



CITY OF NORFOLK, VIRGINIA

\$29,660,000

\$54,020,000

**Water Revenue Bonds,
Series 2015A**

**Water Revenue Refunding Bonds,
Series 2015B**

Dated: Date of Delivery

Due: November 1, as shown on the inside cover

The City of Norfolk, Virginia (the "City"), prepared this Official Statement to provide information on the above-referenced bonds (the "2015 Bonds"). This cover page presents a summary of selected information for your convenience and does not provide a complete description of the 2015 Bonds. To make an informed decision regarding the 2015 Bonds, you should read this Official Statement in its entirety.

Tax Matters

In the opinion of Bond Counsel, under current law and assuming the compliance with certain covenants by the City and the accuracy of certain representations and certifications made by certain City officials and other persons and entities described in "TAX MATTERS" herein, interest on the 2015 Bonds (i) is excludable from the gross income of the owners thereof for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended and (ii) is not a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations. However, interest on the 2015 Bonds must be included in the adjusted current earnings of certain corporations for purposes of computing the federal alternative minimum tax imposed on such corporations and may be subject to other federal income tax consequences as described in "TAX MATTERS."

Bond Counsel is further of the opinion that interest on the 2015 Bonds is excludable from gross income for purposes of income taxation by the Commonwealth of Virginia. Bond Counsel expresses no opinion regarding any other tax consequence related to the ownership or disposition of, or the accrual or receipt of interest on, the 2015 Bonds. See the section herein "TAX MATTERS" regarding other tax considerations.

Security

The 2015 Bonds are limited obligations of the City payable solely from Net Revenues derived from the City's water system and other funds pledged for their payment under the terms of the Indenture. Neither the faith and credit of the Commonwealth of Virginia nor the faith and credit of any county, city, town or other political subdivision of the Commonwealth of Virginia, including the City, is pledged to the payment of principal of, premium, if any, or interest on the 2015 Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" herein.

Redemption

See inside cover of this Official Statement and the section entitled "DESCRIPTION OF THE BONDS – Redemption," for a description of the redemption provisions with respect to the 2015 Bonds.

Authorization

Ordinance No. 45,693 enacted by the City Council on September 9, 2014, and Ordinance No. 45,871 enacted by the City Council on March 10, 2015.

Purpose

The proceeds of the 2015 Bonds will be used, together with other available funds (i) to finance certain costs of acquiring, constructing and equipping capital improvements to the City's water system, (ii) to refund certain outstanding water revenue bonds of the City and (iii) to pay certain costs of issuance of the 2015 Bonds. See "SOURCES AND USES OF FUNDS" herein.

Interest Payment Dates

Semi-annually on May 1 and November 1, beginning November 1, 2015.

Registration

Book-Entry Only; The Depository Trust Company. See "DESCRIPTION OF THE BONDS – Book-Entry Only System" and Appendix H herein.

Denomination

\$5,000 or multiples thereof.

Closing/Delivery Date

On or about April 16, 2015.

Bond Counsel

McGuireWoods LLP, Richmond, Virginia.

Financial Advisor

Public Financial Management, Inc., Arlington, Virginia.

Underwriter's Counsel

Kaufman & Canoles, a Professional Corporation, Norfolk, Virginia.

Registrar/Paying Agent

U.S. Bank National Association.

Issuer Contact

Director of Finance of the City. (757) 664-4346.

CITIGROUP

BofA Merrill Lynch

Piper Jaffray & Co.

CITY OF NORFOLK, VIRGINIA

\$29,660,000

WATER REVENUE BONDS, SERIES 2015A

MATURITY, AMOUNT, INTEREST RATE, PRICE AND YIELD

\$29,660,000 5.250% Term 2015A Bonds due November 1, 2044, Priced at 118.183%* to yield 3.040%*
CUSIP Number 656009 KM8**

* Priced to first optional redemption date of November 1, 2024.

Optional Redemption for the 2015A Bonds. The 2015A Bonds are subject to redemption before maturity at the option of the City at any time on or after November 1, 2024, from any money available for such purpose, in whole or in part (in increments of \$5,000), at par plus accrued and unpaid interest to the date fixed for redemption.

Mandatory Redemption for the 2015A Bonds. The 2015A Bonds are subject to mandatory redemption in part, on November 1 in the years and in the amounts set forth below:

<u>Year</u>	<u>Redemption Amount</u>	<u>Year</u>	<u>Redemption Amount</u>
2039	\$1,485,000	2042	4,670,000
2040	1,565,000	2043	8,525,000
2041	4,430,000	2044 (final maturity)	8,985,000

\$54,020,000

WATER REVENUE REFUNDING BONDS, SERIES 2015B

MATURITIES, AMOUNTS, INTEREST RATES, PRICES AND YIELDS

<u>Year Of Maturity (November 1)</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Price</u>	<u>Yield</u>	<u>CUSIP** Number</u>
2019	\$ 235,000	5.000%	116.265%	1.300%	656009 LH8
2020	700,000	5.000	118.778	1.460	656009 KN6
2021	1,000,000	5.000	120.554	1.670	656009 KP1
2022	1,325,000	5.000	122.235	1.830	656009 KQ9
2023	2,160,000	5.000	123.712	1.970	656009 KR7
2024	2,295,000	5.000	124.955	2.100	656009 KS5
2025	2,410,000	5.000	126.000	2.220	656009 KT3
2026	2,560,000	5.250	128.581	2.400	656009 KU0
2027	2,700,000	5.250	128.824	2.550	656009 KV8
2028	2,880,000	5.250	125.134*	2.520	656009 KW6
2029	3,030,000	5.250	124.504*	2.580	656009 KX4
2030	3,420,000	5.250	123.775*	2.650	656009 KY2
2031	3,410,000	5.250	122.947*	2.730	656009 KZ9
2032	3,625,000	5.250	122.331*	2.790	656009 LA3
2033	3,830,000	5.250	121.719*	2.850	656009 LB1
2034	4,075,000	5.250	121.313*	2.890	656009 LC9
2035	4,320,000	5.250	121.009*	2.920	656009 LD7
2036	3,150,000	5.250	120.807*	2.940	656009 LE5
2037	3,345,000	5.250	120.706*	2.950	656009 LF2
2038	3,550,000	5.250	120.505*	2.970	656009 LG0

* Priced to first optional redemption date of November 1, 2025.

Optional Redemption for the 2015B Bonds. The 2015B Bonds maturing on or before November 1, 2027, are not subject to redemption before maturity. The 2015B Bonds maturing on or after November 1, 2028, are subject to redemption before maturity at the option of the City at any time on or after November 1, 2025, from any money available for such purpose, in whole or in part (in increments of \$5,000), at par plus accrued and unpaid interest to the date fixed for redemption.

** See the last paragraph on page (ii) regarding the use of CUSIP information in this Official Statement.

**CITY OF NORFOLK, VIRGINIA
CITY COUNCIL**

Paul D. Fraim, Mayor
Angelia M. Williams Graves, Vice Mayor

Mamie B. Johnson
Andrew A. Protopyrou
Paul R. Riddick

Thomas R. Smigiel
Dr. Theresa W. Whibley
Barclay C. Winn

CITY OFFICIALS

Marcus D. Jones, City Manager
Alice M. Kelly, CPA, Director of Finance
Kristen M. Lentz, P.E., Director of Utilities
Bernard A. Pishko, City Attorney

BOND COUNSEL

McGuireWoods LLP
Richmond, Virginia

FINANCIAL ADVISOR

Public Financial Management, Inc.
Arlington, Virginia

CONSULTING ENGINEER

Black & Veatch
Chesterfield, Missouri

The 2015 Bonds are exempt from registration under the Securities Act of 1933, as amended. The 2015 Bonds are also exempt from registration under the securities laws of the Commonwealth of Virginia.

No dealer, broker, salesman or other person has been authorized by the City to give any information or to make any representations other than those contained in this Official Statement, and, if given or made, such other information or representations must not be relied upon as having been authorized by the City. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the 2015 Bonds by any person in any jurisdiction in which it is unlawful for such person to make an offer, solicitation or sale. This Official Statement is not to be construed as a contract or agreement between the City and the purchasers or owners of any of the 2015 Bonds. The information and expressions of opinion in this Official Statement are subject to change without notice, and neither the delivery of this Official Statement nor any sale made under it will, under any circumstances, create any implication that there has been no change in the affairs of the City since the respective dates as of which information is given herein.

Third parties may engage in transactions that stabilize, maintain or otherwise affect the price of the 2015 Bonds, including transactions to (i) overalloc in arranging the sales of the 2015 Bonds and (ii) make purchases in sales of the 2015 Bonds, for long or short accounts, on a when-issued basis or otherwise, at such prices, in such amounts and in such manner as such parties may determine. Such stabilization, if commenced, may be discontinued at any time.

The Underwriters, as hereinafter defined, 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 to investors under 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.

All quotations from, and summaries and explanations of, provisions of law and documents herein do not purport to be complete and reference is made to such laws and documents for full and complete statements of their provisions. Any statements made in this Official Statement involving estimates or matters of opinion, whether or not expressly so stated, are intended merely as estimates or opinions and not as representations of fact.

This Official Statement contains statements which, to the extent they are not recitations of historical fact, constitute "forward-looking statements." In this respect, the words, "estimate," "project," "anticipate," "expect," "intend," "believe" and similar expressions are intended to identify forward-looking statements. A number of important factors affecting the water revenues or the City's financial results, or both, could cause actual results to differ materially from those stated in the forward-looking statements.

A registered trademark of the American Bankers Association ("ABA"), used by Standard & Poor's in its operation of the CUSIP Service Bureau for the ABA. The CUSIP (Committee on Uniform Securities Identification Procedures) numbers used in this Official Statement have been assigned by an organization not affiliated with the City, and the City is not responsible for the selection or use of the CUSIP numbers. The CUSIP numbers are included solely for the convenience of bondholders, and the City makes no representation as to the correctness of such CUSIP numbers. CUSIP numbers assigned to securities may be changed during the term of such securities based on a number of factors including, but not limited to, the refunding or defeasance of such securities or the use of secondary market financial products. The City has not agreed to, and there is no duty or obligation to, update this Official Statement to reflect any change or correction in the CUSIP numbers used in this Official Statement.

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OFFICIAL STATEMENT

Relating to the Issuance of

\$29,660,000
City of Norfolk, Virginia
Water Revenue Bonds,
Series 2015A

\$54,020,000
City of Norfolk, Virginia
Water Revenue Refunding Bonds,
Series 2015B

INTRODUCTORY STATEMENT

The purpose of this Official Statement, including the information contained in the Appendices, is to furnish information relating to the City of Norfolk, Virginia (the "City"), its water supply, treatment, storage and distribution system (the "System" or the "Water System") and its \$29,660,000 Water Revenue Bonds, Series 2015A (the "2015A Bonds") and its \$54,020,000 Water Revenue Refunding Bonds, Series 2015B (the "2015B Bonds" and together with the 2015A Bonds, the "2015 Bonds"). This Official Statement has been authorized by the City for use in connection with the sale of the 2015 Bonds.

The 2015 Bonds will be issued pursuant to the Public Finance Act of 1991, Chapter 26 of Title 15.2 of the Code of Virginia of 1950, as amended (the "Act"). The 2015 Bonds are being issued under the provisions of a Master Indenture of Trust dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between the City and U.S. Bank National Association, Richmond, Virginia, as successor trustee (together with any successor, the "Trustee"), and as further supplemented by an Eleventh Supplemental Indenture of Trust dated as of April 1, 2015 (the "Eleventh Supplemental Indenture"), between the City and the Trustee. The Master Indenture and the Eleventh Supplemental Indenture are referred to collectively herein as the "Indenture."

Certain capitalized terms not otherwise defined herein shall have the meanings set forth in the Indenture. See "Appendix A – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE" hereto.

The 2015 Bonds are the tenth Series of Bonds issued under the Master Indenture. Set forth in the following chart are the issue dates, original principal amounts and outstanding principal amounts of the five prior Series of Bonds with Bonds currently Outstanding (the "Outstanding Bonds"):

Series of Bonds with Bonds Outstanding

<u>Series of Bonds</u>	<u>Issue Date</u>	<u>Original Principal Amount</u>	<u>Outstanding Principal Amount as of March 1, 2015⁽¹⁾</u>
Water Revenue and Refunding Bonds, Series 2005 (the "2005 Bonds") ⁽¹⁾	March 23, 2005	\$ 22,810,000	\$ 16,000,000
Water Revenue Bonds, Series 2008 (the "2008 Bonds") ⁽¹⁾	April 23, 2008	58,415,000	52,175,000
Water Revenue Bonds, Series 2010 (the "2010 Bonds")	September 30, 2010	47,415,000	43,665,000
Water Revenue Refunding Bonds, Series 2012 (the "2012 Bonds")	April 4, 2012	176,925,000	162,480,000
Water Revenue Bonds, Series 2013 (the "2013 Bonds")	February 20, 2013	43,070,000	43,070,000
Total		\$348,635,000	\$317,390,000

Note: (1) A portion of the 2005 Bonds in the amount of \$15,460,000 and a portion of the 2008 Bonds in the amount of \$47,140,000 will be refunded with a portion of the proceeds of the 2015B Bonds.

The 2015 Bonds will be limited obligations of the City payable solely from Net Revenues derived from the System and other funds pledged for the payment under the terms of the Indenture. Neither the faith and credit of the Commonwealth of Virginia (the "Commonwealth") nor the faith and credit of any county, city, town or other

subdivision of the Commonwealth, including the City, is pledged to the payment of the principal of, premium, if any, or interest on the 2015 Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" below.

The 2015 Bonds will be issued in authorized denominations of \$5,000, or whole multiples thereof, and held in book-entry only form by The Depository Trust Company ("DTC"), or its nominee, as securities depository with respect to the 2015 Bonds. See "DESCRIPTION OF THE BONDS – Book-Entry Only System" below and Appendix H herein. The 2015 Bonds are subject to optional redemption prior to their stated maturities. See "DESCRIPTION OF THE BONDS – Redemption" below.

All financial and other information presented in this Official Statement has been provided by the City and other sources that are believed to be reliable. The presentation of information is intended to show recent historic information and is not intended, unless specifically stated, to indicate future continuing trends in the financial position or other affairs of the System. No representation is made that past experience, as is shown by such financial and other information, will necessarily continue or be repeated in the future.

This Official Statement should be considered in its entirety, and no one subject discussed should be considered less important than any other by reason of its location in the text. Reference should be made to the laws, reports or other documents referred to in this Official Statement, including the Indenture and the Feasibility Study, as hereinafter defined, for more complete information regarding their contents.

AUTHORIZATION AND PURPOSE

The 2015 Bonds have been authorized by Ordinance No. 45,693 enacted by the City Council on September 9, 2014, and Ordinance No. 45,871 enacted by the City Council on March 10, 2015. The City is issuing the 2015 Bonds and using the proceeds thereof, together with other available funds (i) to finance certain costs of acquiring, constructing and equipping capital improvements to the City's water system, (ii) to refund certain outstanding water revenue bonds of the City and (iii) to pay certain costs of issuance of the 2015 Bonds. For the findings of engineering and financial studies relating to the issuance of the 2015 Bonds, see Appendix G, the Series 2015 Water Revenue Bond Feasibility Report prepared by Black & Veatch Corporation, the City's Consulting Engineer, dated March 24, 2015 (the "Feasibility Study").

PLAN OF FINANCE AND REFUNDING

Capital Projects Financing

The City expects to use a portion of the proceeds of the 2015 Bonds to pay the costs of projects identified in the City's Capital Improvement Program (the "CIP") for the System, as the City Council may amend it from time to time. See "CAPITAL IMPROVEMENT PROGRAM" below.

Refunding of Certain Outstanding Bonds

The City will use the proceeds of the 2015B Bonds, together with other available funds, to refund, redeem and defease all or portions of certain outstanding Bonds (the "Refunded Obligations"), which are set forth in the tables below.

