the System indicates will not, by itself, result in a reduction or withdrawal of its rating on the related hedged bonds that is in effect prior to entering into the hedge agreement. An entity's status as a provider qualified to execute a hedge agreement is determined only at the time the City enters into the hedge agreement with such entity and cannot be redetermined with respect to that hedge agreement. The City's obligation to pay amounts (other than termination, indemnity, and expense payments) due under hedge agreements may be secured by a pledge of, and lien on, the Pledged Revenues on a parity with the lien created by the Bond Ordinance to secure the related hedged bonds, or may be subordinated in lien and right of payment to the payment of Senior Bonds or Subordinate Bonds, as determined by the City.

In addition, the City by resolution has adopted procedures, which are applicable to all hedge agreements (such as interest rate swap agreements) in order to hedge specific revenue bonds. The City may enter into a hedge agreement provided that, among other requirements, no more than 20% of the aggregate principal amount of outstanding revenue bonds for a particular enterprise fund may bear interest at a floating or variable rate, whether by its original terms or as a result of hedge agreements; each rating agency rating the revenue bonds being hedged confirms that the hedge agreement will not adversely affect the rating of such revenue bonds being hedged; and the hedge agreement is approved by resolution or ordinance of the Governing Body.

Maintenance, Insurance, and Sale of the System; Annual Budget; Tax Covenants

The City covenants in the Bond Ordinance to (a) maintain the System in good repair and in sound operating condition, (b) carry adequate public liability, fidelity, and property insurance or self-insurance, such as is maintained by similar utilities as the System, and (c) adopt an annual budget for the System for each fiscal year of the City in compliance with the rate covenant described above.

The City also covenants in the Bond Ordinance not to sell, lease, encumber, or in any manner dispose of the System as a whole or in part, except for property not necessary, useful, or profitable in the operation of the System or property the disposition of which will be advantageous to the System and will not adversely affect the security for the Senior Bonds or Subordinate Bonds.

The City reserves the right in the Bond Ordinance to sell any portion of the System or to transfer the System as a whole to any political subdivision or authority or agency of one or more political subdivisions of the State, provided that the City obtains an opinion of a Consultant expressing the view that such sale will not result in any diminution of Net Operating Revenues of the System to the extent that in any future fiscal year of the City the Net Operating Revenues of the System and investment earnings on the funds held under the Bond Ordinance will be less than 100% of the average annual Debt Service Requirement on all Senior Bonds to be outstanding after such sale, in the then current or any succeeding fiscal year of the City.

The City also covenants in the Bond Ordinance to take all actions to assure the tax exempt status of interest on tax exempt Senior Bonds and Subordinate Bonds and to refrain from taking any action, which would adversely affect such status.

Events of Default and Remedies

The Bond Ordinance defines an “Event of Default” to mean, among other things, (a) failure to pay debt service on Senior Bonds when due, (b) failure to perform any obligation with respect to the Debt Service Reserve Account, which remains unremedied for more than 30 days, (c) certain events of insolvency affecting the City, (d) the appointment of a receiver of the System or the funds held under the Bond Ordinance, (e) failure to perform any other covenant (other than the continuing disclosure covenant) contained in the Bond Ordinance for 90 days (or 180 days if such default cannot be cured in 90 days and if corrective action is instituted and diligently pursued) after notice from the owners of (or a Credit Issuer securing) at least 25% in aggregate principal amount of Senior Bonds, (f) failure by any Credit Issuer to pay the purchase price of Senior Bonds, (g) delivery of notice that an “Event of Default” has occurred under any agreement relating to a credit facility supporting Senior Bonds, and (h) delivery of notice that an “Event of Default” has occurred under a hedge agreement relating to Senior Bonds.

Upon the happening and continuance of any Event of Default (except for events described in clauses (f), (g), and (h) above), the Bond Ordinance allows the owners of more than 50% in aggregate principal amount of outstanding Senior Bonds or a Credit Issuer securing more than 50% in aggregate principal amount of outstanding Senior Bonds to accelerate the

outstanding Senior Bonds. If the City cures the Event of Default, the Bond Ordinance allows the owners of more than 50% in aggregate principal amount of outstanding Senior Bonds to waive the acceleration, subject to the consent of each Credit Issuer securing Senior Bonds.

The Bond Ordinance provides that, upon the occurrence and continuation of an Event of Default, the City or a receiver appointed for the purpose must apply all Pledged Revenues as follows and in the following order of priority (a) first, to the payment of the reasonable and proper charges, expenses, and liabilities of the receiver and any paying agent and bond registrar under the Bond Ordinance, (b) second, to the payment of all reasonable and necessary Expenses of Operation and Maintenance of the System and major renewals and replacements to the System, and (c) third, to the payment of debt service on Senior Bonds and amounts (other than termination, indemnity, and expense payments) due under hedge agreements relating to Senior Bonds.

The Revenue Bond Law provides that the provisions of the Revenue Bond Law and the Bond Ordinance constitute a contract between the City and the owners of the revenue bonds of the System issued thereunder. In addition to the remedies set forth in the Bond Ordinance, the Revenue Bond Law provides that the duties of the City, the Governing Body, and the officers of the City under the Revenue Bond Law and the Bond Ordinance are enforceable by any owner of the revenue bonds of the System issued thereunder by mandamus or other appropriate action or proceeding at law or in equity.

The Revenue Bond Law also provides that in the event the City defaults in the payment of the principal or interest on any of the Senior Bonds after the same becomes due, whether at maturity or upon call for redemption, and such default continues for a period of 30 days, or in the event the City or the Governing Body or the officers, agents, or employees of the City fail or refuse to comply with the essential provisions of the Revenue Bond Law or default in any material respect in the Bond Ordinance, any holders of the Senior Bonds shall have the right to apply in an appropriate judicial proceeding to the Superior Court of Fulton County or to any court of competent jurisdiction for the appointment of a receiver of the System, whether or not all Senior Bonds or Subordinate Bonds have been declared due and payable and whether or not such holder is seeking or has sought to enforce any other right or to exercise any remedy in connection with the Senior Bonds. Upon such application, the Superior Court, if it deems such action necessary for the protection of the bondholders, may appoint and, if the application is made by the holders of 25% in principal amount of the Senior Bonds and Subordinate Bonds then outstanding, shall appoint a receiver of the System.