\$22,810,000 Water Revenue and Refunding Bonds, Series 2005 (Base CUSIP Number 656009)*

Year of Maturity (November 1)	Refunded Principal Amount	Interest Rate	Redemption Date	Redemption Price	CUSIP Suffix*
2016	\$565,000	5.000%	11/01/2015	100%	ER4
2018	620,000	4.000	11/01/2015	100	ET0
2019	645,000	4.000	11/01/2015	100	EU7
2023	780,000	4.750	11/01/2015	100	EY9
2024	820,000	4.750	11/01/2015	100	EZ6
2025	860,000	4.750	11/01/2015	100	FA0
2026	895,000	4.750	11/01/2015	100	FB8
2027	945,000	4.750	11/01/2015	100	FC6
2028	990,000	4.500	11/01/2015	100	FD4
2029	1,035,000	4.500	11/01/2015	100	FE2
2030	1,080,000	4.625	11/01/2015	100	FF9
2031	1,135,000	4.625	11/01/2015	100	FG7
2035	5,090,000	4.625	11/01/2015	100	FL6

\$58,415,000 Water Revenue Bonds, Series 2008 (Base CUSIP Number 656009)*

Year of Maturity (November 1)	Refunded Principal Amount	Interest Rate	Redemption Date	Redemption Price	CUSIP Suffix*
2019	\$1,425,000	5.000%	11/01/2018	100%	FX0
2020	1,495,000	5.000	11/01/2018	100	FY8
2021	1,570,000	5.000	11/01/2018	100	FZ5
2022	1,655,000	5.000	11/01/2018	100	GA9
2023	1,735,000	5.000	11/01/2018	100	GB7
2024	1,825,000	5.000	11/01/2018	100	GC5
2025	1,920,000	5.000	11/01/2018	100	GD3
2026	2,020,000	5.000	11/01/2018	100	GE1
2027	2,120,000	5.000	11/01/2018	100	GF8
2028	2,230,000	4.750	11/01/2018	100	GG6
2029	2,335,000	4.500	11/01/2018	100	GH4
2032	7,700,000	4.750	11/01/2018	100	GL5
2038	19,110,000	4.750	11/01/2018	100	GS0

A portion of the proceeds of the 2015 Bonds together with other available funds in the aggregate amount of \$70,534,076.26 will be deposited with U.S. Bank National Association ("U.S. Bank"), pursuant to an Escrow Agreement to be dated the date of delivery of the 2015 Bonds (the "Escrow Agreement"), between the City and U.S. Bank National Association. The Escrow Agreement will provide for the purchase of direct, non-callable obligations of the United States Treasury (the "Escrow Securities") that will mature and bear interest at times and in amounts sufficient to pay the principal of, premium and interest on the Refunded Obligations. The sufficiency of the Escrow Securities deposited under the Escrow Agreement was verified by Robert Thomas CPA, LLC. See "VERIFICATION OF MATHEMATICAL COMPUTATIONS" below.

DESCRIPTION OF THE BONDS

General

The 2015 Bonds will be dated the date of delivery, and will mature on November 1 in the years and amounts and bear interest at the rates set forth on the inside cover page of this Official Statement. Interest on the 2015 Bonds will be payable semi-annually on May 1 and November 1, commencing November 1, 2015. The

* See the last paragraph on page (ii) regarding the use of CUSIP information in this Official Statement.

Trustee will act as paying agent for the 2015 Bonds under the Indenture. The 2015 Bonds will be subject to optional redemption prior to their stated maturities as described herein. The Eleventh Supplemental Indenture establishes the April 15 and October 15 preceding each payment date as the record date for the 2015 Bonds and establishes that interest on the 2015 Bonds is computed on the basis of a year of 360 days and 12 months of 30 days each.

Book-Entry Only System

Appendix H contains a description of DTC's procedures and recordkeeping with respect to beneficial ownership interests in the 2015 Bonds, payments of principal and interest on the 2015 Bonds to DTC, its nominee, Direct Participants, Indirect Participants or Beneficial Owners (each as defined in Appendix H), confirmation and transfer to beneficial ownership interests in the 2015 Bonds and other bond-related transactions by and between DTC, Direct Participants, Indirect Participants and Beneficial Owners. Such description is based solely on information furnished by DTC and the City makes no any representations about such information. **So long as DTC or its nominee, Cede & Co., is the registered owner of the 2015 Bonds, any such notices of redemption will be mailed solely to DTC and distribution of such notices to Direct Participants and Indirect Participants (each as defined in Appendix H) will be the sole responsibility of DTC, and distribution of such notices to Beneficial Owners (as defined in Appendix H) will be the sole responsibility of the Direct Participants and Indirect Participants.**

Redemption

Optional Redemption. The 2015A Bonds are subject to redemption before maturity at the option of the City at any time on or after November 1, 2024, from any moneys available for such purpose, in whole or in part (in increments of \$5,000), at par plus accrued and unpaid interest to the date fixed for redemption.

The 2015B Bonds maturing on or before November 1, 2027, are not subject to redemption before maturity. The 2015B Bonds maturing on or after November 1, 2028, are subject to redemption before maturity at the option of the City at any time on or after November 1, 2025, from any money available for such purpose, in whole or in part (in increments of \$5,000), at par plus accrued and unpaid interest to the date fixed for redemption.

Mandatory Redemption for the 2015A Bonds. The 2015A Bonds are subject to mandatory redemption in part, on November 1 in the years and in the amounts set forth below:

<u>Year</u>	<u>Redemption Amount</u>
2039	\$1,485,000
2040	1,565,000
2041	4,430,000
2042	4,670,000
2043	8,525,000
2044 (final maturity)	8,985,000

Notice of Redemption. Any redemption of the 2015 Bonds is required by the Indenture to be made upon notice of redemption given by certified mail to DTC or, if the book-entry only system is discontinued as described above, by first class mail, postage prepaid, not less than 30 nor more than 60 days before the date fixed for redemption, to the registered owners of the 2015 Bonds to be redeemed and to the Municipal Securities Rulemaking Board (the "MSRB"), as set forth in the Indenture.

Each notice of redemption will contain, among other things, the CUSIP identification number and the number of the 2015 Bonds (or portions thereof) being called for redemption, the redemption date and price and the address at which the 2015 Bonds are to be surrendered for payment of the redemption price. Such notice may state that the redemption of the 2015 Bonds to be redeemed is conditioned upon the occurrence of certain future events, including, without limitation, the deposit with the Trustee of moneys sufficient to effect the redemption on or before the date fixed therefor.

Any defect in such notice or the failure to mail any such notice to the registered owner of any 2015 Bond called for redemption will not affect the validity of the proceedings for the redemption of any other 2015 Bond. Any

defect in such notice or the failure to mail any such notice to the MSRB will not affect the validity of the proceedings for the redemption of the 2015 Bonds. As long as the book-entry only system is used for determining ownership of the 2015 Bonds, the City shall send notice to DTC or its nominee, or its successor. Any failure of DTC or its nominee or of a Direct Participant or Indirect Participant to notify a Direct Participant, Indirect Participant or Beneficial Owner of any 2015 Bond called for redemption will not affect the validity of the proceedings for the redemption of such 2015 Bond. If less than all of the 2015 Bonds are called for redemption, the maturities of such 2015 Bonds to be redeemed shall be selected by the Director of Finance of the City in such manner as he or she in his or her discretion may determine. So long as a book-entry system is used for determining beneficial ownership of the 2015 Bonds, if less than all of the 2015 Bonds within a maturity are to be redeemed, DTC and its participants shall determine which of the 2015 Bonds within a maturity are to be redeemed.

SECURITY AND SOURCES OF PAYMENT FOR THE BONDS

Pledge Under the Indenture

The 2015 Bonds, all Outstanding Bonds and any Additional Bonds issued under the Indenture (collectively, the "Bonds") are limited obligations of the City payable from Net Revenues and reserves held for such purpose. The term "Net Revenues" is defined in the Indenture as Revenues less Operating Expenses. As defined in the Indenture, "Revenues" include all revenues, receipts and other income derived by the City from the ownership or operation of the System including, without limitation, investment earnings and transfers, if any, from the Rate Stabilization Fund, but excluding (i) any gift, grant or contribution to the extent restricted by the donor or grantor to a particular purpose inconsistent with its use for the payment of debt service on Bonds, Parity Indebtedness or Subordinate Debt, (ii) proceeds derived from insurance or condemnation and (iii) any transfers from the Revenue Fund to the Rate Stabilization Fund. "Operating Expenses," as defined in the Indenture, include all current expenses directly or indirectly attributable to the ownership or operation of the System, but do not include (i) any allowance for amortization or depreciation, (ii) deposits or transfers to the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund, the Repair and Replacement Reserve Fund or the Rate Stabilization Fund, (iii) payments for Existing Debt Service on City Obligations and (iv) expenditures which the City makes an election to capitalize.

The City may incur "Parity Indebtedness" equally and ratably secured by Net Revenues with the Bonds on terms and conditions similar to those required for the issuance of Additional Bonds. Parity Indebtedness is not secured by the Debt Service Reserve Fund. The City also may issue "Subordinate Debt" secured by a pledge of Net Revenues that is expressly made subordinate to the pledge of Net Revenues securing Bonds or Parity Indebtedness or which is unsecured. There is no Subordinate Debt outstanding.

The City has entered into wholesale contracts with the United States Navy, the Western Tidewater Water Authority, and the Cities of Virginia Beach, Chesapeake and Portsmouth. Payments received by the City under these contracts constitute Revenues. See "THE SYSTEM – Wholesale Contracts" below and "Appendix E – SUMMARY OF WHOLESALE CONTRACTS" hereto for a more detailed discussion of these contracts.

Neither the faith and credit of the Commonwealth nor the faith and credit of any county, city, town or other political subdivision of the Commonwealth, including the City, is pledged to the payment of the principal of, premium, if any, or interest on the Bonds, including the 2015 Bonds.

Revenue Covenant

The City has covenanted in the Indenture that it will establish, fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System, and will, from time to time and as often as appears necessary, revise such rates, fees and other charges, so that in each fiscal year ended June 30 ("Fiscal Year"), Net Revenues are not less than the greater of (i) the sum of 1.1 times debt service on Bonds and Parity Indebtedness and 1.0 times debt service on Subordinated Debt for the Fiscal Year and (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund (the "Revenue Covenant").

Additional Bonds and Parity Indebtedness

The City may issue Additional Bonds or Parity Indebtedness for "new money" purposes upon receipt of a written certificate of the Director of Finance or, at the City's option, the Consulting Engineer which states that the amount of the Net Revenues as received during any 12 consecutive months of the 24 months immediately preceding the issuance of the Bonds or Parity Indebtedness (the "Test Period"), as adjusted as set forth below, will satisfy the Revenue Covenant for the Test Period taking into account the maximum annual debt service due on (i) the Bonds and Parity Indebtedness then outstanding and (ii) the Bonds or Parity Indebtedness to be issued. The Net Revenues which are permitted to be certified by the Director of Utilities or the Consulting Engineer to the Director of Finance may be adjusted as follows:

(a) If the City has increased the rates, fees or other charges for the services or use of the System, the Net Revenues for the Test Period will be adjusted to include the Net Revenues which would have been derived from the System during the Test Period as if such increased rates, fees or other charges for the services or use of the System had been in effect during the Test Period.

(b) If the City has acquired or has contracted to acquire any privately or publicly-owned existing water system, sewer system, sewage disposal system, solid waste collection or disposal system, stormwater collection or disposal system, or any other utility system that the City will consolidate with the System, the cost of which will be paid from all or part of the proceeds of the issuance of the proposed Bonds or Parity Indebtedness, then the Net Revenues derived from the System during the Test Period will be increased by adding to the Net Revenues for the Test Period the projected Net Revenues which would have been derived from the System if such utility system had been operated by the City as part of the System during the Test Period.

(c) If the City has entered into a contract on or before the date of the issuance of the proposed Bonds or Parity Indebtedness with any public body whereby the City has agreed to furnish services consistent with the services performed by the System, which contract (i) is for a duration of not less than the final maturity of the Bonds or Parity Indebtedness proposed to be issued, or (ii) if less than the final maturity of such Bonds or Parity Indebtedness, contains provisions obligating the party contracting with the City to pay in full its allocated share of capital improvements to the System needed to carry out the terms of the contract, then the Net Revenues of the System during the Test Period will be increased by the least amount which the entity receiving such services will be required to pay by the terms of the contract in any one year during which the City is to furnish such services and such Bonds or Parity Indebtedness are anticipated to be outstanding, after deducting from such payment the estimated amount of operating expenses and repair, renewal and replacement costs attributable in such year to such services.

(d) If there is an estimated increase in Revenues to be received by the City, as a result of additions, extensions or improvements to the System within three years after delivery of the proposed Bonds or Parity Indebtedness and the governing body of the City has taken official action authorizing the additions, extensions or improvements (and if the project involves another jurisdiction, the governing body of that jurisdiction has given appropriate approval), then the Net Revenues derived from the System during the Test Period will be increased by the average annual additional Net Revenues estimated for the first two full Fiscal Years after such additions, extensions or improvements are placed in service.

See "Appendix A – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE – Summary of Certain Provisions of the Indenture – Additional Bonds" and "– Parity Indebtedness" for additional information regarding the conditions for the issuance of Additional Bonds and Parity Indebtedness.

Debt Service Reserve Fund and Series Reserve Accounts

The Indenture establishes a Debt Service Reserve Fund which provides additional security for the 2005 Bonds, the 2008 Bonds and the 2010 Bonds (collectively, the "Prior Series") and each Series of Bonds for which the City opts to provide such additional security on a combined basis. As of February 28, 2015, the Prior DSR Requirement was \$7,766,478.13 and the balance in the Debt Service Reserve Fund was \$7,985,424.14, \$1,397,168.76 of which is funded by a surety bond provided by MBIA Insurance Corporation, now a subsidiary of National Public Finance Guarantee Corporation. The City will contribute \$2,910,598.83 from the Debt Service

Reserve Fund to the refunding of the Refunded Obligations. See "SOURCES AND USES OF FUNDS." The Indenture also permits the City to establish a separate account within the Debt Service Reserve Fund for any Series of Bonds other than the Prior Series and provide for the calculation of a separate Debt Service Reserve Requirement for such Series, which may be zero. Such Series of Bonds will have no claim on the other moneys deposited to the credit of the Debt Service Reserve Fund or any account therein. The Debt Service Reserve Requirement for the 2012 Bonds and the 2013 Bonds is zero. **The Eleventh Supplemental Indenture provides for the establishment of such a separate account in the Debt Service Reserve Fund for the Bonds and provides that the Debt Service Reserve Requirement for the 2015 Bonds is zero.** See "Appendix A – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE – Summary of Certain Provisions of the Indenture – Debt Service Reserve Fund."

Neither the Debt Service Reserve Fund nor any account therein secures Parity Indebtedness. There is no Parity Indebtedness Outstanding.

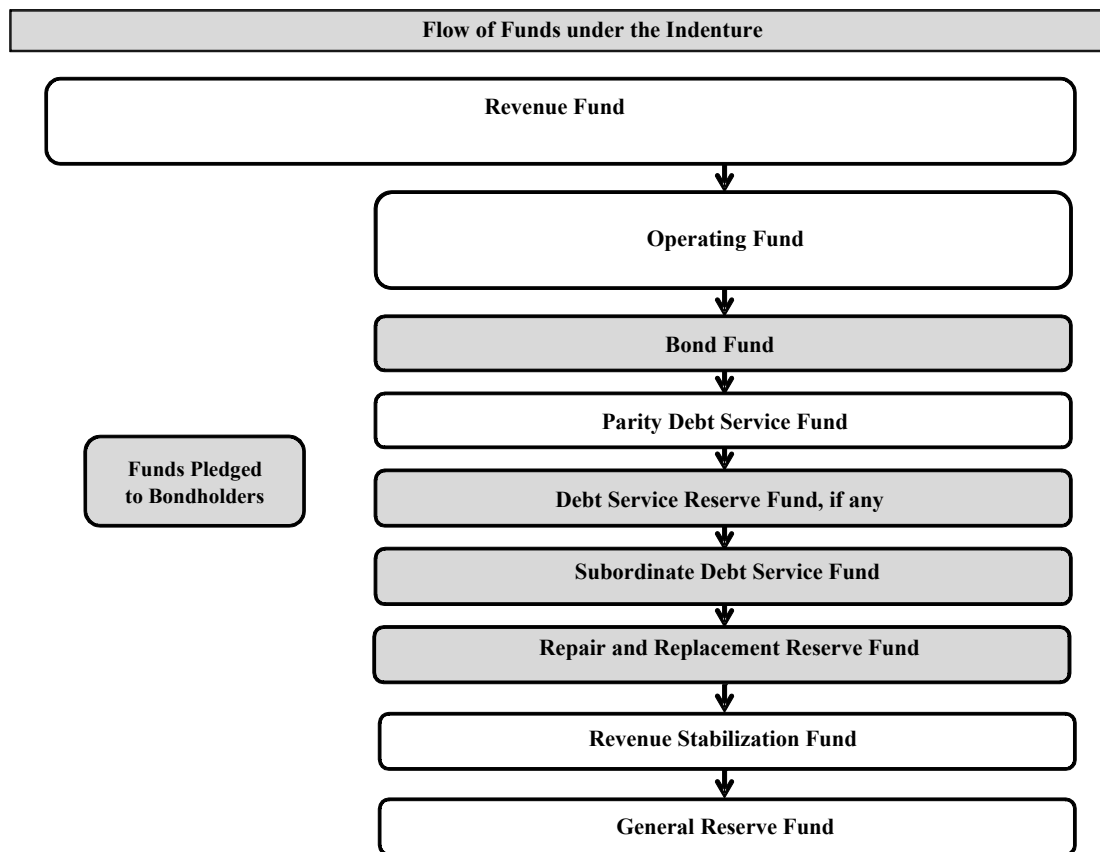
Other Debt

The City has issued general obligation bonds from time to time to pay for improvements to the Water System. The City expects that future capital costs for the Water System which are financed with debt will be paid from proceeds of Bonds issued pursuant to the Indenture. As of June 30, 2014, \$547,786 of general obligation bonds attributable to the Water System were outstanding. The general obligation bonds were paid in full during Fiscal Year 2015 and no balance was outstanding as of July 31, 2014.

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Flow of Funds

The Indenture provides that the City will collect and deposit in the Revenue Fund as received all Revenues derived from the ownership or operation of the System, except as otherwise provided for in the Indenture for investment income on certain funds and accounts created by the Indenture. Set forth below is the flow of funds under the Indenture.



In the event there are insufficient funds in the Revenue Fund to make the transfers required by the Bond Fund and the Parity Debt Service Fund, the City will allocate the available funds between the Bond Fund and the Parity Debt Service Fund in the proportion that the amount required to be deposited to each Fund bears to the total amount required to be deposited to both Funds.

See "Appendix A – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE" hereto for a further description of the flow of funds.

Limits on Enforceability

The enforceability of the Indenture and the 2015 Bonds is subject to bankruptcy, insolvency, moratorium, reorganization and other state and federal laws affecting the enforcement of creditors' rights and to the extent that certain remedies under such agreements or instruments require, or may require, enforcement by a court, such principles of equity as the court having jurisdiction may impose. See "Appendix A – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE – Summary of Certain Portions of the Indenture – Events of Default" and "– Remedies; Rights of Bondholders" hereto.

Bankruptcy. Chapter 9 of the United States Bankruptcy Code (the "Bankruptcy Code") permits a municipality such as the City, if insolvent or otherwise unable to pay its debts as they become due, to file a voluntary petition for the adjustment of debts provided that such municipality is "specifically authorized, in its

capacity as a municipality or by name, to be a debtor..." Bankruptcy Code, §109(c)(2). Current Virginia statutes do not expressly authorize the City or municipalities generally to file under Chapter 9. Chapter 9 does not authorize the filing of involuntary petitions against municipalities such as the City.

Bankruptcy proceedings by the City could have adverse effects on holders of the 2015 Bonds, including (i) delay in the enforcement of their remedies, (ii) subordination of their claims to claims of those supplying goods and services to the City after the initiation of bankruptcy proceedings and to the administrative expenses of bankruptcy proceedings and (iii) imposition without their consent of a plan of reorganization reducing or delaying payment of the 2015 Bonds. The Bankruptcy Code contains provisions intended to ensure that, in any plan of reorganization not accepted by at least a majority of any class of creditors such as the holders of the 2015 Bonds, such class of creditors will have the benefit of their original claim or its "indubitable equivalent," although such "equivalent" may not provide for payment of the 2015 Bonds in full. The effect of these and other provisions of the Bankruptcy Code cannot be predicted and may be significantly affected by judicial interpretation.

SOURCES AND USES OF FUNDS

The expected amounts of the proceeds of the 2015 Bonds and certain other related City funds and the application thereof are as follows:

<i>Sources of Funds:</i>		<i>2015A Bonds</i>	<i>2015B Bonds</i>
Par Amount of the 2015 Bonds	\$	29,660,000.00	\$ 54,020,000.00
Original Issue Premium on the 2015 Bonds		5,393,077.80	12,446,562.35
City Contribution ⁽¹⁾		-	4,154,346.05
<i>Total Sources of Funds.....</i>	<i>\$</i>	<i><u>35,053,077.80</u></i>	<i><u>\$ 70,620,908.40</u></i>
 <i>Uses of Funds:</i>			
Project Fund	\$	35,000,000.00	\$ -
Escrow Fund		-	70,534,076.26
Costs of Issuance ⁽²⁾		53,077.80	86,832.14
<i>Total Uses of Funds.....</i>	<i>\$</i>	<i><u>35,053,077.80</u></i>	<i><u>\$ 70,620,908.40</u></i>

Notes: (1) Funds are provided from the debt service funds and debt service reserve funds for the Refunded Obligations.
(2) Includes underwriter's discount and expenses.

DEBT SERVICE REQUIREMENTS

Annual service requirements on the currently Outstanding Bonds, together with the 2015 Bonds, are shown in the table below. Totals may not sum due to rounding.

Fiscal Year	Existing Debt Service (as of June 30, 2014)	Less Debt Service on the Refunded Obligations	Principal 2015 Bonds	Interest 2015 Bonds	Total Debt Service 2015 Bonds	Total Debt Service
2015	\$23,203,269	\$1,492,403	\$ -	\$ -	\$ -	\$21,710,866
2016	23,797,794	2,984,806	-	4,549,883	4,549,883	25,362,870
2017	25,246,519	3,535,681	-	4,367,888	4,367,888	26,078,725
2018	27,854,269	2,956,556	-	4,367,888	4,367,888	29,265,600
2019	28,111,244	3,564,156	-	4,367,888	4,367,888	28,914,975
2020	28,211,769	4,953,231	235,000	4,362,013	4,597,013	27,855,550
2021	28,511,144	4,292,331	700,000	4,338,638	5,038,638	29,257,450
2022	28,650,144	4,290,706	1,000,000	4,296,138	5,296,138	29,655,575
2023	29,018,444	4,295,081	1,325,000	4,238,013	5,563,013	30,286,375
2024	29,188,894	5,051,806	2,160,000	4,150,888	6,310,888	30,447,975
2025	26,276,769	5,054,806	2,295,000	4,039,513	6,334,513	27,556,475
2026	26,457,044	5,056,281	2,410,000	3,921,888	6,331,888	27,732,650
2027	18,485,613	5,051,100	2,560,000	3,794,438	6,354,438	19,788,950
2028	18,553,263	5,053,900	2,700,000	3,656,363	6,356,363	19,855,725
2029	18,665,306	5,058,219	2,880,000	3,509,888	6,389,888	19,996,975
2030	13,302,619	5,057,156	3,030,000	3,354,750	6,384,750	14,630,212
2031	13,325,050	5,053,288	3,420,000	3,185,438	6,605,438	14,877,200
2032	13,362,228	5,058,078	3,410,000	3,006,150	6,416,150	14,720,300
2033	11,271,959	5,054,622	3,625,000	2,821,481	6,446,481	12,663,819
2034	11,271,106	5,052,681	3,830,000	2,625,788	6,455,788	12,674,212
2035	11,271,750	5,051,788	4,075,000	2,418,281	6,493,281	12,713,244
2036	11,275,653	5,056,353	4,320,000	2,197,913	6,517,913	12,737,212
2037	9,875,281	3,658,975	3,150,000	2,001,825	5,151,825	11,368,131
2038	9,876,775	3,660,800	3,345,000	1,831,331	5,176,331	11,392,306
2039	9,877,831	3,659,906	3,550,000	1,650,338	5,200,338	11,418,263
2040	6,218,850	-	1,485,000	1,518,169	3,003,169	9,222,019
2041	6,221,625	-	1,565,000	1,438,106	3,003,106	9,224,731
2042	3,512,750	-	4,430,000	1,280,738	5,710,738	9,223,488
2043	3,510,625	-	4,670,000	1,041,863	5,711,863	9,222,488
2044	-	-	8,525,000	695,494	9,220,494	9,220,494
2045	-	-	8,985,000	235,856	9,220,856	9,220,856
Total	<u>\$514,405,584</u>	<u>\$109,054,713</u>	<u>\$83,680,000</u>	<u>\$89,264,839</u>	<u>\$172,944,839</u>	<u>\$578,295,711</u>

Source: Department of Finance.

DEPARTMENT OF UTILITIES

Introduction

The Department of Utilities (the "Department") operates and maintains the City's water and wastewater systems and oversees the Water and Wastewater Enterprise Funds. For additional information about the City, see "Appendix D – CERTAIN INFORMATION CONCERNING THE CITY" hereto.

The City operates under the council-manager form of government. Policymaking and legislative authorities are vested in the governing City Council, which consists of a mayor and seven-member council. Members of the City Council serve four-year staggered terms. The City Council appoints the City Manager. The City Council is the only body with authority to set water rates and fees charged by the City.

The principal members of the City's management team and their experience are described in Appendix D to this Official Statement.

Organizational Structure

The Department currently employs approximately 292 employees who are grouped into seven divisions. A brief description of each division follows:

Director's Office	Responsible for overall administration of the Department, including public information, human resources and grants management.
Water Production	Responsible for operation and maintenance of water treatment plants and finished water storage facilities. Maintains raw and finished water pump stations and raw water transmission mains. Reviews any encroachments or activities on the reservoirs.
Water Quality	Responsible for assuring that System water continues to meet state and federal regulations through laboratory analysis and reporting to regulatory agencies. Manages raw water resources.
Water Distribution	Responsible for the maintenance of over 800 miles of water mains. Also responsible for repair, replacement and installation of fire hydrants and valves and the detection of leaks in the distribution system. Provides routine flushing of water mains and the installation of service main extensions.
Engineering	Responsible for engineering design, construction oversight, contract management and capital improvement program development. Also responsible for underground utility identification under the Miss Utility program, and other engineering functions.
Accounting and Budget	Responsible for financial oversight, budgeting and expenditure tracking for all phases of the utility operations. Coordinates with the City's Finance Department to maintain consistency in financial reporting and recordkeeping.
Water Accounts	Responsible for handling customer service inquiries concerning billing and establishment and disconnection of services. Coordinates the reading of meters. Also responsible for billing and collection activities in conjunction with joint billing arrangement with Hampton Roads Sanitation District ("HRSD").

A summary of the Department's management team and their experience is as follows:

Kristen M. Lentz, P.E., Director of Utilities

Kristen M. Lentz, P.E., was appointed Acting Director of Utilities in 2001 and Director of Utilities in 2002. Ms. Lentz is a registered professional engineer and has approximately 36 years of professional experience. Prior to her appointment, Ms. Lentz held the positions of Assistant Director of Public Works for the City for nine years and has served as City Engineer and Director of Engineering and Utilities for the City of Poquoson, Virginia. She holds a Bachelor of Science degree in Civil Engineering from Old Dominion University, Norfolk, Virginia. She also serves on the Old Dominion University Civil and Environmental Engineering Visiting Council. In February 2015, Ms. Lentz was appointed by Virginia's Governor to serve on the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals.

Robert A. Carteris, Assistant Director of Utilities

Robert A. Carteris, the Department's Manager of Budget and Accounting, has worked for the Department since March 2007. Prior to his appointment as Manager of Budget and Accounting, Mr. Carteris had been a senior financial officer for various European-based multinational companies engaged in manufacturing, international trade,

shipping and logistics. He has over 38 years of professional experience in accounting, finance, treasury and administration. He holds a Bachelor of Science degree in Accounting from Manhattan College, New York, New York and a Master of Business Administration and Policy from Baruch College, New York, New York.

Eric G. Tucker, Assistant Director of Utilities

Eric G. Tucker, began serving as the Assistant Director of Utilities in August 2008. Prior to his promotion, he served as the Utility Operations Manager for the Department for six years. Mr. Tucker has approximately 30 years of professional experience and has held technical management positions with PEMCCO, Incorporated, and ThyssenKrupp Elevator, as well as engineering positions with URS Corporation, Camp Dresser and McKee, Inc. and CDI Marine Company. Mr. Tucker holds a Bachelor of Science degree in Industrial Technology from Virginia State University, Petersburg, Virginia and a Masters of Business Administration degree from Averett University, Danville, Virginia. He also holds certifications in Work Zone Traffic Control, FEMA Hurricane Recovery and Mitigation and the National Incident Management System.

Chris E. Harbin, Water Production Manager

Chris E. Harbin has served as the Department's Water Production Manager since February 2010. Mr. Harbin has over 31 years of experience in water treatment plant management and operations. His experience includes positions from Waterworks Treatment Plant Operator to Water Treatment Plant Manager. He holds a Bachelor of Science degree in Biology from Christopher Newport University, Newport News, Virginia. Mr. Harbin currently serves on the Virginia Section American Waterworks Association Plant Operations Committee.

Alicia A. Connelly, Water Quality Manager

Alicia A. Connelly has been with the Department of Utilities since 1985. She has served as the Department's Water Quality Manager since January 2010. Prior work experience includes, serving as both the Assistant Superintendent of Utilities Division and the Water Quality Laboratory Supervisor, and as a Senior Water Chemist. Ms. Connelly holds a Bachelor's degree in Biology and Chemistry from Old Dominion University, Norfolk, Virginia, along with numerous certifications for laboratory management, water treatment and management. She is a member in the American Water Work Association (AWWA), the Water Environment Federation (WEF), the American Chemical Society (ACS), and has served as Chair of the Virginia AWWA/WEF Laboratory Practice Committee.

Cherryl F. Barnett, P.E., Engineering Manager

Cherryl F. Barnett, P.E., has recently assumed the position as the Department's Engineering Manager. Ms. Barnett is a registered professional engineer and has been licensed with the Commonwealth for 29 years. She holds Bachelor's and Master's degrees in Civil Engineering from Old Dominion University, Norfolk, Virginia. Her responsibilities with the Department include overseeing the City's CIP and administering the annual budget which includes replacement of water and sewer pipes throughout the City, upgrades to water treatment plants and improvements to water supply reservoirs. Prior to working for the City, Ms. Barnett spent 33 years as a civilian engineer with the Navy, most recently with the Naval Facilities Engineering Command Atlantic.

Trinette D. Hodges, Customer Service Manager

Trinette D. Hodges has served as the Department's Customer Service Manager since February 2008. Her responsibilities include overseeing the Department's call center, collection and billing divisions. Ms. Hodges has over 20 years of professional experience and is a member of multiple professional organizations. Prior to joining the Department, she held various management positions in both customer service and quality in the private sector. Ms. Hodges holds a Bachelor of Arts degree in Rhetoric and Communications from the University of Virginia, Charlottesville, Virginia.

Harry C. Kenyon, A.P.R., Management Services Administrator

Harry C. Kenyon, A.P.R., has served as the Department's Management Services Administrator since October 2008. He has 35 years of public relations experience in federal, state and municipal agencies. Before joining the Department, he was the Public Relations Manager for the Hampton Roads District of the Virginia Department of Transportation and with the City of Chesapeake, Virginia as the Public Works Information Specialist. He also served 22 years in the U.S. Navy as a Chief Journalist and Public Affairs Officer and was assigned as the staff journalist for the Chief of Naval Operations in the Pentagon. He retired from active service in June 1999. He is a graduate of City University, Bellevue, Washington, and the Defense Information School, Fort Benjamin Harrison, Indiana. In 2002, he received his Accreditation in Public Relations from the Universal Accreditation Board of the Public Relations Society of America.

Management Initiatives

Developments since the City issued the 2013 Bonds include:

- Construction on the Western Branch Dam project is scheduled to begin mid-2015. The \$25 million project includes improving the existing concrete dam structure and obtaining property adjacent to the dam for the construction of an emergency spillway.
- Division of Engineering continued with its CIP program to replace aging infrastructure in the City. During Fiscal Years 2013 and 2014, the division received bids for approximately \$54 million and replaced approximately 98,000 feet of water mains and 117,000 feet of sewer mains.
- During Fiscal Years 2013 and 2014, the Department saved approximately \$350,000 in energy costs through EnergyConnect program to curtail electricity use during high-demand periods.
- The Department is in the process of a \$25 million renovation to the 37th Street WTP, phase with construction expected to be completed in 2016. Phase 3 improvements at the 37th Street WTP include installation of deep bed gravity filters, intermediate pump station and ultra-violet disinfection system, conversion of existing clear wells to post-sedimentation storage and replacement of the rapid-mix facilities.
- The Department has replaced the sludge handling equipment used for the residual dewatering process at the Moores Bridges WTP. Other ongoing Moores Bridges WTP improvements include rehabilitation of the solids collection system, installation of low lift pumps, rehabilitating existing sand filters, modifications to chemical feed systems, and various mechanical, electrical and piping equipment.
- The Department completed upgrades to the Western Branch pump station in support of the Western Tidewater Water Authority (WTWA) raw water supply contract.
- Flood protection projects were constructed at the Blackwater and Nottoway River pump stations. The project included bank stabilization and raising of electrical equipment inside the pump station.
- The Department continued replacing of raw water pipelines at multiple locations, including river crossings.
- The Department continues to use GIS to update infrastructure records.