The receiver so appointed under the Revenue Bond Law, directly or by his agents and attorneys, is required under the Revenue Bond Law to forthwith enter into and upon and take possession of the System. If the court so directs, the receiver may exclude the City, the Governing Body, and the City's officers, agents, and employees, and all persons claiming under them, wholly from the System. Under the Revenue Bond Law, the receiver will have, hold, use, operate, manage, and control the System, in the name of the City or otherwise, as the receiver may deem best. Under the Revenue Bond Law, the receiver will exercise all the rights and powers of the City with respect to the System as the City itself might do. The receiver will maintain, restore, insure, and keep insured the System and from time to time will make all such

necessary or proper repairs as the receiver may deem expedient. Under the Revenue Bond Law, the receiver will establish, levy, maintain, and collect such fees, tolls, rentals, and other charges in connection with the System as he deems necessary or proper and reasonable. Under the Revenue Bond Law, the receiver will collect and receive all revenues and will deposit the same in a separate account and apply the revenues so collected and received in such manner as the court shall direct.

Notwithstanding the provisions of the Revenue Bond Law described above, the receiver has no power to sell, assign, mortgage, or otherwise dispose of any assets of whatever kind or character belonging to the City and useful for the System. The authority of any such receiver is limited to the operation and maintenance of the System. No court may have jurisdiction to enter any order or decree requiring or permitting the receiver to sell, assign, mortgage, or otherwise dispose of any such assets.

The receiver must, in the performance of the powers conferred upon him, act under the direction and supervision of the court making such appointment and will at all times be subject to the orders and decrees of such court and may be removed by such court.

Under the terms of the Revenue Bond Law, whenever all that is due upon the Senior Bonds and interest thereon and upon any other notes, bonds, or other obligations and interest thereon having a charge, lien, or encumbrance on the revenues of the System and under any of the terms of the Bond Ordinance has been paid or deposited as provided therein and whenever all defaults have been cured and made good and it appears to the court that no default is imminent, the court must direct the receiver to surrender possession of the System to the City. The same right of the holders of the Senior Bonds to secure the appointment of a receiver exists upon any subsequent default as is provided in the Revenue Bond Law.

If the City were to default on the Senior Bonds, the realization of value from the pledge of the Pledged Revenues to secure the payment of the Senior Bonds would depend upon the exercise of various remedies specified by the Bond Ordinance and Georgia law (including the Revenue Bond Law). These remedies may require judicial actions, which are often subject to discretion and delay and which may be difficult to pursue. The enforceability of rights or remedies with respect to the Senior Bonds may be limited by State and federal laws, rulings, and decisions affecting remedies and by bankruptcy, insolvency, or other laws affecting creditors' rights or remedies heretofore or hereafter enacted.

Section 36-80-5 of the Official Code of Georgia Annotated provides that no municipality created under the Constitution or laws of the State shall be authorized to file a petition for relief from payment of its debts as they mature or a petition for composition of its debts under any federal statute providing for such relief or composition or otherwise to take advantage of any federal statute providing for the adjustment of debts of political subdivisions and public agencies and instrumentalities. Section 36-80-5 of the Official Code of Georgia Annotated also provides that no chief executive, mayor, city council, or other governmental officer, governing body, or organization shall be empowered to cause or authorize the filing by or on behalf of any municipality created under the Constitution or laws of the State of any petition for relief from payment of its debts as they mature or a petition for composition of its debts under any federal

statute providing for such relief or composition or otherwise to take advantage of any federal statute providing for the adjustment of debts of political subdivisions and public agencies and instrumentalities.

Defeasance

The Bond Ordinance provides that Senior Bonds or Subordinate Bonds for the payment or redemption of which sufficient moneys or sufficient direct obligations of, or obligations fully guaranteed by, the United States of America have been deposited with the paying agent or the depository of the Sinking Fund (whether upon or prior to the maturity or the redemption date of such bonds) will be deemed to be paid and no longer outstanding under the Bond Ordinance.

Supplemental Ordinances

The Bond Ordinance permits the City to adopt supplemental ordinances modifying, amending, or supplementing the Bond Ordinance, without the consent of or notice to the owners of any of the Senior Bonds or Subordinate Bonds, for the following purposes, among others (a) to add other utilities to the System or to change the required balance of the Debt Service Reserve Account (but not below the amount described under the caption “**Funds Created By the Bond Ordinance and Flow of Funds** - Debt Service Reserve Account” herein), and (b) to modify any of the provisions of the Bond Ordinance in any respect (other than a modification of the type described below requiring the unanimous written consent of the owners of Senior Bonds and Subordinate Bonds); provided that for (i) any outstanding Senior Bonds and Subordinate Bonds which are assigned a rating and which are not secured by a credit facility providing for the payment of the full amount of principal and interest to be paid thereon, each rating agency rating such bonds shall have notified the City that such modification will not cause the then applicable rating on any such bonds to be reduced or withdrawn, and (ii) any outstanding Senior Bonds and Subordinate Bonds which are secured by credit facilities providing for the payment of the full amount of the principal and interest to be paid thereon, each Credit Issuer shall have consented in writing to such modification.

The Bond Ordinance also provides that, with the consent of the owners of not less than a majority in aggregate principal amount of the outstanding bonds of each class (senior and subordinate), voting separately by class, the City may adopt a supplemental ordinance for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of the Bond Ordinance; provided, however, that no such supplemental ordinance shall: (a) extend the maturity date or due date of any mandatory sinking fund redemption with respect to any bond outstanding under the Bond Ordinance; (b) reduce or extend the time for payment of debt service on any bond outstanding under the Bond Ordinance; (c) reduce any premium payable upon the redemption of any bond under the Bond Ordinance or advance the date upon which any bond may first be called for redemption prior to its stated maturity date; (d) give to any Senior Bonds (or related hedge agreements) a preference over any other Senior Bonds (or related hedge agreements); (e) permit the creation of any lien or any other encumbrance on the Pledged Revenues having a lien equal to or prior to the lien created under the Bond Ordinance for the Senior Bonds; (f) reduce the percentage of owners of either class of bonds required to approve any such supplemental ordinance; or (g) deprive the owners of Senior

Bonds or Subordinate Bonds of the right to payment of such bonds or from the Pledged Revenues, without, in each case, the consent of the owners of all the Senior Bonds and Subordinate Bonds then outstanding.

APPENDIX D

FORM OF OPINION OF BOND COUNSEL

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Set forth below is the proposed opinion of Bond Counsel. This opinion is preliminary and subject to change prior to the issuance and delivery of the Series 2017A Bonds.

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ATLANTA, GEORGIA 30308-2216

TEL 404 • 888 • 4000
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May ____, 2017

City of Atlanta
Atlanta, Georgia

\$ _____
City of Atlanta
Water and Wastewater
Revenue Refunding Bonds,
Series 2017A

Ladies and Gentlemen:

As Bond Counsel to the City of Atlanta (the “**City**”), we have examined the applicable law and certified copies of certain documents and proceedings, including without limitation a certified copy of the validation proceeding in the Superior Court of Fulton County, Georgia relating to the issuance and sale by the City of its \$ _____ Water and Wastewater Revenue Refunding Bonds, Series 2017A (the “**Series 2017A Bonds**”). The Series 2017A Bonds are being issued by the City to (a) refund a portion of the City’s outstanding Water and Wastewater Revenue Bonds, Series 2009B (collectively, the “**Refunded Bonds**”), and (b) pay the costs of issuance related to the Series 2017A Bonds. The Series 2017A Bonds are authorized by that certain Master Bond Ordinance adopted on March 31, 1999 (the “**Master Bond Ordinance**”), as thereafter supplemented and amended, including by the Series 2016 Bond Ordinance, adopted by the City Council on October 17, 2016 and approved by operation of law on October 26, 2016, and the Series 2017 Supplemental Pricing Resolution adopted by the City Council on April ____, 2017 and approved by the Mayor of the City on April ____, 2017 (the Master Bond Ordinance, as so supplemented and amended, is hereinafter referred to as the “**Bond Ordinance**”). Reference is made to the forms of the Series 2017A Bonds for information concerning their details, including payment and redemption provisions, their purpose, and the proceedings pursuant to which they are issued. Capitalized terms used but not defined herein have the respective meanings ascribed thereto in the Bond Ordinance.

In order to effect the refunding and redemption of the Refunded Bonds, a portion of the proceeds of the Series 2017A Bonds will be deposited with U.S. Bank National Association, as escrow agent (the “Escrow Agent”), pursuant to an Escrow Deposit Agreement, dated May ____, 2017 (the “Escrow Agreement”), between the City and the Escrow Agent, in an amount sufficient to pay the principal of and accrued interest on the Refunded Bonds as they become due and payable on the redemption dates, all as specified in the Escrow Agreement.

Upon their issuance the Series 2017A Bonds shall be Senior Bonds payable from and secured by a pledge of and senior lien on Pledged Revenues on a parity with the Outstanding Parity Bonds (certain Series 1999A Bonds, Series 2001A Bonds, Series 2004 Bonds, Series 2008 Bonds, Series 2009A Bonds, Series 2009B Bonds, Series 2013A Bonds, Series 2013B Bonds and Series 2015 Bonds) and other parity obligations, including the obligation to make certain Hedge Payments.

Without undertaking to verify the same by independent investigation, we have relied on (a) computations provided to Terminus Analytics, LLC, verification agent, the mathematical accuracy of which has been verified by them, relating to the sufficiency of the investments in the Escrow Fund established pursuant to the Escrow Agreement to pay the amounts due on the Refunded Bonds, the yield on such investments and the yields on the Series 2017A Bonds and the Refunded Bonds, and (b) certifications by representatives of the City and other parties as to certain facts relevant to both our opinion and requirements of the Internal Revenue Code of 1986, as amended (the “**Code**”). The City has covenanted to comply with the provisions of the Code regarding, among other matters, the use, expenditure and investment of the proceeds of the Series 2017A Bonds and the timely payment to the United States of any arbitrage rebate amounts with respect to the Series 2017A Bonds, all as set forth in the proceedings and documents relating to the issuance of the Series 2017A Bonds (the “**Covenants**”).

Based on the foregoing, in accordance with customary legal opinion practice, and assuming the due authorization, execution and delivery by the parties to the agreements other than the City, we are of the opinion that:

(1) The Bond Ordinance has been duly adopted, is in full force and effect, and is valid and enforceable against the City in accordance with its terms.

(2) The Series 2017A Bonds have been duly authorized and issued in accordance with the Constitution and laws of the State of Georgia and the Bond Ordinance, and constitute valid and binding limited obligations of the City payable as to both principal and interest solely from and secured by a lien on the portion of the revenues of the water and wastewater system of the City (the “**System**”) constituting Pledged Revenues. The Series 2017A Bonds, the premium, if any, and the interest thereon do not constitute a pledge of the faith and credit of the State of

Georgia or any municipality or political subdivision thereof, including without limitation, the City.

(3) The Escrow Agreement has been duly authorized, executed and delivered by the City and constitutes a valid and binding obligation of the City enforceable against the City in accordance with its terms.

(4) The City has covenanted to at all times prescribe, fix, maintain, and collect rates, fees, and other charges for the services, facilities, and commodities furnished by the System fully sufficient at all times to (a) provide 100% of the Expenses of Operation and Maintenance and for accumulation in the Revenue Fund of a reasonable reserve therefor, (b) produce Net Operating Revenues in each Fiscal Year equal to at least 110% of the Debt Service Requirement on all Senior Bonds, to enable the City to make all required payments into the Debt Service Reserve Account and the Rebate Fund and to any Credit Issuer, Reserve Account Credit Facility Provider and any Qualified Hedge Provider, (c) fund the Renewal and Extension Fund in amounts reasonably determined to be adequate to fund costs of major renewals, replacements, repairs and additions, and (d) remedy all deficiencies in required payments under the Bond Ordinance from prior Fiscal Years.

(5) The rights of the holders of the Series 2017A Bonds and the enforceability of such rights, including enforcement of the obligations of the City under the Bond Ordinance, may be limited or otherwise affected by (a) bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance and other laws affecting the rights of creditors generally; and (b) principles of equity, whether considered at law or in equity.

(6) Under current law, interest, ***including accrued original issue discount (“OID”),*** on the Series 2017A Bonds (a) will not be included in gross income for Federal income tax purposes and (b) will not be an item of tax preference for purposes of the Federal alternative minimum income tax imposed on individuals and corporations; however, with respect to corporations (as defined for Federal income tax purposes) subject to the alternative minimum income tax, such interest is taken into account in determining adjusted current earnings for purposes of computing such tax. The opinion in this paragraph (6) is subject to the condition that there is compliance subsequent to the issuance of the Series 2017A Bonds with all requirements of the Code that must be satisfied in order that interest thereon not be included in gross income for Federal income tax purposes. ***[The initial public offering prices of the Series 2017A Bonds maturing in the year[s] 20__ and 20__ (the “OID Bonds”) are less than their stated principal amounts. Under existing law, the difference between the stated principal amount and the initial public offering price of each maturity of OID Bonds to the public (excluding bond houses and brokers) at which a substantial amount of such maturity is sold will constitute OID; OID will accrue on a constant-yield-to-maturity method based on regular***

compounding; and a holder's basis in an OID Bond will be increased by the amount of OID treated for federal income tax purposes as having accrued on the OID Bond while the holder holds the OID Bond.] Failure by the City to comply with the Covenants, among other things, could cause interest on the Series 2017A Bonds***], including OID,]*** to be included in gross income for Federal income tax purposes retroactively to their date of issue. We express no opinion regarding other Federal tax consequences of the ownership of or receipt or accrual of interest on the Series 2017A Bonds.