Future initiatives of the Department include:

- The continued implementation of the long-term infrastructure renewal plan. The plan includes the upgrade of aging sections of raw and finished water piping, replacement of master meters, and ongoing system-wide reservoir rehabilitation.
- The marketing of surplus water.

THE SYSTEM

History and Overview

The City developed a surface water supply network starting with the use of a spring near Main Street in the late 1600s, through the development of an in-town lake system in the late 1800s, to the development of Lake Prince and Lake Burnt Mills in the City of Suffolk, Virginia ("Suffolk"), and the County of Isle of Wight, Virginia ("Isle of Wight"), in 1918 and the Western Branch Reservoir in Suffolk in 1962. In the 1940s through the 1960s the System expanded, and the Blackwater and Nottoway River intakes in the County of Southampton, Virginia ("Southampton"), were added. The existing surface water supply is sufficient to meet the 50-year projected water needs of Norfolk's residents and businesses and all current contract and non-contract wholesale requirements.

In order to process water, two water treatment plants have been constructed and maintained. See "THE SYSTEM – Water Treatment Plants" below. The Moores Bridges WTP, constructed in the late 1890s, currently treats all public water consumed in the City of Virginia Beach, Virginia ("Virginia Beach"), serves a portion of the City of Chesapeake, Virginia ("Chesapeake"), and treats and supplies portions of the water consumed in the City. The 37th Street WTP, originally put into service in the 1920s, supplies water to the remainder of the City. Both treatment plants serve the United States Navy.

Over time, the System has developed and expanded into the major regional provider of water for South Hampton Roads, currently serving an area encompassing a population of approximately 1.1 million, or approximately 12% of the population of the Commonwealth.

The first transmission line to Virginia Beach was installed in 1924, and the City has provided water to its neighbor ever since through long-term water supply contracts. A water services contract provides for the System's wheeling and treating of Virginia Beach raw water, either from Lake Gaston or Stumpy Lake, through Fiscal Year 2030. Additionally, the Navy and Chesapeake are long-standing wholesale treated water customers. Although the City currently has no separate water supply contract with Chesapeake, the City sells water to Chesapeake at a rate of \$6.09 per 1,000 gallons which increases by 3.5% in subsequent fiscal years. Starting on July 1, 2006, the City also began selling raw water to Chesapeake. See "THE SYSTEM – Wholesale Contracts" below and "Appendix E – SUMMARY OF WHOLESALE CONTRACTS" hereto for further discussion of relationships with the City of Portsmouth, Virginia ("Portsmouth"), Chesapeake, Virginia Beach, the Western Tidewater Water Authority (serving the City of Suffolk and Isle of Wight County) (the "WTWA") and the United States Navy. The City also provides raw water to a U.S. military facility in Portsmouth.

For additional information with respect to the System, see the Feasibility Study which appears as Appendix G to this Official Statement.

Water Supply

The System receives water from a series of eight City-owned water supply reservoirs which are located as follows: three in Suffolk and Isle of Wight (which collectively are known as the "Western Reservoir System"), three in Virginia Beach, and two in Norfolk (which collectively are known as the "In-Town Reservoirs"). The System's current raw water storage capacity is 15.2 billion gallons. These reservoirs are supplemented by two river intakes at the Blackwater and Nottoway Rivers and four ground water wells owned by the City that are available in times of shortages.

As more fully discussed in "THE SYSTEM – Wholesale Contracts" below and in "Appendix E – SUMMARY OF WHOLESale CONTRACTS" hereto, the City and Virginia Beach entered into the Water Services Contract, as hereinafter defined, to provide for the treatment and delivery of raw water supplied by the City to Virginia Beach, whether from Lake Gaston or Stumpy Lake, up to the contract maximum limit of 45.0 mgd, or 46.8 mgd upon request from Virginia Beach and approval from Norfolk. Under the utility basis of cost recovery for this Contract, Virginia Beach is paying the City its proportionate share of annual operation and maintenance expense, depreciation, and return on specific System facilities used by the City to provide service to Virginia Beach. Such facilities include several expansion and improvement projects to increase the System's capacity to receive Lake Gaston water for treatment at the Moores Bridges WTP; improvements to master water meters; construction of a raw water pumping station, a raw water booster pumping station and a second high service pumping station at the Moores Bridges WTP; construction of raw water and treated water transmission mains; and hydraulic improvements at the Moores Bridges WTP, including improvements to flash mixers, sedimentation basin, filters, plant laboratory, maintenance facilities and administrative offices.

On April 28, 1995, the City commenced the System improvements necessary to treat the Lake Gaston water after the City was requested to do so by Virginia Beach. Under the terms of the Water Services Contract, Virginia Beach is obligated to pay the City for all costs so incurred irrespective of Virginia Beach's ability to continue to provide Lake Gaston water.

Regional Water Requirements. The Moores Bridges WTP was expanded to provide for the treatment of up to 45 mgd of raw water that Virginia Beach receives from the Lake Gaston Reservoir. Norfolk is treating this water under a water services contract that went into effect in Fiscal Year 1998. This released 32 mgd of raw water from the Norfolk System that was being sold to Virginia Beach under the then existing water supply contract. The sale of 7 mgd of raw water under the City's wholesale raw water contract with Chesapeake began July 1, 2006. On September 29, 2009, the City entered into a 40-year raw water sales agreement with the WTWA to furnish a minimum of 3 mgd and gradually increasing to 15 mgd by 2038. Norfolk believes that continued growth in the South Hampton Roads area, including Virginia Beach, will generate a demand for this water.

Water Treatment Plants

The City owns and, through the Department, operates two major water treatment plants, the Moores Bridges WTP and the 37th Street WTP. The Moores Bridges WTP, with a rated capacity of 108 mgd (maximum day), provides finished water primarily to the eastern two-thirds of the City and Virginia Beach. The 37th Street WTP, with a rated capacity of 28 mgd (maximum day), provides finished water primarily to the western one-third of the City. Flow from both treatment plants serves the Navy facilities in Norfolk and the Moores Bridges WTP serves the urban northeastern section of Chesapeake.

Hampton Roads Sanitation District presented the Moores Bridges WTP and the 37th Street WTP with the 2010 and 2011 Pretreatment Excellence and Pollution Prevention Awards and the 2013 Gold Pretreatment Excellence and Pollution Prevention Awards.

Water Distribution and Storage Facilities

The System's distribution facilities within Norfolk include two ground level storage tanks with pumping stations, two elevated water storage tanks, approximately 17,866 water valves and approximately 4,849 hydrants. Treated water is distributed throughout the City, to the city limits of Virginia Beach and Chesapeake, and to the gates of the Norfolk Navy facilities by more than 800 miles of water mains. For Fiscal Year 2014, peak-day water production was 74.8 mgd and average day production was approximately 57.9 mgd. Average unaccounted-for treated and raw water was approximately 5.78 mgd. According to the American Water Works Association ("AWWA"), the optimum unaccounted-for water level for efficient distribution systems should be less than 10% of volume of water produced. Nationwide, AWWA reports that water utilities average about 15% unaccounted-for water. For Fiscal Year 2014, the System's unaccounted-for water level was approximately 9.2% which is within AWWA's acceptable levels.

Permits

The City has obtained all governmental permits, licenses, registrations, certificates, authorizations and approvals currently required for the City's ownership and operation of the Water System and is aware of no reason why any such governmental permits, licenses, registrations, certificates, authorizations and approvals to be required in the future cannot be obtained as needed.

Mandatory Connection

Norfolk is a mature city, the land area of which is almost completely developed and served by the Water System's retail distribution facilities. The City Code requires the owner or tenant of any improved piece of property located within the City and bordering upon a street or alley along which a public water line has been laid to connect that same property with such public water supply line and makes it unlawful to use private wells or other alternative facilities where City water lines are available for connection thereto; provided, however, that owners or tenants of residences connected to such lines may use alternative water sources for residential heating and cooling purposes, irrigation and for maintaining residential and related personal property normally kept outdoors.

Customer Base

As of June 30, 2014, the Water System provides potable water to approximately 64,586 active Norfolk retail service customers (i.e. accounts) and wholesale service to the United States Navy, Virginia Beach, Chesapeake, Portsmouth and the WTW. Population in the area served by the Water System totals approximately 1.1 million people. The average annual daily amount of finished water pumped for Fiscal Year 2014 was 57.9 mgd, including approximately 5.78 mgd of unaccounted-for water and 0.36 mgd of water used for such purposes as street cleaning, firefighting, system flushing and treatment plant usage.

Table 1
Average Daily Metered Consumption
Fiscal Year 2014

	<u>Metered Consumption (mgd)</u>	<u>Percent of Total</u>
Norfolk Retail	16.7	30.3%
Virginia Beach	31.8	57.7
Navy	4.3	7.8
Chesapeake	<u>2.3</u>	<u>4.2</u>
Total	<u>55.1</u>	<u>100.0%</u>

Source: Department of Utilities.

Table 2 provides data on the System's ten largest retail customers for Fiscal Year 2014.

Table 2
Ten Largest Retail Customers
Fiscal Year 2014

<u>Retail Customer</u>	<u>Annual Water Consumption (1,000 gallons)</u>	<u>Annual Water Consumption as % of Total Consumption of 20,112,999 gallons (1,000 gallons)</u>
Norfolk Redevelopment and Housing Authority	308,489	1.53%
B.A.E. Systems	134,432	0.67
Old Dominion University	99,100	0.49
Sentara Norfolk General Hospital	98,087	0.49
Norfolk International Terminal	57,893	0.29
Norfolk State University	56,366	0.28
S.L. Nusbaum (Property Management)	56,163	0.28
Virginia International Terminal	55,618	0.28
Bon Secours DePaul Medical Center	51,275	0.25
General Dynamics NASSCO	<u>47,101</u>	<u>0.23</u>
Total	<u>964,524</u>	<u>4.80%</u>

Source: Department of Utilities.

The ten largest retail customers together represent less than 5.0% of total water consumption, and no single retail customer represents more than 1.6% of total consumption.

Wholesale Contracts

The City maintains wholesale contracts or water service agreements with Chesapeake, Virginia Beach, Portsmouth, the Navy and the WTW. These contracts and agreements set forth the amount of water to be sold, rate setting procedures, metering points, dispute resolution and other matters.

The descriptions of the contracts and agreements set forth below are brief outlines or summaries of certain provisions. For a more detailed description of the contracts and agreements see "Appendix E – SUMMARY OF WHOLESALE CONTRACTS" hereto. The outlines and summaries set forth above and in Appendix E do not purport to be complete, and reference should be made to each respective contract or agreement. Copies of the contracts and agreements may be obtained from the City for a full and complete statement of their provisions.

City of Virginia Beach. On July 14, 1993, the City entered into a water sales contract (the "Water Sales Contract") and a water services contract (the "Original Water Services Contract") with Virginia Beach. The Water Sales Contract served as an interim arrangement for the sale of surplus System water to Virginia Beach pending completion of the Lake Gaston Project. Beginning on January 1998, the Original Water Services Contract provided for the City's treatment and delivery of potable Lake Gaston water to Virginia Beach now that the Lake Gaston Project is completed. In 2001, the Original Water Services Contract was amended and restated (as amended and restated, the "Water Services Contract"). As of June 2004, the Water Services Contract covers the use of Virginia Beach's Stumpy Lake raw water source in conjunction with Lake Gaston water.

The Water Services Contract is a long-term contract (effective through June 30, 2030) which requires the City to receive, convey, treat and deliver to Virginia Beach up to an average of 45 mgd, or 46.8 mgd upon Virginia Beach's request and Norfolk's approval, of finished water to be provided from Virginia Beach's two raw water sources. The Water Services Contract establishes engineering, water quality and operational standards for the City to meet as it provides service to Virginia Beach. Accordingly, certain components of the System, including raw water storage, raw water pumping stations and transmission lines, water treatment plants and treated water storage, and

finished water pumping and transmission facilities, will be utilized to provide treated water to Virginia Beach. The Water Services Contract also provides that Virginia Beach will pay its proportionate share of the capital costs of the System irrespective of Virginia Beach's ability to provide raw water.

Certain components of the payments required by the Water Services Contract are not related to actual water usage. All payments by Virginia Beach under the Water Services Contract are secured solely by revenues received by Virginia Beach from charges paid by users of its water and sewer system. The Water Services Contract requires that such payments be designated by Virginia Beach as operating expenses of its water and sewer system and, as such, are payable ahead of debt service on future general obligation bonds and revenue bonds paid from Virginia Beach water and sewer system revenues. The Water Services Contract may be terminated by the City or by Virginia Beach upon the occurrence of various events.

City of Chesapeake. The City sells Chesapeake wholesale finished water at various delivery points for service to the northeastern section of Chesapeake. Sales in Fiscal Year 2014 averaged 2.3 mgd which represents approximately 4.2% of the System's total metered water consumption. Rates are set by ordinance of the City Council.

In December, 2002, the City entered into a raw water sales contract with Chesapeake for the sale of a portion of the City's surplus raw water to Chesapeake. The contract start-up date was July 1, 2006, and the term is through December 31, 2042. The contract specifies the terms and conditions of the sale, rates, termination provisions and dispute resolution. This is a "take or pay" contract for 7 mgd. Raw water sales averaged 7.1 mgd in Fiscal Year 2014. In the contract, the City agrees to sell and deliver to Chesapeake and Chesapeake agrees to accept a targeted amount of raw water transmitted to the extent possible at a uniform flow rate.

The current water rate is \$1.25 per thousand gallons of surplus raw water sold. Each July 1, the then existing water rate shall be adjusted based on the change in the Consumer Price Index, but in no instance shall the water rate decrease. Chesapeake began making monthly payments for the metered amount of surplus raw water delivered on August 1, 2006.

City of Portsmouth. In 2002, the City entered into a contract with Portsmouth for the sale of emergency raw water. Portsmouth has constructed the necessary improvements to convey the raw water to its treatment facility. According to the contract, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of temporary surplus raw water. The current water rate is \$1.25 per thousand gallons of surplus raw water sold. There was no emergency raw water sold to Portsmouth in fiscal year 2014.

United States Navy. The City has a long-standing history of providing water to the United States Navy ("Navy") on a wholesale basis. In 1981, the City entered into a utility service contract for water service with the Navy for the delivery of water to the gates of the various Navy installations located in the City and outside the City. The contract was modified effective July 1, 2003, to establish treated water rates applicable to the naval facilities located in Norfolk and Virginia Beach. Effective July 1, 2013, a City ordinance was adopted that charges all military users (including the Navy) a water rate that is equivalent to the Norfolk retail rate plus 10% (therefore the Navy's current rate is \$4.90/Ccf). Sales to the Navy averaged 4.31 mgd for Fiscal Year 2014, which represents approximately 7.8% of the total metered water consumption of the Water System.

Western Tidewater Water Authority. In Fiscal Year 2009, the City entered into a "take or pay" agreement with the WTW, with a required minimum volume purchase. The agreement expires June 30, 2048. The ability to deliver water from the Western Branch Pump Station was made available to WTW in May 2014.

The Service Area

The System's current service area covers approximately 334 square miles and includes the City, Virginia Beach, the urban northeastern section of Chesapeake as well as the localities included within the WTW (Suffolk and Isle of Wight), as well as naval installations in the City, Virginia Beach and Portsmouth. This service area is part of what is commonly known as South Hampton Roads. These jurisdictions vary greatly in population and character. Virginia Beach and the City have the first and second largest populations of any cities in the

Commonwealth, respectively. Chesapeake, currently the third largest city in the Commonwealth, is experiencing rapid population growth, and has significant land available for residential and commercial development. Ranked by geographical size, Chesapeake is the second largest city in the Commonwealth and Virginia Beach is third. The City is the most densely populated of the three communities and has extensive waterfront development and the region's central business district. See "Appendix D – CERTAIN INFORMATION CONCERNING THE CITY" hereto.