(7) Under current law, interest on the Series 2017A Bonds is exempt from income taxation by the State of Georgia.

Our services as Bond Counsel have been limited to delivering the foregoing opinion based on our review of such proceedings and documents as we deem necessary to approve the validity of the Series 2017A Bonds and the tax-exempt status of the interest on certain of such bonds. We express no opinion herein as to the financial resources of the City or the System, the City's ability to provide for the payments required on the Series 2017A Bonds with Pledged Revenues derived from the System, or the accuracy or completeness of any information, including the City's Preliminary Official Statement, dated April ____, 2017, and its Official Statement, dated April ____, 2017, that may have been relied upon by anyone in making the decision to purchase the Series 2017A Bonds.

Very truly yours,

_____/_____

APPENDIX E

FORM OF CONTINUING DISCLOSURE AGREEMENT

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CONTINUING DISCLOSURE AGREEMENT

by and between

CITY OF ATLANTA

and

DIGITAL ASSURANCE CERTIFICATION, L.L.C.

relating to:

\$ _____
CITY OF ATLANTA
WATER AND WASTEWATER
REVENUE REFUNDING BONDS, SERIES 2017A

Dated as of [May 1], 2017

This **CONTINUING DISCLOSURE AGREEMENT** (this "Disclosure Agreement") dated as of [May 1], 2017, is executed and delivered by the **CITY OF ATLANTA**, a municipal corporation duly organized and existing under the laws of the State of Georgia (the "City") and **DIGITAL ASSURANCE CERTIFICATION, L.L.C.**, a limited liability company duly organized and existing under the laws of the State of Florida, and any successor dissemination agent serving hereunder pursuant to Section 11 hereof (the "Dissemination Agent" or "DAC").

RECITALS:

A. Contemporaneously with the execution and delivery of this Disclosure Agreement, the City issued and delivered \$ _____ in aggregate principal amount of its Water and Wastewater Revenue Refunding Bonds, Series 2017A (the "Series 2017 Bonds") pursuant to, among other things, that certain Master Bond Ordinance adopted on March 31, 1999, as previously supplemented and amended (the "Master Bond Ordinance"), and particularly as supplemented by that certain Series 2016 Bond Ordinance adopted on October 17, 2016 and approved by operation of law on October 26, 2016, as supplemented by that certain Series 2016 Supplemental Pricing Resolution adopted on [April 26], 2017 (collectively, the "Series 2016 Bond Ordinance," and together with the Master Bond Ordinance are hereinafter collectively referred to as the "Bond Ordinance").

B. The Series 2017 Bonds are special limited obligations of the City payable solely from and secured by a first priority pledge of and lien on the Pledged Revenues.

C. The Series 2017 Bonds are being issued for the purpose of: (a) refunding a portion of the City's outstanding Water and Wastewater Revenue Bonds, Series 2009B, and (b) paying the costs of issuance related to the Series 2017 Bonds.

D. The City has authorized the preparation and distribution of the Preliminary Official Statement dated April 17, 2017 with respect to the Series 2017 Bonds (the "Preliminary Official Statement") and, on or before the date of the Preliminary Official Statement, the City deemed that the Preliminary Official Statement was final within the meaning of the Rule (as defined herein).

E. Upon the initial sale of the Series 2017 Bonds to the Participating Underwriter (as defined herein), the City authorized the preparation and distribution of the Official Statement dated _____, 2017 with respect to the Series 2017 Bonds (the "Official Statement").

F. As a condition precedent to the initial purchase of the Series 2017 Bonds by the Participating Underwriter in accordance with the terms of the Bond Purchase Agreement dated [April 26], 2017, by and between the Participating Underwriter and the City, and in compliance with the Participating Underwriter's obligations under the Rule, the City has agreed to undertake for the benefit of the holders of the Series 2017 Bonds, to provide certain annual financial information and notice of the occurrence of certain events as set forth herein and in the continuing disclosure undertakings of the City.

NOW THEREFORE, in consideration of the purchase of the Series 2017 Bonds by the Participating Underwriter and the mutual promises and agreements made herein, the receipt and

sufficiency of which consideration is hereby mutually acknowledged, the City and the Dissemination Agent do hereby certify and agree as follows:

Section 1. Incorporation of Recitals. The above recitals are true and correct and are incorporated into and made a part hereof.

Section 2. Definitions.

(a) For the purposes of this Disclosure Agreement, all capitalized terms used, but not otherwise defined herein shall have the meanings ascribed thereto in the Bond Ordinance and the Official Statement, as applicable.

(b) In addition to the terms defined elsewhere herein, the following terms shall have the following meanings for the purposes of this Disclosure Agreement:

"Actual Knowledge" as used herein, and for the purposes hereof, a party shall be deemed to have "actual knowledge" of the occurrence of any event only if and to the extent the individual or individuals employed by such party and directly responsible for the administration of this Disclosure Agreement on behalf of such party have actual knowledge of or receive written notice of the occurrence of such event.

"Annual Filing" means any annual report provided by the City, pursuant to and as described in Sections 4 and 6 hereof.

"Annual Filing Date" means the date, set forth in Sections 4(a) and 4(e) hereof, by which the Annual Filing is to be filed with the MSRB.

"Annual Financial Information" means annual financial information as such term is used in paragraph (f)(9) of the Rule and specified in Section 6(a) hereof.

"Beneficial Owner" means any beneficial owner of the Series 2017 Bonds. Beneficial ownership is to be determined consistent with the definition thereof contained in Rule 13d-3 of the SEC, or, in the event such provisions do not adequately address the situation at hand (in the opinion of nationally recognized bond counsel), beneficial ownership is to be determined based upon ownership for federal income tax purposes.

"Business Day" means a day other than: (a) Saturday or a Sunday, (b) a day on which banks are authorized or required by law to close, and (c) a day on which the City is authorized or required to be closed.

"Department Audited Financial Statements" means the financial statements (if any) of the Department of Watershed Management for the prior Fiscal Year, certified by an independent auditor and prepared in accordance with generally accepted auditing standards and Government Auditing Principles issued by the Comptroller General of the United States.

"Department of Watershed Management" means the Department of Watershed Management of the City.

"Disclosure Representative" means the Chief Financial Officer of the City or his or her designee, or such other person as the City shall designate in writing to the Dissemination Agent from time to time as the person responsible for providing Information to the Dissemination Agent.

"EMMA" means the Electronic Municipal Market Access system, a service of the MSRB, or any successor thereto.