Virginia Beach and Chesapeake have grown to a degree that they are no longer only suburban, though both still serve as residential communities for many working in the City. Virginia Beach has the highest income and property values in the region and also is a resort city with over 12,000 hotel rooms and a significant tourist industry along its beachfront. Both cities promote industrial growth and each has extensive agriculture activity in its southern area.

Table 3 summarizes population trends from 1980 through 2014.

Table 3
Population
1980 – 2014

<u>Area</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2014</u>
Norfolk	266,979	261,250	234,463	242,803	246,394
Virginia Beach	262,199	393,689	425,257	437,994	451,672
Chesapeake	114,486	151,982	199,184	222,209	235,638
Hampton Roads MSA	1,160,311	1,430,974	1,533,739	1,648,136	1,690,090
Commonwealth	5,346,279	6,189,197	7,078,515	8,001,024	8,326,289
United States	226,504,825	249,632,692	281,421,906	308,745,538	318,857,056

Sources: U.S. Bureau of the Census and the Weldon Cooper Center for Public Services, University of Virginia (the "Weldon Cooper Center").

Table 4 provides per capita income comparisons from 2004 through 2013.

Table 4
City of Norfolk, Virginia
Per Capita Personal Income Comparisons
2004 – 2013

Calendar Year	City	Hampton Roads MSA	Virginia	U.S.
2004	\$30,162	\$34,131	\$37,759	\$34,300
2005	32,087	35,765	39,841	35,888
2006	33,792	37,855	42,085	38,127
2007	35,075	39,660	43,927	39,804
2008	35,806	40,814	44,901	40,873
2009	35,514	40,613	44,056	39,379
2010	36,061	41,220	44,836	40,144
2011	37,754	43,179	47,076	42,332
2012	38,762	44,553	48,715	44,200
2013	39,009	44,756	48,838	44,765

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System. 2013 is the most recent year for which data is available.

The City has the largest concentration of naval installations in the world. These installations include (i) the Norfolk Naval Base which is the home port for many ships and is one of only two Navy ports on the east coast that can accommodate aircraft carriers; (ii) the Supreme Allied Atlantic Command of the North American Treaty Organization ("NATO"), which is the only NATO facility in the United States; (iii) the headquarters of the Navy's Atlantic Fleet; (iv) the Norfolk Air Station and (v) several other major Navy commands. The Norfolk Naval Base, located in the City along the Chesapeake Bay, has been a major military installation since World War I. Hampton Roads is the largest center of Coast Guard units in the world with the Atlantic Area Command and Maritime Defense Zone Atlantic in Portsmouth and its Maintenance & Logistic Command Atlantic headquarters in downtown Norfolk.

See "Appendix D – THE CITY OF NORFOLK – Economic and Demographic Factors – Military" for a discussion of the military's impact on the City.

Annual employment figures and unemployment rates are shown in Table 5 and Table 6, respectively.

Table 5
Employment
2010 – 2014

<u>Year</u>	<u>Norfolk</u>	<u>Virginia Beach</u>	<u>Chesapeake</u>
2010	94,480	208,758	107,437
2011	95,326	213,258	109,936
2012	96,506	214,983	111,382
2013	97,473	217,138	112,498
2014 ⁽¹⁾	97,579	217,374	117,979

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, Virginia Employment Commission.

Note: (1) Figures as of December 2014.

Table 6
Unemployment Rates
2010 – 2014

<u>Year</u>	<u>Norfolk</u>	<u>Virginia Beach</u>	<u>Chesapeake</u>	<u>Hampton Roads MSA</u>	<u>Virginia</u>	<u>U.S.</u>
2010	9.1%	6.5%	7.0%	7.5%	7.1%	9.6%
2011	8.3	6.1	6.6	7.1	6.4	8.9
2012	7.7	5.7	6.1	6.5	5.9	8.1
2013	7.0	5.3	5.7	6.0	5.5	7.4
2014 ⁽¹⁾	5.9	4.4	4.5	5.0	4.5	5.4

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, Virginia Employment Commission.

Note: (1) Figures as of December 2014.

Manufacturing activities in the region include shipbuilding and repair, food processing, paper milling and assorted light assembly operations. The region's harbor is host to a variety of firms which engage in import and export activities. Appalachian coal is the principal export product although significant amounts of grain and general cargo also are exported. The volume of imports is considerably less than exports and is primarily general cargo. Tourism, along with a growing convention business, is an additional source of regional income. General farming is the area's primary agricultural activity.

CAPITAL IMPROVEMENT PROGRAM

In Fiscal Year 2004, the City embarked on a water system rehabilitation and replacement program to upgrade certain aging infrastructure components of the Water System. The City Council approved Ordinance Number 41,047 on May 20, 2003, which provided a series of three \$0.33 per 1,000 gallon rate increases for Fiscal Years 2004 through 2006, and annual increases of 3.50% each July 1 thereafter, until amended. This series of gradual and predictable finished water retail rate adjustments position the System to support this program.

The City annually prepares a five-year CIP for the System incorporating all known capital costs over that period. Future year projects in the CIP are considered for planning purposes only until funds are provided and may be modified, at any time, by the City Council. The approved CIP for Fiscal Years 2015 through 2019 includes projects which are estimated to cost \$80,540,000. These projects are classified in the following categories: (i) facility renovations and upgrades; (ii) retail water distribution system improvements; and (iii) regulatory driven projects. The anticipated timing of project costs associated with the current CIP is shown in Table 8.

Table 8
Capital Improvement Plan
(Fiscal Year Ending June 30)

	Approved		Planned			Total
	2015	2016	2017	2018	2019	
Comply with Safe Drinking Water Act Amendments	\$ 185,000	\$ -	\$ 100,000	\$ -	\$ 1,000,000	\$ 1,285,000
Implement Meter Change-Out Program	150,000	150,000	150,000	150,000	150,000	750,000
Improve Water Pipeline Infrastructure	7,625,000	12,700,000	12,000,000	11,000,000	11,040,000	54,365,000
Install Aerator – Lake Prince	500,000	-	-	-	-	500,000
Install New Aerators – Western Branch	-	800,000	-	-	-	800,000
Rehabilitate Nottoway River Pump Station	-	-	-	5,000,000	-	5,000,000
Rehabilitate Reservoirs Systemwide	5,250,000	-	-	-	-	5,250,000
Replace Combined Operations Building HVAC	190,000	-	-	-	-	190,000
Replace Master Meters	120,000	120,000	120,000	120,000	120,000	600,000
Upgrade Moores Bridges Water Treatment Plant	5,200,000	1,500,000	3,000,000	2,000,000	-	11,700,000
Upgrade Northstar Billing System	-	50,000	-	50,000	-	100,000
Total	<u>\$19,220,000</u>	<u>\$15,320,000</u>	<u>\$15,370,000</u>	<u>\$18,320,000</u>	<u>\$12,310,000</u>	<u>\$80,540,000</u>

Source: City of Norfolk, Virginia, Fiscal Year 2015 Approved Capital Improvement Plan.

The major near-term projects consist of upgrades to the raw water reservoir dams and spillways, raw water transmission pipelines, distribution system piping, rehabilitation of Nottoway River Pump Station, phased rehabilitation of the 37th Street WTP and upgrades at the Moores Bridges WTP. These improvements will be followed by subsequent rehabilitation of the raw water pumping stations at the river intakes, and repair and continued replacement of critical portions of the raw water transmission mains and of the distribution system. Improvements to the lake aeration system at the City's Western Branch reservoir is complete and similar improvements at the Lake Prince reservoir will be completed in the near future. These improvements will allow the City to provide continuous operation of the System and meet proposed regulatory requirements.

Norfolk's Water System as it exists can be expected to provide adequate capacity to meet demand for the foreseeable future. Norfolk's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations. The Department of Utilities actively plans and implements improvements to Norfolk's water treatment facilities to meet current and proposed regulations of the amendments to the 1986 Safe Drinking Water Act. The City has initiated projects to upgrade dated facilities, provide redundancy and for the handling and disposal of residuals from the water treatment plants in an environmentally sound manner. Management believes the CIP expenditure reasonably addresses current and proposed federal and state regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the five-year CIP.

Operation of the System requires compliance with environmental laws and regulations. For a more detailed representation of regulatory driven capital improvements, see the Feasibility Study included as Appendix G to this Official Statement. The Feasibility Study, however, does not purport to be a complete, comprehensive or definitive summary of all currently required or proposed water quality laws and regulations. Future legislative and regulatory proposals applicable to the System could result in increased capital or operating costs beyond those currently projected by the City.

Proceeds from the 2015 Bonds, together with other available funds, are expected to pay the cash flow requirements of CIP and current construction-work-in-progress project costs to be incurred through Fiscal Year 2019.

The estimated project costs indicated above are based upon the City's assumptions of future events and existing practices which are subject to revision as actual water utility operating results, regulatory requirements and City policy changes dictate. For a detailed description of the CIP, see the Feasibility Study included as Appendix G to this Official Statement.

The City expects to issue Additional Bonds under the Indenture in Fiscal Year 2019 to finance portions of the remaining cash flow of project costs in the CIP and construction-work-in-progress to be incurred through Fiscal Year 2019. The City currently intends to pay for all future System capital costs from the Revenues of the System and proceeds of Bonds.

The estimated project costs indicated above are based upon the City's assumptions of future events and existing practices which are subject to revision as actual water utility operating results, regulatory requirements and City policy changes dictate.

Protected Self-Insurance Program

The City, including the System, are exposed to various risks of losses related to torts; theft and destruction of assets; errors and omissions; injuries to employees; and natural disasters. On July 11, 1978, the City established a protected Self-Insurance Program Fund, pursuant to an ordinance adopted by the City Council, to cover itself from these risks of losses. The program provides for the payment of claims liabilities, property losses and related expenses covered by a combination of purchased insurance policies and self-insurance plans. The total of insurance premiums, self-insurance claims and related expense payments made during Fiscal Year 2014 was \$12,554,833.

The City currently reports all these activities as part of the risk management function in the general government section of the General Fund. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. At June 30, 2014, these liabilities were \$29,055,228 of which \$4,137,702 represents the current portion anticipated to be paid within a year. Estimated liabilities for Fiscal Year 2014 were determined by an independent actuary.

Changes in the City's claims liability amount in the Fiscal Years 2010 through 2014 are as follows:

<u>Fiscal Year</u>	<u>Unpaid Claims Beginning Balance</u>	<u>Claims Incurred Estimated</u>	<u>Claims Paid</u>	<u>Ending Balance</u>
2010	\$34,507,189	\$ 174,757	\$4,411,759	\$30,270,187
2011	30,270,187	5,628,197	4,225,302	31,673,082
2012	31,673,082	4,403,895	4,676,586	31,400,391
2013	31,400,391	4,300,564	4,863,716	30,837,179
2014	30,837,179	5,527,877	7,309,828	29,055,228

Sources: City of Norfolk, Virginia, Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 2010, through 2014.

FINANCIAL MANAGEMENT

Overview

On July 1, 1979, the City Council established the Water Utility Fund (the "Fund") as a distinct enterprise fund of the City to account for all of the financial activity related to providing water services to its customers. The Fund is operated on a self-supporting basis.

Since its inception, regular transfers have been made from the Fund to the City's general fund for payments in lieu of taxes and as a return on the City's investment in the System. Additionally, transfers have been made to pay all debt service on general obligation bonds issued by the City to pay for System improvements. The Fund is reported on an accrual basis of accounting. Included in Appendix B hereto are the audited financial statements for the Fund for Fiscal Year 2014.

Rate Regulation

The power of the City to fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System is not subject to the regulatory jurisdiction of the State Corporation Commission of Virginia or any other federal, regional, state or local regulatory body. Subject to existing contractual commitments, the City has sole and exclusive authority over such rates, fees and other charges.

Water Rates

Retail rate recommendations are developed prior to the City's budgetary process. Retail rates are set by City Council. Formula-driven wholesale rate revisions are not submitted annually for City Council approval, as they were part of the original contract approval. The Department uses a retail rate structure comprised of a uniform rate per thousand gallons, with no quantity discount or lifeline rate, and a uniform service charge per bill. A historical summary of the City's water rates is shown in Table 9.

Norfolk's Retail Rate structure consists of a monthly water service charge and a uniform commodity rate. For Fiscal Year 2014, which began July 1, 2013, the monthly Water Account Service Charge is \$1.00 and the Water Rate is \$4.30 per Ccf. Norfolk also charges for fire protection, with rates that vary by the size of connection.

Table 9
Summary of Historical Water Rates

<u>Fiscal Year</u>	<u>Rates Per 100 Cubic Feet</u>	
	<u>Water</u>	<u>% Change</u>
2005	\$3.01	9.1%
2006	3.26	8.3
2007	3.37	3.4
2008	3.49	3.6
2009	3.61	3.4
2010	3.74	3.6
2011	3.87	3.5
2012	4.01	3.6
2013	4.15	3.5
2014	4.30	3.5
10-Year Average:		4.6%

Source: Department of Utilities.

The System's retail customers' average annual cost for Fiscal Years 2010 through 2014 are shown in Table 10 for ease of comparison with wholesale customers' average annual costs during the same period shown in Tables 11, 12 and 13.

Table 10
Retail Customers' Average Annual Costs
Norfolk Retail
2010 – 2014

<u>Fiscal Year</u>	<u>Revenue</u>	<u>Volume (Mgal¹)</u>	<u>Average Cost (\$/Mgal¹)</u>
2010	\$33,401,000	6,432,000	\$5.19
2011	34,472,000	6,362,000	5.42
2012	34,784,000	6,235,000	5.58
2013	35,075,000	6,139,000	5.71
2014	36,207,000	6,093,000	5.94

Source: Department of Utilities.

Note: (1) "Mgal" means 1,000 gallons.

The rates from the wholesale contract with Virginia Beach are formula driven based on projected operating and capital cashflow expenditures for two years. Virginia Beach's bills reflect a three part rate structure. Two parts of the rate structure are fixed monthly charges which recover proportional share of costs for system capacity designed to serve, and used by, Virginia Beach and for non-variable operation and maintenance costs. The third part of the rate structure is a uniform rate which recovers Virginia Beach's proportional share of variable operation and maintenance costs based on current use. Chesapeake's single uniform rate is based on an equivalent retail rate that recovers costs associated with the City's retail service charge and uniform rate.

Table 11
Wholesale Customers' Average Annual Costs
Virginia Beach
2010 – 2014

<u>Fiscal Year</u>	<u>Revenue</u>	<u>Volume (Mgal)</u>	<u>Average Cost (\$/Mgal)</u>
2010	\$26,742,000	12,189,000	\$2.19
2011	28,703,000	12,307,800	2.33
2012	25,519,000	11,815,200	2.16
2013	22,643,000	11,739,100	1.93
2014	23,188,000	11,613,900	2.00

Source: Department of Utilities.

Table 12
Wholesale Customers' Average Annual Costs
U.S. Navy, including Norfolk and Virginia Beach Facilities
2010 – 2014

<u>Fiscal Year</u>	<u>Revenue</u>	<u>Volume (Mgal)</u>	<u>Average Cost (\$/Mgal)</u>
2010	\$8,108,000	1,479,000	\$5.48
2011	8,837,000	1,562,000	5.66
2012	8,534,000	1,454,000	5.87
2013	8,768,000	1,444,000	6.07
2014	9,927,000	1,571,000	6.32

Source: Department of Utilities.

Table 13
Wholesale Customers' Average Annual Costs
Chesapeake
2010 – 2014

<u>Fiscal Year</u>	<u>Revenue</u>	<u>Volume (Mgal)</u>	<u>Average Cost (\$/Mgal)</u>
2010	\$6,048,000	1,180,000	\$5.13
2011	4,299,000	803,000	5.35
2012	4,691,000	856,000	5.48
2013	5,099,000	898,000	5.68
2014	4,912,000	873,000	5.63

Source: Department of Utilities.

As shown in Table 14, the System's charges compare favorably with other providers of water in the region.

Table 14
Select Water Charges in the Region
(as of July 1, 2014)

<u>City</u>	<u>Monthly Water Charges for Median Household⁽¹⁾⁽²⁾</u>
Chesapeake	\$34.13
Norfolk	27.70
Newport News	32.77
Portsmouth	26.34
Virginia Beach	24.20

Source: Department of Utilities.