"Filing" means, as applicable, any Annual Filing, Notice Event Filing, Voluntary Filing or any other notice or report made public under this Disclosure Agreement.

"Fiscal Year" means the fiscal year of the City, which currently is the twelve month period beginning July 1 and ending on June 30 of the following year or any such other twelve month period designated by the City, from time to time, to be its fiscal year.

"Information" means the Annual Financial Information, Department Audited Financial Statements (if any), the Notice Event Filings, and the Voluntary Filings.

"MSRB" means the Municipal Securities Rulemaking Board established pursuant to Section 15B(b)(1) of the Securities Exchange Act of 1934, as amended.

"Notice Event" means an event listed in Sections 5(a) and 5(b) hereof.

"Notice Event Filing" shall have the meaning specified in Section 5(c) hereof.

"Obligated Person" means the City and any person who is either generally or through an enterprise, fund, or account of such person committed by contract or other arrangement to support payment of all, or part of the obligations on the Series 2017 Bonds (other than providers of municipal bond insurance, letters of credit, or other liquidity facilities). The City confirms that as of the date hereof it is an Obligated Person with respect to the Series 2017 Bonds.

"Participating Underwriter" means, collectively, the original purchasers of the Series 2017 Bonds required to comply with the Rule in connection with the offering of the Series 2017 Bonds.

"Repository" means each entity authorized and approved by the SEC from time to time to act as a repository for purposes of complying with the Rule. The repositories currently approved by the SEC as of the date hereof may be found by visiting the SEC's website at <http://www.sec.gov/info/municipal/nrmsir.htm>. As of the date hereof, the only Repository recognized by the SEC for such purpose is the MSRB, which currently accepts continuing disclosure filings through the EMMA website at <http://emma.msrb.org>.

"Rule" means Rule 15c2-12 of the SEC promulgated pursuant to the Securities Exchange Act of 1934, as the same may be amended from time to time.

"SEC" means the United States Securities and Exchange Commission.

"Third-Party Beneficiary" shall have the meaning specified in Section 3(b) hereof.

"Unaudited Financial Statements" means the financial statements (if any) of the Department of Watershed Management for the prior Fiscal Year which have not been certified by an independent auditor.

"Voluntary Filing" means the information provided to the Dissemination Agent by the City pursuant to Section 8 hereof.

Section 3. Scope of this Disclosure Agreement.

(a) The City has agreed to enter into this Disclosure Agreement and undertake the disclosure obligations hereunder, at the request of the Participating Underwriter and as a condition precedent to the Participating Underwriter's original purchase of the Series 2017 Bonds, in order to assist the Participating Underwriter with compliance with the Rule. The disclosure obligations of the City under this Disclosure Agreement relate solely to the Series 2017 Bonds. Such disclosure obligations are not applicable to any other securities issued or to be issued by the City, nor to any other securities issued on behalf of the City.

(b) Neither this Disclosure Agreement, nor the performance by the City or the Dissemination Agent of their respective obligations hereunder, shall create any third-party beneficiary rights, shall be directly enforceable by any third-party, or shall constitute a basis for a claim by any person except as expressly provided herein and except as required by law, including, without limitation, the Rule; provided, however, the Participating Underwriter and each Beneficial Owner are hereby made third-party beneficiaries hereof (collectively, and each respectively, a "Third-Party Beneficiary") and shall have the right to enforce the obligations of the parties hereunder pursuant to Section 9 hereof.

(c) This Disclosure Agreement shall terminate upon: (i) the defeasance, redemption or payment in full of all Series 2017 Bonds, in accordance with the Bond Ordinance, as amended, or (ii) the delivery of an opinion of counsel expert in federal securities laws retained by the City to the effect that continuing disclosure is no longer required under the Rule as to the Series 2017 Bonds.

Section 4. Annual Filings.

(a) The City shall provide, annually, an electronic copy of the Annual Filing to the Dissemination Agent on or before the Annual Filing Date. Promptly upon receipt of an electronic copy of the Annual Filing, the Dissemination Agent shall provide the Annual Filing to the Repository, in an electronic format as prescribed by the MSRB. Not later than the January 31st immediately following the preceding Fiscal Year ended June 30, commencing with the Fiscal Year ending June 30, 2017, shall be the Annual Filing Date. If January 31st falls on a day that is not a Business Day, the Annual Filing will be due on the first Business Day thereafter. Such date and each anniversary thereof is the Annual Filing Date. The Annual Filing may be submitted as a single document or as separate documents composing a package, and may cross-reference other information as provided in Section 6 hereof.

(b) If on the second (2nd) Business Day prior to the Annual Filing Date, the Dissemination Agent has not received a copy of the Annual Filing, the Dissemination Agent shall contact the Disclosure Representative by telephone and in writing (which may be by email)

to remind the City of its undertaking to provide the Annual Filing pursuant to Section 4(a) hereof. Upon such reminder, the Disclosure Representative shall either (i) provide the Dissemination Agent with an electronic copy of the Annual Filing no later than 6:00 p.m. on the Annual Filing Date (or if such Annual Filing Date is not a Business Day, then the first Business Day thereafter), or (ii) instruct the Dissemination Agent in writing as to the status of the Annual Filing within the time required under this Disclosure Agreement, and state the date by which the Annual Filing for such year is expected to be provided. If the Dissemination Agent has not received either (i) the Annual Filing by 6:00 p.m. on the Annual Filing Date, or (ii) notice from the City that it intends to deliver the Annual Filing to the Dissemination Agent by 11:59 p.m. on the Annual Filing Date, the City hereby irrevocably directs the Dissemination Agent, and the Dissemination Agent agrees, to immediately send an Notice Event Filing to the Repository the following Business Day in substantially the form attached hereto as "Exhibit A" without reference to the anticipated filing date for the Annual Filing.

(c) If the Department Audited Financial Statements are not available prior to the Annual Filing Date, the City shall provide the Unaudited Financial Statements and when the Department Audited Financial Statements are available, provide in a timely manner an electronic copy to the Dissemination Agent for filing with the Repository.

(d) The Dissemination Agent shall:

(i) upon receipt and no later than the Annual Filing Date, promptly file each Annual Filing received under Section 4(a) hereof with the Repository in an electronic format as prescribed by the MSRB;

(ii) upon receipt and no later than the Annual Filing Date, promptly file each Department Audited Financial Statement or Unaudited Financial Statement received under Sections 4(a) and 4(c) hereof with the Repository in an electronic format as prescribed by the MSRB;

(iii) provide the City evidence of the filings of each of the above when made, which shall be made by means of the DAC system, for so long as DAC is the Dissemination Agent under this Disclosure Agreement.