Notes: (1) Based on estimated average consumption of 6 Ccf per month.
(2) Excludes utility taxes levied by the City.

Billing, Collections and Enforcement Procedures

The Department bills for water monthly using a billing and information system that combines account, work order, meter and customer service management. Effective May 1994, the Department implemented a joint billing program with HRSD, a political subdivision of the Commonwealth that provides wastewater treatment to the Hampton Roads region. This program has resulted in annual billing and collection efficiencies to the City and HRSD of approximately 99.5%.

Meters are read on a monthly basis. Billing data is transmitted to the Hampton Roads Utility Billing System, which is managed by HRSD, for the inclusion with HRSD's billing of wastewater treatment, resulting in bills mailed within two days from the bill file being created in Norfolk's billing system and sent electronically to HRSD's billing system. The Department uses estimated billing only in extraordinary circumstances.

The Department has a collection staff that actively pursues the collection of past due bills in coordination with the City's Law Department and HRSD. Extensive efforts are directed towards collection of delinquent accounts. Water customers are subject to having their water service discontinued if payments are delinquent by more than 45 days. Water service is restored when full payment is received or an acceptable payment plan is arranged. Delinquent bills are pursued with the use of property liens, payment arrangements and through the court system. Accounts are written off after they have been inactive for three years and collection efforts have not been successful. The Department participates in the State Debt Set-Off Program, which provides a way for the Department to have delinquent account balances, which contain the customer's social security number, withheld from the customer's Virginia State Income Tax refund or Virginia Lottery winnings. Write-offs must be approved by City Council. Historical write-offs of bad debt for Fiscal Years 2010 through 2014 are shown in Table 15.

Table 15
Water Utility Fund
Bad Debt Write-off
2010 – 2014

<u>Fiscal Year</u>	<u>Years Written Off</u>	<u>Amount</u>	<u>Corresponding Billed Water Revenue⁽¹⁾</u>	<u>% of Net Charges for Services</u>
2010	2004, 2005 and 2006	\$702,517	\$196,184,906	0.35%
2011	2007	254,661	75,691,666	0.33
2012	2008	376,066	76,459,405	0.49
2013	2009	423,466	75,856,000	0.56
2014	2010	237,140	78,300,000	0.30

Source: Department of Utilities.

Note: (1) Corresponding Billed Water Revenue relates to revenue billed for the years in which the accounts receivable originate.

Reserves Policy

The City believes for the Water System to operate effectively as a utility enterprise, sound financing dictates that it is both prudent and appropriate to provide an Operating Fund reserve to accommodate normal fluctuations in expenditures for utility operations and to provide a Repair and Replacement Reserve to permit immediate funding for unforeseeable emergency capital needs. These reserves are in addition to the normal flow of working capital funds. This practice is consistent with the requirements of the Indenture.

The Water Utility Fund is meeting or exceeding all requirements for various reserve funds.

- Operating Fund, to maintain a balance of one-sixth of each year's budgeted operating expenses excluding debt service, capitalized operation and maintenance expense, and payments to the General Fund. This equates to payment of O&M expenses as they are incurred, and maintaining approximately sixty days of budgeted O&M expenses as a working capital reserve. The balance of the Operating Fund at June 30, 2014, was \$7,000,000.
- Repair and Replacement Reserve Fund, such amounts as may be determined by the City to establish, sustain or increase the reserve level from the initial \$1,000,000 balance. The balance of the Repair and Replacement Reserve Fund at June 30, 2014, was \$2,000,000.
- Rate Stabilization Fund, such amounts as may be necessary to accumulate the Rate Stabilization Requirement for use in mitigating impacts of projected future rate increases, and anticipated true-ups of wholesale customer revenues. The Rate Stabilization Requirement is \$0; however, the balance of the Rate Stabilization Fund at June 30, 2014, was \$2,000,000.
- General Reserve Fund, to use first to cure any deficit which may exist in the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Repair and Replacement Fund and the Rate Stabilization Fund, and then for any lawful purpose the General Reserve Fund reflects quick available funds (current cash and short term investments). The balance of the General Reserve Fund at June 30, 2014, was in excess of \$68,000,000.

Budget Process

The Department prepares an annual budget for the Fund in conformity with the City's requirements and procedures for the ensuing Fiscal Year. An interactive process is used during this review, involving personnel from the Department of Finance and the Office of Budget and Management.

The Fund is accounted for on a full accrual basis which recognizes and records expenses and business services when goods and services are received and revenues when earned. The budget is prepared on a cash basis and non-cash items such as depreciation are not included. The Fund is a self-supporting enterprise fund with no subsidy from the City's General Fund. All debt service on general obligation bonds issued to fund System improvements, a payment in lieu of taxes, a return on investment and indirect overhead are budgeted to be paid from the annual revenues of the Water Utility Fund. The Fund's annual budgets for Fiscal Year 2014 and Fiscal Year 2015 are shown in Table 16.

Table 16
Water Utility Fund
Annual Budget
(Fiscal Year Ending June 30)
(Cash Basis)

Revenue	<u>2014</u>	<u>2015</u>
Permits and Fees	\$1,359,300	\$1,359,300
Use of Money and Property	230,000	260,000
Charges for Services	77,380,800	78,284,000
Miscellaneous Revenue	135,000	135,000
Recovered Costs	1,438,000	1,338,000
Other Sources and Transfers In	1,380,400	5,400
	<hr/>	<hr/>
Total Revenue	<u>\$81,923,500</u>	<u>\$81,381,700</u>
Expenditures		
Personnel Services	\$17,588,524	\$17,755,412
Materials, Supplies & Repairs	12,631,825	11,320,504
Contractual Services	9,513,042	9,088,672
Equipment	318,510	365,726
Department Specific Appropriation	13,551,299	12,798,345
Debt Service/Transfers to CIP	28,320,300	30,053,041
	<hr/>	<hr/>
Total Appropriations	<u>\$81,923,500</u>	<u>\$81,381,700</u>

Sources: City of Norfolk, Virginia, Approved Operating Budgets, Fiscal Years 2014 and 2015.

Results of Operations

Statements of Revenues, Expenses and Changes in Fund Net Assets for the Fund have been compiled from the City's Comprehensive Annual Financial Report ("CAFR") for Fiscal Years 2010 through 2014 and appear in Table 17. The statements have been organized in such a manner as to facilitate year to year comparisons. In the opinion of the City, there has been no adverse change in the financial condition of the System since the date of the last audit (June 30, 2014).

Table 17
Water Utility Fund
Statement of Revenues, Expenses and Changes in Fund Net Position
(Accrual Basis)
(Fiscal Year Ended June 30)

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014⁽¹⁾</u>
Operating Revenues					
Charges for Services	\$78,982,990	\$80,573,611	\$78,148,051	\$76,392,882	\$79,096,905
Miscellaneous	<u>3,161,097</u>	<u>2,936,138</u>	<u>3,052,421</u>	<u>3,564,166</u>	<u>2,872,023</u>
Total Operating Revenues	<u>82,144,087</u>	<u>83,509,749</u>	<u>81,200,472</u>	<u>79,957,048</u>	<u>81,968,928</u>
Operating Expenses					
Personnel Services	14,284,882	14,703,327	13,783,048	14,364,816	14,844,295
Plant Operations	5,896,843	6,493,701	6,589,857	6,489,193	6,650,541
Chemicals	3,761,744	3,524,658	2,967,518	3,110,828	3,173,508
Provision of Bad Debts	301,294	429,970	230,670	236,310	-
Depreciation	11,494,781	11,915,059	11,902,145	12,348,880	12,917,853
Retirement and OPEB Contribution	2,535,167	3,139,382	2,957,001	2,535,851	2,440,979
Administrative Expenses	1,563,029	2,263,435	1,852,927	1,663,129	1,376,142
Other	<u>8,935,390</u>	<u>9,224,888</u>	<u>8,997,111</u>	<u>9,121,183</u>	<u>8,817,856</u>
Total Operating Expenses	<u>48,773,130</u>	<u>51,694,420</u>	<u>49,280,277</u>	<u>49,870,190</u>	<u>50,221,174</u>
Operating Income	33,370,957	31,815,329	31,920,195	30,086,858	31,747,754
Nonoperating Revenue (expenses):					
Interest Income	325,933	227,695	94,747	134,172	109,074
Intergovernmental Revenues	-	85,261	137,555	1,284,157	-
Interest Expense and Fiscal Charges	(15,543,012)	(16,157,923)	(15,171,047)	(11,010,925)	(11,328,582)
Gain (Loss) on Sale or Disposal of Fixed Assets	<u>2,842,616</u>	<u>(157,224)</u>	<u>4,024</u>	<u>(34,521)</u>	<u>(126,337)</u>
Total Nonoperating Revenue (Expenses)	<u>(12,374,463)</u>	<u>(16,002,191)</u>	<u>(14,934,721)</u>	<u>(9,627,117)</u>	<u>(11,345,845)</u>
Net Income (Loss) before Contributions and Transfers	20,996,494	15,813,138	16,985,474	20,459,741	20,401,909
Capital Contribution	366,363	129,652	187,376	191,592	2,660,416
Transfer Out	<u>(11,360,000)</u>	<u>(8,500,000)</u>	<u>(8,500,000)</u>	<u>(8,500,000)</u>	<u>(8,500,000)</u>
Change in Net Assets	10,002,857	7,442,790	8,672,850	12,151,333	14,562,325
Total Net Assets – Beginning	<u>185,516,999</u>	<u>195,519,856</u>	<u>202,962,646</u>	<u>211,635,496</u>	<u>223,786,829</u>
Restated Net Position – Beginning ⁽²⁾	-	-	-	-	<u>(2,995,952)</u>
Total Net Assets – Ending	<u>\$195,519,856</u>	<u>\$202,962,646</u>	<u>\$211,635,496</u>	<u>\$223,786,829</u>	<u>\$235,353,202</u>

Sources: City of Norfolk, Virginia, Comprehensive Annual Financial Reports, Fiscal Years Ended June 30, 2010, through 2014.

Notes: (1) Provision for bad debt is netted to the revenue for Fiscal Year 2014. Fiscal Year 2014 beginning balance of the total net position is restated due to adoption of GASB 65.
(2) Restatement due to GASB 65 that required the disclosure of gain and loss on defeasance of deferred inflows and outflows.

Management Discussion of Operating Results

The following discussion is based on operating budgets and historical operating results as shown in Tables 16 and 17, respectively. The revenues of the Fund have remained fairly stable over the past three years and total expenses of operating the System have remained fairly level over the last several years.

The financial data in this Official Statement is excerpted from the published audited Comprehensive Annual Financial Report (the "CAFR") for fiscal year ended June 30, 2014.

Fiscal Year 2014, operating revenues were \$82 million as budgeted and actual expenditures were below budget. Fiscal Year 2014 operating expenditures were \$34.5 million or approximately 4% less than projected. The reductions in the operating budget were achieved through cost savings from vacant positions, repairs, supplies and professional services, and chemical cost savings due to an improved water treatment solids handling process.

As with revenue, the Water Utility Fund conservatively projects its Operation and Maintenance (O&M) expenses. These costs are subsequently trended into the future using the following projected inflation estimates:

Description	Inflation
Salaries & Wages	2.50%
Health & Benefits	10.00
Plant Operations	4.00
Administrative	3.00
Other*	3.00

*Excludes ROI and PILOT

Combining the higher than budgeted revenues and lower than budgeted expenditures, the Water Fund preliminarily expects to end Fiscal Year 2015 with a positive variance.

OPERATING RESULTS AND DEBT SERVICE COVERAGE

Table 18 includes a summary of the Water Fund's debt service coverage for Fiscal Years 2005 through 2014.

Table 18
Water Utility Fund
Debt Service Coverage
(Accrual Basis)

Fiscal Year	Revenues Available for Debt Service ⁽¹⁾	Operating Expenses Less Depreciation/ Amortization and PILOT ⁽²⁾	Income Available for Debt Service	Revenue Bonds Debt Service			
				Principal	Interest	Total	Coverage
2005	\$69,183,154	\$34,643,668	\$34,539,486	\$6,250,000	\$14,041,059	\$20,291,059	1.70
2006	78,788,158	34,144,763	44,643,395	6,580,000	14,827,960	21,407,960	2.09
2007	76,013,563	32,427,377	43,586,186	7,310,000	14,379,821	21,689,821	2.01
2008	78,730,024	37,026,528	41,703,496	7,665,000	14,022,200	21,687,200	1.92
2009	78,020,552	38,182,373	39,838,179	8,050,000	16,411,343	24,461,343	1.63
2010	82,470,020	34,567,741	47,902,279	9,420,000	15,929,680	25,349,680	1.89
2011	83,737,444	37,068,753	46,668,691	9,875,000	16,527,844	26,402,844	1.77
2012	81,295,219	34,667,524	46,627,695	11,285,000	11,184,363	22,469,363	2.08
2013	80,091,220	34,810,702	45,280,518	7,000,000	14,700,777	21,700,777	2.09
2014	82,078,002	34,466,877	47,611,125	7,250,000	15,630,219	22,880,219	2.08

Source: Department of Utilities.

Notes: (1) Includes operating revenue plus interest income, net of interest capitalized.
(2) Includes operating expenses less depreciation, amortization and payment in lieu of taxes (PILOT).

CONCLUSIONS OF THE CONSULTING ENGINEER

For a more complete discussion of historical and projected operating results and debt service coverage for Norfolk's Water Utility Fund, see Section 3 of the Consulting Engineer's Feasibility Study.

The Feasibility Study has been included in the Official Statement with the consent of the Consulting Engineer and in reliance upon the authority of the Consulting Engineer as an expert in the field of water system engineering and financial forecasts. Based on review, analysis and assumptions set forth in the Feasibility Study, the Consulting Engineer concludes that:

(1) Given current usage and trends, the City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations for the Fiscal Year 2015 through Fiscal Year 2019 Study Period (the "Study Period"). The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.

(2) The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; continuation of these practices, combined with the regular maintenance and completion of the proposed Water System Capital Improvement Program (the "Water System CIP"), suggest that the Water System should be capable of providing safe and reliable drinking water to its customers through the Study Period.

(3) Norfolk's Water System is in overall good condition and appears capable of revenue generation for the term of the 2015 Bonds with continued regular maintenance and scheduled Water System improvements.

(4) The Water System CIP for Fiscal Year 2015 through Fiscal Year 2019 adequately addresses known requirements for Water System facility renovations and upgrades. The program has sufficiently addressed current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that appear to impact the improvements planned in the Water System CIP.

(5) Throughout the Study Period, Net Revenues are projected to be sufficient (including projected revenue increases indicated in the Feasibility Study resulting from automatic rate increases approved by City Council, subject to further City Council action) to comply with the annual Revenue Covenant requirement in the Master Indenture, taking into account the Bonds Outstanding and the 2015 Bonds.

(6) Assuming the sufficiency of current engineering estimates and project budgets, the funds available from the 2015 Bonds, together with other funds available, will be sufficient to complete the design and/or construction of the proposed Water System CIP.

(7) Given the assumptions and the data utilized in the analysis, the Water System is projected to be able to generate adequate reserves during the Study Period.

(8) Based on the City's audited financial results for Fiscal Year 2014, the City is projected to be able to meet the Revenue Covenant requirements of the Master Indenture regarding issuance of additional bonds, taking into account (i) the maximum principal and interest payments on the Outstanding Bonds and the 2015 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the City Council at the time of the delivery of the 2015 Bonds.

(9) The sale of the 2015 Bonds, in the aggregate amount of approximately \$83,680,000 (together with the bond premium) meets the requirements of and the revenue tests in the Indenture under the assumptions and projections contained in the Feasibility Study.

The Feasibility Study should be read in its entirety in order for the reader to effectively evaluate the Consulting Engineer's findings, analyses, assumptions and conclusions.

LEGAL MATTERS

Certain legal matters relating to the authorization and validity of the 2015 Bonds are subject to the approving opinion of McGuireWoods LLP, Richmond, Virginia, Bond Counsel, which will be in substantially the form of Appendix C to this Official Statement. Such opinion will be furnished at the expense of the City upon delivery of the 2015 Bonds. Bond Counsel has not prepared this Official Statement and has not verified its accuracy, completeness or fairness, and Bond Counsel's opinion will be limited to matters relating to the authorization and validity of the 2015 Bonds and to the exemption of interest thereon under present federal and Virginia income tax laws. Certain legal matters will be passed on for the City by the City Attorney and for the Underwriters by Kaufman & Canoles, a Professional Corporation, Norfolk, Virginia.