(e) The City may adjust the Annual Filing Date upon change of its Fiscal Year by providing written notice of such change and the new Annual Filing Date to the Dissemination Agent and the Repository, provided that the period between the existing Annual Filing Date and new Annual Filing Date shall not exceed one year.

(f) Each Annual Filing shall contain the information set forth in Section 6 hereof.

Section 5. Reporting of Notice Events.

(a) In accordance with the Rule, the City or the Dissemination Agent shall file a Notice Event Filing with the Repository, in the appropriate format required by the MSRB and in a timely manner not in excess of ten (10) Business Days after it has actual knowledge of the occurrence of any of the following Notice Events with respect to the Series 2017 Bonds:

- (i) Principal and interest payment delinquencies;
- (ii) Non-payment related defaults, if material;
- (iii) Unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) Unscheduled draws on credit enhancements reflecting financial difficulties;
- (v) Substitution of credit or liquidity providers or their failure to perform;
- (vi) Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Series 2017 Bonds, or other material events affecting the tax status of the Series 2017 Bonds;
- (vii) Modifications to rights of holders, if material;
- (viii) Bond calls, if material, and tender offers;
- (ix) Defeasances;
- (x) Release, substitution or sale of property securing repayment of the Series 2017 Bonds, if material;
- (xi) Rating changes;
- (xii) Bankruptcy, insolvency, receivership or similar event of the Obligated Person. Such an event is considered to occur when there is an appointment of a receiver, fiscal agent or similar officer for an Obligated Person in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Obligated Person, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the Obligated Person;
- (xiii) The consummation of a merger, consolidation, or acquisition involving an Obligated Person or the sale of all or substantially all of the assets of an Obligated Person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; or
- (xiv) Appointment of a successor or additional trustee or the change of name of a trustee, if material.

(b) In accordance with the Rule, the City or the Dissemination Agent shall file a Notice Event Filing with the Repository, in the appropriate format required by the MSRB and in a timely manner, after the occurrence of a failure of the City to provide the Annual Filing on or before the Annual Filing Date.

(c) The City shall promptly notify the Dissemination Agent in writing upon having Actual Knowledge of the occurrence of a Notice Event; provided, however, to the extent any such Notice Event has been previously and properly disclosed by or on behalf of the City, the City shall not be required to provide additional notice of such Notice Event in accordance with this subsection. Such notice shall instruct the Dissemination Agent to report the occurrence pursuant to Section 5(e) hereof. Such notice shall be accompanied with the text of the disclosure that the City desires to make (each a "Notice Event Filing"), the written authorization of the City for the Dissemination Agent to disseminate such information, and the date on which the City desires the Dissemination Agent to disseminate the information.

The Dissemination Agent is under no obligation to notify the City or the Disclosure Representative of an event that may constitute a Notice Event. In the event the Dissemination Agent so notifies the Disclosure Representative, the Disclosure Representative will instruct the Dissemination Agent that (i) a Notice Event has not occurred and no filing is to be made, or (ii) a Notice Event has occurred and provide the Dissemination Agent with the Notice Event Filing and the date the Dissemination Agent should file the Notice Event Filing.

(d) The Dissemination Agent shall upon receipt, and no later than the required filing date, promptly file each Notice Event Filing received under Sections 5(a) and 5(b) hereof, with the Repository in an electronic format as prescribed by the MSRB.

Section 6. Content of Annual Filings.

(a) Each Annual Filing shall contain the following annual financial information, consisting of, to the extent not included in the Department Audited Financial Statements, updates of the following information contained in the Official Statement:

(i) The chart entitled "Maximum and Average Daily Water Production" under the heading "THE SYSTEM - Water System - Water Production, Connections, Demand and Revenues";

(ii) The chart entitled "Water Connections, Demand and Revenues by Customer Class" under the heading "THE SYSTEM - Water System - Water Production, Connections, Demand and Revenues";

(iii) The chart entitled "Five Largest Water Users" under the heading "THE SYSTEM - Water System - Customers";

(iv) The chart entitled "Maximum Monthly Flow" under the heading "THE SYSTEM - Wastewater System - Maximum Monthly Flow";

(v) The chart entitled "Wastewater Connections, Demand and Revenues by Customer Class" under the heading "THE SYSTEM - Wastewater System - Wastewater Connections and Demand";

(vi) The chart entitled "Five Largest Wastewater Users" under the heading "THE SYSTEM - Wastewater System - Customers";

(vii) The chart entitled "Water and Wastewater System Service Rates" under the heading "SYSTEM REVENUES - Rates and Charges"; and

(viii) The chart entitled "Historical Operating Results of the System" under the heading "SYSTEM FINANCE MATTERS - General."

(b) If available at the time of such filing, the Department Audited Financial Statements for the prior Fiscal Year. If the Department Audited Financial Statements are not available by the time the Annual Filing is required to be filed pursuant to Section 4(a) hereof, the Annual Filing shall contain Unaudited Financial Statements of the Department prepared in accordance with generally accepted accounting principles, as in effect from time to time, and the Department Audited Financial Statements shall be filed in the same manner as the Annual Filing when they become available. The Department Audited Financial Statements (if any) will be provided pursuant to Section 4(c) hereof.

Any or all of the items listed above may be included by specific reference to documents previously filed with the Repository or the SEC, including, but not limited to, official statements of debt issues with respect to which the City is an Obligated Person, the City's Comprehensive Annual Financial Report and the Department of Watershed Management's Comprehensive Annual Financial Report. If the document incorporated by reference is a final official statement, it must be available from the Repository. The City will clearly identify each such document so incorporated by reference.

Section 7. Responsibility for Content of Reports and Notices.

(a) The City shall be solely responsible for the content of each Filing (or any portion thereof) provided to the Dissemination Agent pursuant to this Disclosure Agreement.

(b) Each Filing distributed by the Dissemination Agent pursuant to Section 4 or 5 hereof shall be in a form suitable for distributing publicly and shall contain the CUSIP numbers of the Series 2017 Bonds and such other identifying information prescribed by the MSRB from time to time. Each Notice Event Filing shall be in substantially the form set forth in Exhibit "A" attached hereto. If an item of information contained in any Filing pursuant to this Disclosure Agreement would be misleading without additional information, the City shall include such additional information as a part of such Filing as may be necessary in order that the Filing will not be misleading in light of the circumstances under which it is made.

(c) Any report, notice or other filing to be made public pursuant to this Disclosure Agreement may consist of a single document or separate documents composing a package and may incorporate by reference other clearly identified documents or specified portions thereof previously filed with the Repository or the SEC; provided that any final official statement incorporated by reference must be available from the Repository.