TAX MATTERS

Opinion of Bond Counsel

Bond Counsel's opinion will state that, under current law and assuming the compliance with the Covenants, as hereinafter defined, by the City and the accuracy of certain representations and certifications, interest on the 2015 Bonds (including any accrued "original issue discount" properly allocable to the owners of the 2015 Bonds), is (i) excludable from the gross income of the owners of the 2015 Bonds for purposes of federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) not a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations. However, interest on the 2015 Bonds must be included in the adjusted current earnings for purposes of computing the alternative minimum tax imposed on corporations (as defined for federal income tax purposes) under Section 56 of the Code. See Appendix C hereto for the form of the opinion of Bond Counsel.

Bond Counsel will express no opinion regarding other federal tax consequences arising with respect to the 2015 Bonds.

Bond Counsel's opinion speaks as of its date, is based on current legal authority and precedent, covers certain matters not directly addressed by such authority and precedent, and represents Bond Counsel's judgment as to the proper treatment of interest on the 2015 Bonds for federal income tax purposes. Bond Counsel's opinion does not contain or provide any opinion or assurance regarding the future activities of the City or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the Internal Revenue Service (the "IRS"). The City has covenanted, however, to comply with the applicable requirements of the Code.

Reliance and Assumptions; Effect of Certain Changes

In delivering its opinion regarding the 2015 Bonds, Bond Counsel is relying upon and assuming the accuracy of representations and certifications of representatives of the City, the underwriters of the 2015 Bonds and other public officials as to facts material to the opinion, which Bond Counsel has not independently verified.

In addition, Bond Counsel is assuming continuing compliance with the Covenants by the City. The Code and the regulations promulgated thereunder contain a number of requirements that must be satisfied after the issuance of the 2015 Bonds in order for interest on the 2015 Bonds to be and remain excludable from gross income for purposes of federal income taxation. These requirements include, by way of example and not limitation, restrictions on the use, expenditure and investment of the proceeds of the 2015 Bonds and the use of the property financed or refinanced by the 2015 Bonds, limitations on the source of the payment of and the security for the 2015 Bonds, and the obligation to rebate certain excess earnings on the gross proceeds of the 2015 Bonds to the United States Department of the Treasury ("Treasury"). The tax certificate for the 2015 Bonds (the "Tax Certificate") contains covenants (the "Covenants") under which the City has agreed to comply with such requirements. Failure by the City to comply with the Covenants could cause interest on the 2015 Bonds to become includable in gross

income for federal income tax purposes retroactively to their date of issue. In the event of noncompliance with the Covenants, the available enforcement remedies may be limited by applicable provisions of law and, therefore, may not be adequate to prevent interest on the 2015 Bonds from becoming includable in gross income for federal income tax purposes.

Bond Counsel has no responsibility to monitor compliance with the Covenants after the date of issue of the 2015 Bonds.

Certain requirements and procedures contained, incorporated or referred to in the Tax Certificate, including the Covenants, may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such document. Bond Counsel expresses no opinion concerning any effect on excludability of interest on the 2015 Bonds from gross income for federal income tax purposes of any such subsequent change or action that may be made, taken or omitted upon the advice or approval of counsel other than Bond Counsel.

Certain Collateral Federal Tax Consequences

The following is a brief discussion of certain collateral federal income tax matters with respect to the 2015 Bonds. It does not purport to address all aspects of federal taxation that may be relevant to a particular owner thereof. Prospective purchasers of such 2015 Bonds, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the federal tax consequences of owning or disposing of the 2015 Bonds.

Prospective purchasers of the 2015 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, certain insurance companies, certain corporations (including S corporations and foreign corporations), certain foreign corporations subject to the "branch profits tax," individual recipients of Social Security or Railroad Retirement benefits, taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry tax-exempt obligations and taxpayers attempting to qualify for the earned income tax credit.

In addition, prospective purchasers should be aware that the interest paid on, and the proceeds of the sale of, tax-exempt obligations, including the 2015 Bonds, are in many cases required to be reported to the IRS in a manner similar to interest paid on taxable obligations. Additionally, backup withholding may apply to any 2015 Bond owner who fails to provide an accurate Form W-9 Request for Taxpayer Identification Number and Certification, or a substantially identical form, or to any 2015 Bond owner who is notified by the IRS of a failure to report all interest and dividends required to be shown on federal income tax returns. The reporting and withholding requirements do not in and of themselves affect the excludability of such interest from gross income for federal tax purposes or any other federal tax consequence of purchasing, holding or selling tax-exempt obligations.

Original Issue Discount

The "original issue discount" ("OID") on any 2015 Bond is the excess of such bond's stated redemption price at maturity (excluding certain "qualified stated interest" that is unconditionally payable at least annually at prescribed rates) over the issue price of such bond. The "issue price" of a bond is the initial offering price to the public at which price a substantial amount of such bonds of the same maturity was sold. The "public" does not include bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers. The issue price for each maturity of the 2015 Bonds is expected to be the initial public offering price set forth on the inside front cover page of this Official Statement, but is subject to change based on actual sales. OID on the 2015 Bonds with OID (the "OID Bonds") represents interest that is excludable from gross income for purposes of federal and Virginia income taxation. However, the portion of the OID that is deemed to have accrued to the owner of an OID Bond in each year may be included in determining the alternative minimum tax with respect to the 2015 Bonds and the distribution requirements of certain investment companies and may result in some of the collateral federal income tax consequences mentioned in the preceding subsection. Therefore, owners of OID Bonds should be aware that the accrual of OID in each year may result in alternative minimum tax liability, additional distribution requirements or other collateral federal and Virginia income tax consequences although the owner may not have received cash in such year.

Interest in the form of OID is treated under Section 1288 of the Code as accruing under a constant yield method that takes into account compounding on a semiannual or more frequent basis. If an OID Bond is sold or otherwise disposed of between semiannual compounding dates, then the OID which would have accrued for that semiannual compounding period for federal income tax purposes is to be apportioned in equal amounts among the days in such compounding period.

In the case of an original owner of an OID Bond, the amount of OID that is treated as having accrued on such OID Bond is added to the owner's cost basis in determining, for federal income tax purposes, gain or loss upon its disposition (including its sale, redemption or payment at maturity). The amounts received upon such disposition that are attributable to accrued OID will be excluded from the gross income of the recipients for federal income tax purposes. The accrual of OID and its effect on the redemption, sale or other disposition of OID Bonds that are not purchased in the initial offering at the initial offering price may be determined according to rules that differ from those described above.

Prospective purchasers of OID Bonds should consult their own tax advisors with respect to the precise determination for federal income tax purposes of interest accrued upon sale or redemption of such OID Bonds and with respect to state and local tax consequences of owning OID Bonds.

Bond Premium

In general, if an owner acquires a bond for a purchase price (excluding accrued interest) or otherwise at a tax basis that reflects a premium over the sum of all amounts payable on the bond after the acquisition date (excluding certain "qualified stated interest" that is unconditionally payable at least annually at prescribed rates), that premium constitutes "bond premium" on that bond (a "Premium Bond"). In general, under Section 171 of the Code, an owner of a Premium Bond must amortize the bond premium over the remaining term of the Premium Bond, based on the owner's yield over the remaining term of the Premium Bond, determined based on constant yield principles. An owner of a Premium Bond must amortize the bond premium by offsetting the qualified stated interest allocable to each interest accrual period under the owner's regular method of accounting against the bond premium allocable to that period. In the case of a tax-exempt Premium Bond, if the bond premium allocable to an accrual period exceeds the qualified stated interest allocable to that accrual period, the excess is a nondeductible loss. Under certain circumstances, the owner of a Premium Bond may realize a taxable gain upon disposition of the Premium Bond even though it is sold or redeemed for an amount less than or equal to the owner's original acquisition cost. Prospective purchasers of any Premium Bonds should consult their own tax advisors regarding the treatment of bond premium for federal income tax purposes, including various special rules relating thereto, and state and local tax consequences, in connection with the acquisition, ownership, amortization of bond premium on, sale, exchange, or other disposition of Premium Bonds.

Effects of Future Enforcement, Regulatory and Legislative Actions

The IRS has established a program to audit tax-exempt obligations to determine whether the interest thereon is includable in gross income for federal income tax purposes. If the IRS does audit the 2015 Bonds, the IRS will, under its current procedures, treat the City as the taxpayer. As such, the beneficial owners of the 2015 Bonds will have only limited rights, if any, to participate in the audit or any administrative or judicial review or appeal thereof. Any action of the IRS, including but not limited to the selection of the 2015 Bonds for audit, or the course or result of such audit, or an audit of other obligations presenting similar tax issues, may affect the marketability or market value of the 2015 Bonds.

Legislation affecting tax-exempt obligations is regularly considered by the United States Congress and various State legislatures. Such legislation may effect changes in federal or State income tax rates and the application of federal or State income tax laws (including the substitution of another type of tax), or may repeal or reduce the benefit of the excludability of interest on the tax-exempt obligations from gross income for federal or State income tax purposes.

The U.S. Department of the Treasury and the IRS are continuously drafting regulations to interpret and apply the provisions of the Code and court proceedings may be filed the outcome of which could modify the federal or State tax treatment of tax-exempt obligations. There can be no assurance that legislation proposed or enacted after

the date of issue of the 2015 Bonds, regulatory interpretation of the Code or actions by a court involving either the 2015 Bonds or other tax-exempt obligations will not have an adverse effect on the 2015 Bonds' federal or State tax status, marketability or market price or on the economic value of the tax-exempt status of the interest on the 2015 Bonds.

Prospective purchasers of the 2015 Bonds should consult their own tax advisors regarding the potential consequences of any such pending or proposed federal or State tax legislation, regulations or litigation, as to which Bond Counsel expresses no opinion.

Virginia Tax Matters

Bond Counsel's opinion also will state that, under current law, interest on the 2015 Bonds is excludable from the gross income of the owners thereof for purposes of income taxation by the Commonwealth. Bond Counsel will express no opinion regarding (i) other tax consequences arising with respect to the 2015 Bonds under the laws of the Commonwealth or (ii) any consequences arising with respect to the 2015 Bonds under the tax laws of any state or local jurisdiction other than the Commonwealth. Prospective purchasers of the 2015 Bonds should consult their own tax advisors regarding the tax status of interest on the 2015 Bonds in a particular state or local jurisdiction other than Virginia.

PENDING LITIGATION

The City is involved from time to time in various legal actions some of which affect the System. In the opinion of the City Attorney, there is no litigation now pending or threatened to restrain or enjoin the issuance, sale, execution or delivery of the 2015 Bonds, or in any way contesting or affecting the validity of the 2015 Bonds, any proceeding of the City taken with respect to their issuance or sale, or the powers of the City with respect to the operation of the System including the City's ability to collect and apply Revenues of the System as set forth in the Indenture.

According to the City there is no litigation pending or, to its knowledge and belief, threatened which would have a material adverse effect on the operations or financial condition of the System.

BOND RATINGS

The 2015 Bonds have been rated Aa2 by Moody's Investors Service, Inc. ("Moody's"), AA+ by Standard & Poor's Ratings Services ("Standard & Poor's") a division of The McGraw-Hill Companies, Inc. and AA+ by Fitch Ratings ("Fitch").

Explanations of the significance of such ratings may be obtained from Moody's, Standard & Poor's and Fitch. The ratings are not a recommendation to buy, sell or hold the 2015 Bonds and should be evaluated independently.

There is no assurance that such ratings will not be withdrawn or revised downward by Moody's, Standard & Poor's or Fitch. Such action may have an adverse effect on the market price of the 2015 Bonds. The City has not undertaken any responsibility after the issuance of the 2015 Bonds to assure maintenance of the ratings or to oppose any such revision or withdrawal.

FINANCIAL STATEMENTS

The audited Fund financial statements with accompanying notes for the Fiscal Year 2014 is published, along with the accompanying report of the City's Independent Accountants, in Appendix B to this Official Statement. The City's Independent Accountants have not reviewed this Official Statement or any other matters related to the issuance of the 2015 Bonds.

FINANCIAL ADVISOR

The City has retained Public Financial Management, Inc., Arlington, Virginia ("PFM"), as financial advisor in connection with the issuance and sale of the 2015 Bonds. Although PFM has assisted in the preparation of this Official Statement, PFM is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness or fairness of the information contained in this Official Statement. PFM is an independent advisory firm and is not engaged in the business of underwriting, trading or distributing municipal securities or other public securities.

VERIFICATION OF MATHEMATICAL COMPUTATIONS

The arithmetical accuracy of certain computations included in the schedules provided by PFM on behalf of the City relating to forecasted payments of principal and interest to redeem the Refunded Obligations was examined by Robert Thomas CPA, LLC (the "Verification Agent"). Such computations were based solely upon assumptions and information supplied by PFM 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.

RELATIONSHIP OF PARTIES

McGuireWoods LLP, Richmond, Virginia, Bond Counsel, represents the Underwriters from time to time in unrelated matters.

Kaufman & Canoles, a Professional Corporation, Norfolk, Virginia, counsel to the Underwriters, also represents U.S. Bank National Association (the Trustee, Registrar, Paying Agent and Escrow Agent) from time to time in unrelated matters.

UNDERWRITING

The 2015 Bonds are being purchased by Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated and Piper Jaffray & Co. (collectively, the "Underwriters"). The purchase contract for the 2015 Bonds (the "Bond Purchase Agreement") sets forth the obligation of the Underwriters to purchase the 2015 Bonds at a price equal to \$101,383,545.97 and is subject to certain terms and conditions, including the approval of certain legal matters by counsel. The aggregate purchase price of the 2015 Bonds represents the sum of (1) the \$29,660,000.00 par amount of the 2015A Bonds, plus original issue premium of \$5,393,077.80, less an underwriting discount of \$51,413.82 on such 2015A Bonds plus (2) the \$54,020,000.00 par amount of the 2015B Bonds, plus original issue premium of \$12,446,562.35, less an underwriting discount of \$84,680.36 on such 2015B Bonds. The Bond Purchase Agreement provides that the Underwriters purchase all of the 2015 Bonds if any are purchased. The Underwriters may offer and sell the 2015 Bonds to certain dealers (including dealers depositing the 2015 Bonds into investment trusts) and others at prices different from the public offering prices stated on the cover page of this Official Statement. The public offering prices may be changed from time to time at the discretion of the Underwriters.

Citigroup Global Markets Inc., an underwriter of the 2015 Bonds, has entered into a retail distribution agreement with each of TMC Bonds L.L.C. ("TMC") and UBS Financial Services Inc. ("UBSFS"). Under these distribution agreements, Citigroup Global Markets Inc. may distribute municipal securities to retail investors through the financial advisor network of UBSFS and the electronic primary offering platform of TMC. As part of

this arrangement, Citigroup Global Markets Inc. may compensate TMC (and TMC may compensate its electronic platform member firms) and UBSFS for their selling efforts with respect to the 2015 Bonds.

CONTINUING DISCLOSURE

The City will execute and deliver for the benefit of the Bondholders a Continuing Disclosure Agreement, the form of which is set forth as Appendix F to this Official Statement, pursuant to which the City will covenant and agree, for the benefit of the Bondholders, to provide certain annual financial information and operating data, and notice of the events listed in the Rule. As described in Appendix F, such undertakings require the City to provide only limited information at specified times.

The continuing obligation of the City to provide annual financial information and operating data, and notices referred to above, will terminate with respect to any 2015 Bond when such 2015 Bond is no longer outstanding. Any failure by the City to comply with the foregoing will not constitute a default with respect to the applicable 2015 Bonds under the Indenture or otherwise. Such a failure may adversely affect the transferability and liquidity of the 2015 Bonds and their market price.

As described below, the City did not comply with certain continuing disclosure undertakings with respect to its water revenue bonds and certain of its parking system revenue bonds (no parking system revenue bonds are outstanding) by not filing in a timely manner with the Municipal Securities Rulemaking Board's Electronic Municipal Market Access system and the respective nationally recognized municipal securities information repositories specified operating data for certain prior Fiscal Years. The omitted data was included previously in the statistical section of the City's Comprehensive Annual Financial Report but was inadvertently omitted for such years, and subsequently, the City filed such information. The City has established procedures to reduce the likelihood of future reoccurrences.

See "Appendix F – FORM OF CONTINUING DISCLOSURE AGREEMENT" for the form of continuing disclosure agreement.