(d) Notwithstanding any provision herein to the contrary, nothing in this Disclosure Agreement shall be construed to require the City or the Dissemination Agent to interpret or provide an opinion concerning information made public pursuant to this Disclosure Agreement.

(e) Notwithstanding any provision herein to the contrary, the City shall not make public, or direct the Dissemination Agent to make public, information which is not permitted to be publicly disclosed under any applicable data confidentiality or privacy law or other legal requirement.

Section 8. Voluntary Filings.

(a) The City may instruct the Dissemination Agent to file information with the Repository, from time to time (a "Voluntary Filing").

(b) Nothing in this Disclosure Agreement shall be deemed to prevent the City from disseminating any other information through the Dissemination Agent using the means of dissemination set forth in this Disclosure Agreement or including any other information in any Annual Filing, Annual Financial Statement, Voluntary Filing or Notice Event Filing, in addition to that required by this Disclosure Agreement. If the City chooses to include any information in any Annual Filing, Annual Financial Statement, Voluntary Filing or Notice Event Filing in addition to that which is specifically required by this Disclosure Agreement, the City shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Filing, Annual Financial Statement, Voluntary Filing or Notice Event Filing.

(c) Notwithstanding the foregoing provisions of this Section 8, the City is under no obligation to provide any Voluntary Filing.

(d) The Dissemination Agent shall upon receipt promptly file each Voluntary Filing received with the Repository in an electronic format as prescribed by the MSRB.

Section 9. Defaults; Remedies.

(a) A party shall be in default of its obligations hereunder if it fails or refuses to carry out or perform its obligations hereunder for a period of five Business Days following notice of default given in writing to such party by any other party hereto or by any Third Party Beneficiary hereof, unless such default is cured within such five Business Day notice period. An extension of such five Business Day cure period may be granted for good cause (in the reasonable judgment of the party granting the extension) by written notice from the party who gave the default notice.

(b) If a default occurs and continues beyond the cure period specified above, any nondefaulting party or any Third-Party Beneficiary may seek specific performance of the defaulting party's obligations hereunder as the sole and exclusive remedy available upon any such default, excepting, however, that the party seeking such specific performance may recover from the defaulting party any reasonable attorneys' fees and expenses incurred in the course of enforcing this Disclosure Agreement as a consequence of such default. Each of the parties hereby acknowledges that monetary damages will not be an adequate remedy at law for any default hereunder, and therefore agrees that the exclusive remedy of specific performance shall be available in proceedings to enforce this Disclosure Agreement.

(c) Notwithstanding any provision of this Disclosure Agreement or the Bond Ordinance to the contrary, no default under this Disclosure Agreement shall constitute a default or event of default under the Bond Ordinance.

Section 10. Amendment or Modification.

(a) This Disclosure Agreement shall not be amended or modified except as provided in this Section 10. No modification, amendment, alteration or termination of all or any part of this Disclosure Agreement shall be construed to be, or operate as, altering or amending in any way the provisions of the Bond Ordinance.

(b) Notwithstanding any other provision of this Disclosure Agreement, the City may amend this Disclosure Agreement and any provision of this Disclosure Agreement may be waived, if: (i) such amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature, or status of the obligor on the Series 2017 Bonds, or type of business conducted by such obligor; (ii) such amendment or waiver does not materially impair the interests of the Beneficial Owners of the Series 2017 Bonds, as determined either by an unqualified opinion of counsel expert in federal securities laws retained by the City or by the approving vote a majority of the Beneficial Owners of the Series 2017 Bonds outstanding at the time of such amendment or waiver; and (iii) such amendment or waiver is supported by an opinion of counsel expert in federal securities laws retained by the City, to the effect that such amendment or waiver would not, in and of itself, cause the undertakings herein to violate the Rule if such amendment or waiver had been effective on the date hereof but taking into account any subsequent change in or official interpretation of the Rule, as well as any change in circumstances.

(c) If any provision of Section 6 hereof is amended or waived, the first Annual Filing containing any amended, or omitting any waived, operating data or financial information shall explain, in narrative form, the reasons for the amendment or waiver and the impact of the change in the type of operating data or financial information being provided.

(d) If the provisions of this Disclosure Agreement specifying the accounting principles to be followed in preparing the City's financial statements are amended or waived, the Annual Filing for the year in which the change is made shall present a comparison between the financial statements or information prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles. The comparison shall include a qualitative discussion of the differences in the accounting principles and the impact of the change in the accounting principles on the presentation of the financial information, in order to provide information to the Beneficial Owners of the Series 2017 Bonds to enable them to evaluate the ability of the City to meet its obligations. To the extent reasonably feasible, the comparison shall also be quantitative. The City will file a notice of the change in the accounting principles with the Repository on or before the effective date of any such amendment or waiver.

(e) Notwithstanding the foregoing, the Dissemination Agent shall not be obligated to agree to any amendment expanding its duties or obligations hereunder without its consent thereto.

(f) The City shall prepare or cause to be prepared a notice of any such amendment or modification and shall direct the Dissemination Agent to make such notice public in accordance with Section 8 hereof.

Section 11. Agency Relationship.

(a) The Dissemination Agent agrees to perform such duties, but only such duties, as are specifically set forth in this Disclosure Agreement, and no implied duties or obligations of any kind shall be read into this Disclosure Agreement with respect to the Dissemination Agent. The Dissemination Agent may conclusively rely, as to the truth, accuracy and completeness of the statements set forth therein, upon all notices, reports, certificates or other materials furnished to the Dissemination Agent pursuant to this Disclosure Agreement, and in the case of notices and reports required to be furnished to the Dissemination Agent pursuant to this Disclosure Agreement, the Dissemination Agent shall have no duty whatsoever to examine the same to determine whether they conform to the requirements of this Disclosure Agreement.

(b) The Dissemination Agent shall not be liable for any error of judgment made in good faith by a responsible officer or officers of the Dissemination Agent unless it shall be proven that the Dissemination Agent engaged in negligent conduct or willful misconduct in ascertaining the pertinent facts related thereto.

(c) The Dissemination Agent shall perform its rights and duties under this Disclosure Agreement using the same standard of care as a prudent person would exercise under the circumstances, and the Dissemination Agent shall not be liable for any action taken or failure to act in good faith under this Disclosure Agreement unless it shall be proven that the Dissemination Agent was negligent or engaged in willful misconduct.

(d) The Dissemination Agent may perform any of its duties hereunder by or through attorneys or agents selected by it with reasonable care, and shall be entitled to the advice of counsel concerning all matters arising hereunder, and may in all cases pay such reasonable compensation as it may deem proper to all such attorneys and agents. The Dissemination Agent shall be responsible for the acts or negligence of any such attorneys, agents or counsel.

(e) None of the provisions of this Disclosure Agreement or any notice or other document delivered in connection herewith shall require the Dissemination Agent to advance, expend or risk its own funds or otherwise incur financial liability in the performance of any of the Dissemination Agent's duties or rights under this Disclosure Agreement.

(f) Except as expressly provided herein, the Dissemination Agent shall not be required to monitor the compliance of the City with the provisions of this Disclosure Agreement or to exercise any remedy, institute a suit or take any action of any kind without indemnification satisfactory to the Dissemination Agent.

(g) The Dissemination Agent may resign at any time by giving at least ninety (90) days prior written notice thereof to the City. The Dissemination Agent may be removed for good cause at any time by written notice to the Dissemination Agent from the City, provided that such removal shall not become effective until a successor dissemination agent has been appointed by the City under this Disclosure Agreement.

(i) In the event the Dissemination Agent shall resign, be removed or become incapable of acting, or if a vacancy shall occur in the office of the Dissemination Agent for any reason, the City shall promptly appoint a successor. Notwithstanding any provision to the contrary in this Disclosure Agreement or elsewhere, the City may appoint itself to serve as Dissemination Agent hereunder.

(j) Any company or other legal entity into which the Dissemination Agent may be merged or converted or with which it may be consolidated or any company resulting from any merger, conversion or consolidation to which the Dissemination Agent may be a party or any company to whom the Dissemination Agent may sell or transfer all or substantially all of its agency business shall be the successor dissemination agent hereunder without the execution or filing of any paper or the performance of any further act and shall be authorized to perform all rights and duties imposed upon the Dissemination Agent by this Disclosure Agreement, anything herein to the contrary notwithstanding.

Section 12. Miscellaneous.

(a) Each of the parties hereto represents and warrants to each other party that it has (i) duly authorized the execution and delivery of this Disclosure Agreement by the officers of such party whose signatures appear on the execution pages hereto, (ii) that it has all requisite power and authority to execute, deliver and perform this Disclosure Agreement under applicable law and any resolutions, ordinances, or other actions of such party now in effect, (iii) that the execution and delivery of this Disclosure Agreement, and performance of the terms hereof, does not and will not violate any law, regulation, ruling, decision, order, indenture, decree, agreement or instrument by which such party or its property or assets is bound, and (iv) such party is not aware of any litigation or proceeding pending, or, to the best of such party's knowledge, threatened, contesting or questioning its existence, or its power and authority to enter into this Disclosure Agreement, or its due authorization, execution and delivery of this Disclosure Agreement, or otherwise contesting or questioning the issuance of the Series 2017 Bonds.

(b) This Disclosure Agreement shall be governed by and interpreted in accordance with the laws of the State of Georgia and applicable federal law.

(c) This Disclosure Agreement may be executed in one or more counterparts, each and all of which shall constitute one and the same instrument.

Section 13. Identifying Information. All documents provided to the Repository pursuant to this Disclosure Agreement shall be accompanied by identifying information as prescribed by the MSRB.

Section 14. Severability. In case any part of this Disclosure Agreement is held to be illegal or invalid, such illegality or invalidity shall not affect the remainder or any other section of this Disclosure Agreement. This Disclosure Agreement shall be construed or enforced as if such illegal or invalid portion were not contained therein, nor shall such illegality or invalidity of any application of this Disclosure Agreement affect any legal and valid application.

**SIGNATURE PAGE TO
CONTINUING DISCLOSURE AGREEMENT
CITY OF ATLANTA WATER AND WASTEWATER REVENUE REFUNDING BONDS, SERIES 2017A**

IN WITNESS WHEREOF, the City and the Dissemination Agent have each caused this Disclosure Agreement to be executed, on the date first written above, by their respective duly authorized officers.

CITY OF ATLANTA, a municipal corporation duly organized and existing under the laws of the State of Georgia

By: _____
Kasim Reed, Mayor

[SIGNATURES CONTINUED ON FOLLOWING PAGE]

**SIGNATURE PAGE TO
CONTINUING DISCLOSURE AGREEMENT
CITY OF ATLANTA WATER AND WASTEWATER REVENUE REFUNDING BONDS, SERIES 2017A**

IN WITNESS WHEREOF, the City and the Dissemination Agent have each caused this Disclosure Agreement to be executed, on the date first written above, by their respective duly authorized officers.

DIGITAL ASSURANCE CERTIFICATION, L.L.C.,
as Dissemination Agent

By: _____
Name: _____
Title: _____

EXHIBIT A

**NOTICE TO REPOSITORY OF THE OCCURRENCE OF
[INSERT THE NOTICE EVENT]**

Relating to

**\$ _____
CITY OF ATLANTA
WATER AND WASTEWATER
REVENUE REFUNDING BONDS,
SERIES 2017A**

**Originally Issued on _____, 2017
[**CUSIP NUMBERS**])**

Notice is hereby given by the City of Atlanta (the "City"), as obligated person with respect to the above-referenced bonds issued by the City, under the Securities and Exchange Commission's Rule 15c2-12, that **[**INSERT THE NOTICE EVENT**]** has occurred. **[**DESCRIBE NOTICE EVENT AND MATERIAL CIRCUMSTANCES RELATED THERETO**]**.

This Notice is based on the best information available to the City at the time of dissemination hereof and is not guaranteed by the City as to the accuracy or completeness of such information. The City will disseminate additional information concerning **[**NOTICE EVENT**]**, as and when such information becomes available to the City, to the extent that the dissemination of such information would be consistent with the requirements of Rule 15c2-12 and the City's obligation under that certain Continuing Disclosure Agreement dated as of **[May 1]**, 2017. **[**Any questions regarding this notice should be directed in writing only to the City. However, the City will not provide additional information or answer questions concerning [**NOTICE EVENT**] except in future written notices, if any, disseminated by the City in the same manner and to the same recipients as this Notice**]**.

DISCLAIMER: All information contained in this Notice has been obtained by the City from sources believed to be reliable as of the date hereof. Due to the possibility of human or mechanical error as well as other factors, however, such information is not guaranteed as to the accuracy, timeliness or completeness. Under no circumstances shall the City have any liability to any person or entity for (a) any loss, damage, cost, liability or expense in whole or in part caused by, resulting from or relating to this Notice, including, without limitation, any error (negligent or otherwise) or other circumstances involved in procuring, collecting, compiling, interpreting, analyzing, editing, transcribing, transmitting, communicating or delivering any information contained in this Notice, or (b) any direct, indirect, special, consequential or incidental damages whatsoever related thereto.

Dated: _____

CITY OF ATLANTA

By: _____

Name: _____

Title: _____

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