MISCELLANEOUS

This Official Statement and any advertisement of the 2015 Bonds are not to be construed as a contract with the purchasers of the 2015 Bonds. Any statement made in this Official Statement involving matters of opinion or of estimates, whether or not so expressly identified, are set forth as such and not as representations of fact, and no representation is made that any of the estimates will be realized. The City Council has by ordinance authorized the execution and delivery of this Official Statement on behalf of the City by the City Manager and the Director of Finance.

The references in this Official Statement to and summaries of federal, Commonwealth and City laws, including but not limited to the Constitution of the Commonwealth, the Code of Virginia, the City Charter and documents, agreements and court decisions are summaries of certain of their provisions. Such summaries do not purport to be complete and are qualified in their entirety by reference to such acts, laws, documents, agreements or decisions, copies of which are available for inspection during normal business hours at the office of the City Attorney.

Any question concerning the content of this Official Statement should be directed to the Director of Finance, 810 Union Street, City Hall Building, Suite 600, Norfolk, Virginia 23510, (757) 664-4346.

The execution and delivery of this Official Statement has been duly authorized by the City Council. The City deems this Official Statement final as of its date within the meaning of the Rule.

CITY OF NORFOLK, VIRGINIA

/s/ Marcus D. Jones

City Manager

/s/ Alice M. Kelly

Director of Finance

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DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE

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**DEFINITIONS AND SUMMARY
OF CERTAIN PROVISIONS OF THE INDENTURE**

Definitions of Certain Terms

"Accreted Value" will have the meaning set forth in the Supplemental Indenture authorizing any Capital Appreciation Bonds.

"Act" means the Public Finance Act of 1991, Chapter 26 of Title 15.2, of the Code of Virginia of 1950, as amended.

"Additional Bonds" mean any Bonds other than the Outstanding Bonds or the 2015 Bonds.

"Annual Budget" means the budget referred to in the Master Indenture.

"Authorized City Representative" means any person or persons designated to act on behalf of the City by a certificate signed by its Director of Finance and filed with the Trustee.

"Average Interest Rate" means the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest 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), except that with respect to new Variable Rate Indebtedness the interest rate for such Variable Rate Indebtedness for the initial interest rate period will be the initial rate at which such Variable Rate Indebtedness is issued and thereafter will be calculated as set forth above.

"Balloon Indebtedness" means any Indebtedness, including any Bond Anticipation Notes, 25% or more of the original principal amount of which matures or is subject to mandatory redemption during any consecutive twelve-month period, if the maturing principal amount is not required to be amortized below such percentage by mandatory redemption or prepayment before the twelve-month period.

"Bank" means (i) a bank or trust company that has a combined capital, surplus and undivided profits of not less than \$50,000,000 or (ii) a subsidiary trust company with combined capital, surplus and undivided profits, together with that of its parent bank or bank holding company, as the case may be, of not less than \$50,000,000; provided, however, that any such bank or trust company will have (or have a parent company which has) a long-term debt rating within one of the three highest categories by at least one of the Rating Agencies.

"Bond" or "Bonds" mean any bond or all of the bonds, as the case may be, issued pursuant to the Master Indenture and any Supplemental Indenture, but not including any Parity Indebtedness or Subordinate Debt or any bonds or other evidence of indebtedness of the City issued from time to time under any other indenture, trust agreement, ordinance, resolution or similar instrument.

"Bond Anticipation Notes" mean notes or other obligations issued in anticipation of the issuance of Bonds.

"Bond Counsel" means an attorney or a firm of attorneys (designated by the City) of nationally recognized standing in matters pertaining to the validity of and the tax-exempt nature of interest on bonds issued by states and their political subdivisions, duly admitted to the practice of law before the highest court of any state of the United States of America.

"Bond Debt Service" means for any period of twelve consecutive months the Debt Service Requirement with respect to any Bonds then Outstanding.

"Bond Fund" means the bond fund established under the Master Indenture.

"Business Day" means any day other than (i) a Saturday or Sunday, (ii) a day on which commercial banks in the Commonwealth, or the city in which the principal corporate trust office of the Trustee or the Paying Agent is located, are authorized by law to close, (iii) a day on which the New York Stock Exchange is closed, or (iv) such other days as may be specified in a Supplemental Indenture.

"Capital Appreciation Bonds" mean the Bonds in any Series designated as Capital Appreciation Bonds in the Supplemental Indenture authorizing the issuance of the Series.

"Capitalized Interest Account" means the Capitalized Interest Account of the Bond Fund.

"City" means the City of Norfolk, Virginia, a political subdivision of the Commonwealth.

"City Obligations" means for any Fiscal Year the amount budgeted to be paid to the general fund of the City for PILOT and ROI.

"Code" means the Internal Revenue Code of 1986, as amended, including applicable regulations and revenue rulings, and any successor codification.

"Commonwealth" means the Commonwealth of Virginia.

"Compounding Date" for Bonds of any Series will have the meaning set forth in the Supplemental Indenture authorizing the issuance of such Series.

"Consulting Engineer" means an independent engineering firm or individual engineer licensed to do business in Virginia and experienced with matters related to utilities similar to the System retained by the City as Consulting Engineer.

"Contracted Services" mean services rendered or facilities provided to the City in respect of the System or for the performance for or on behalf of the City of functions similar to those performed by the System, from a specific project, projects or systems, pursuant to a Service Contract, whether a financing lease, a service agreement or another arrangement.

"Cost" or "Cost of the Project" means all costs incurred by the City in connection with the acquisition, expansion, construction, improvement, renovation and equipping of the System or any Project comprising a portion of the System, as permitted by the Act, including, without limitation, the payment of costs of issuance of Bonds and the funding of such funds and accounts as provided in the Master Indenture or any Supplemental Indenture, the cost of all lands, properties, rights, easements, franchises and permits acquired, the cost of all machinery and equipment, amounts paid to purchase capacity or services from other entities which are required to be capitalized or which the City makes an election to capitalize, financing charges, initial credit enhancement charges, interest before and during construction of any Project and for up to one year after completion of construction of any Project, any amounts required to be rebated to the United States of America pursuant to Section 148(f) of the Code, any deposits to any bond interest and principal reserve accounts, the cost of engineering and legal services, plans, specifications, surveys, estimates of costs and of revenues, other expenses necessary or incident to determining the feasibility or practicability of any acquisition, improvement or construction, administrative expenses, working capital, the retirement of notes or other interim financing the proceeds of which were used to pay Costs, and such other expenses as may be necessary or incidental to the improvement of the System and placing it in operation.

"Cost of Contracted Services" means the payments to be made by the City for Contracted Services which may be allocated by the City between: (i) a Debt Service Component and (ii) an Operating Component. No designation or characterization of payments under a Service Contract will affect the City's right to make some other allocation of the payments for the purpose of the Master Indenture.

"Counsel" means such attorney or firm of attorneys selected or approved by the City who are duly admitted to practice law before the highest court of any state of the United States of America, none of whom is a full-time employee, member, director or officer of the City or a full-time employee or officer of the Trustee.

"Credit Facility" means a line of credit, letter of credit, standby bond purchase agreement or similar credit enhancement or liquidity facility established to provide credit or liquidity support for Bonds or Parity Indebtedness.

"Dealer" means a financial institution or government bond dealer which (i) is a member of the Securities Investors Protection Corporation and (ii) has a long-term debt rating in one of the three highest rating categories by at least one of the Rating Agencies or has a dealer or parent holding company that has a long-term debt rating within one of the three highest rating categories by at least one of the Rating Agencies.

"Debt Service Component" means the portion of the Cost of Contracted Services that an Authorized City Representative determines, in a certificate delivered to the Trustee, to be for the purpose of paying a fixed charge or the principal of or interest on the obligations, directly or indirectly associated with rendering the Contracted Services, of the person providing the Contracted Services.

"Debt Service Requirement" means, for any period of twelve consecutive months for which such determination is made, the aggregate of the amounts required to be deposited, as the case may be in the Bond Fund, the Parity Debt Service Fund and the Subordinate Debt Service Fund during this period with respect to any Bonds, Parity Indebtedness or Subordinate Indebtedness; provided, however, that:

(a) with respect to any Option Obligations, such Option Obligations will be assumed to mature on their stated dates of maturity;

(b) with respect to Balloon Indebtedness, it will be assumed that the principal of such Balloon Indebtedness, together with interest at the rate applicable to such Balloon Indebtedness, will be amortized in equal annual installments over a period of thirty years from the date the Balloon Indebtedness was incurred;

(c) with respect to Variable Rate Indebtedness, interest on such Indebtedness will be calculated at the Average Interest Rate;

(d) with respect to obligations related to any Credit Facility which constitute Parity Indebtedness or Subordinate Debt, to the extent that such Credit Facility has not been used or drawn upon, or any such drawing or use has been reimbursed to the provider the principal and interest relating to such Credit Facility will not be included in the Debt Service Requirement for such Parity Indebtedness or Subordinate Debt; and

(e) with respect to any Derivative Indebtedness, the interest on such Indebtedness will be calculated at the Hedged Fixed Rate, if any.

"Debt Service Reserve Fund" means the debt service reserve fund established under the Master Indenture.

"Debt Service Reserve Requirement" means, as of any particular date of calculation, the sum of (i) the Prior DSR Requirement computed with respect to the Prior Series only and (ii) with respect to any other Series of Bonds, an amount at least equal to the least of (x) the maximum principal and interest due on such Series of Bonds then Outstanding in the then current or any future Fiscal Year, (y) 125% of the average annual principal and interest due on such Series of Bonds then Outstanding in the then current and each future Fiscal Year and (z) 10% of the proceeds of such Series of Bonds (within the meaning of the Code); provided that the Supplemental Indenture corresponding to any Series of Bonds (other than the Prior Series) may provide for the establishment of a separate account in the Debt Service Reserve Fund to secure only such Series of Bonds (and any Bonds issued to refund such Series in part), with such Series of Bonds having no claim on the other moneys deposited to the credit of the Debt Service Reserve Fund or any other account therein), the Debt Service Reserve Requirement for such Series of Bonds will be calculated as set forth in the corresponding Supplemental Indenture. With respect to any Series of Bonds, the Debt Service Reserve Requirement may be increased by the City to the extent that there is delivered to the Trustee an opinion of Bond Counsel to the effect that the increase will not adversely affect the exclusion of interest on the Bonds from gross income for purposes of federal income taxation. In determining the amount of principal and interest due on Bonds which are Variable Rate Indebtedness, interest will be calculated at a rate equal to the greater of (i) the actual interest rate on the Bonds in effect on the date of their issuance or (ii) the current average yield on municipal revenue bonds maturing in thirty years, according to the weekly index published by The Bond

Buyer for the week immediately preceding the week in which the Bonds are issued. In the event The Bond Buyer is not published as the date of any determination, or if published, does not publish an index of the current yield on municipal revenue bonds maturing in thirty years, an alternative index or other source of current bond yields may be designated by the Authorized City Representative. In determining the amount of principal and interest due on Bonds which are Balloon Indebtedness, the amount of principal and interest on the Balloon Indebtedness due in any year will be calculated by assuming that the original principal amount of the Balloon Indebtedness amortized in equal annual installments over a period of thirty years from the date the Balloon Indebtedness was incurred. In computing the amount of the Debt Service Reserve Requirement, the City may, at its option, disregard any portion of interest on Bonds issued in the form of "tax credit bonds" for which the City expects to be reimbursed by the federal government (for example, Direct Pay Build America Bonds issued under Section 54AA of the Code).

"Defeased Municipal Obligations" mean obligations of state or local government municipal bond issuers, which are rated in the highest rating category by Moody's Investors Service, Inc., and Standard & Poor's Ratings Services, provision for the payment of the principal of and interest on which has been made by the deposit with a trustee or escrow agent of Government Obligations or Government Certificates, the maturing principal of and interest on which, when due and payable, will provide sufficient money to pay the principal of, redemption premiums, if any, and interest on such obligations of state or local government municipal bond issuers.

"Defeased Municipal Obligation Certificate" means evidence of ownership of a proportionate interest in specified Obligations, which Obligations are held by a bank or trust company organized and existing under the laws of the United States of America or any of its states acceptable to the Trustee in the capacity of custodian.

"Defeasance Obligations" mean (i) noncallable Government Obligations, (ii) Government Certificates, (iii) Defeased Municipal Obligations and (iv) Defeased Municipal Obligation Certificates. With respect to the 2012 Bonds only, the term "Defeasance Obligations" includes the foregoing and noncallable bonds, notes and other obligations of any agency of the United States eligible for the investment of public sinking funds under the Investment Act.

"De Minimis Amount" means (i) in reference to original issue discount (as defined in Section 1273(a)(1) of the Code) or premium on an obligation (A) an amount that does not exceed 2% multiplied by the stated redemption price at maturity plus (B) any original issue premium that is attributable exclusively to reasonable underwriter's compensation; and (ii) in reference to market discount (as defined in Section 1278(a)(2)(A) of the Code) or premium on an obligation, an amount that does not exceed 2% multiplied by the stated redemption price at maturity.

"Derivative Indebtedness" has the meaning given to it in any Supplemental Indenture authorizing the issuance of a Series of Bonds and may also include, but is not limited to, a portion of Indebtedness which bears interest at a variable rate during any future period of time meeting the following requirements:

(a) the City has entered into a Hedge Agreement in respect of such Indebtedness within sixty days of the date of the issuance of the Indebtedness, and

(b) the Hedge Agreement provides that during the entire period that such Indebtedness bears interest at a variable rate the City will pay a fixed rate to the provider of the Hedge Agreement and the provider of the Hedge Agreement will pay the variable rate borne by such Indebtedness, or such Indebtedness, taken together with the Hedge Agreement, results in a net fixed rate payable by the City to the provider of the Hedge Agreement for such period of time (the "Hedged Fixed Rate"), assuming the City and the provider of the Hedge Agreement make all payments required to be made by the terms of the Hedge Agreement.

"Director of Finance" means the Director of Finance of the City or, if the City no longer has a person with the title of Director of Finance, the person filling the office with similar duties as the Director of Finance.

"Director of Utilities" means the Director of Utilities of the City or if the City no longer has a person with the title of Director of Utilities, the person filling the office with similar duties as the Director of Utilities.

"Existing Debt Service" means for any Fiscal Year the amount budgeted to be paid to the general fund of the City to pay debt service on general obligation bonds of the City issued to pay costs of the System.

"Event of Default" means any Event of Default described in "Summary of Certain Provisions of the Indenture – Event of Default."

"Financial Institution" means any Bank, Insurance Company or Dealer.

"Fiscal Year" means the period of twelve months established by the City as its annual accounting period.

"Fixed Rate Investment" means any obligation the yield on which was fixed and determinable on its issue date.

"General Reserve Fund" means the general reserve funds established under the Master Indenture.

"Government Certificates" mean evidences of ownership of a proportionate interest in specified Government Obligations which are held by a bank or trust company organized and existing under the laws of the United States of America or any of its states acceptable to the Trustee in the capacity of custodian.

"Government Obligations" mean bonds, notes and other direct obligations of the United States of America and securities unconditionally guaranteed as to the timely payment by the United States of America.

"Hedge Agreement" means a contract or agreement, payable from Net Revenues on a parity with or subordinate to any Bonds or Parity Indebtedness intended to place Indebtedness on the interest rate, currency, cash flow or other basis desired by the City, including, without limitation, any interest rate swap agreement, currency swap agreement, forward payment conversion agreement or futures contract, any contract providing for payments based on levels of, or changes in, interest rates, currency exchange rates, stock or other indices, any contract to exchange cash flows or a series of payments, or any contract, including, without limitation, an interest rate floor or cap, or an option, put or call, to hedge payment, currency, rate, spread or similar exposure, between the City and a counterparty; provided that not less than 30 days prior to the City's execution of such contract or agreement, each Rating Agency which maintains a rating with respect to any Indebtedness receives notice in writing of the City's pending execution thereof; and provided further that at the time of origination each Rating Agency which maintains a rating with respect to any Indebtedness confirms in writing to the City that the City's execution and delivery of such contract will not result in a downgrading, withdrawal or suspension of such rating.

"Hedge Fixed Rate" means Hedged Fixed Rate as defined in definition of Derivative Indebtedness.

"Indebtedness" means the Bonds, any Parity Indebtedness or any Subordinate Debt.

"Insurance Company" means an insurance company with a long-term debt rating within one of the three highest rating categories by at least one of the Rating Agencies.

"Interest Account" means the Interest Account of the Bond Fund.

"Interest Payment Date" means any date on which a payment of interest on any Bonds or any Parity Indebtedness is due.

"Interest Period" means the period from and including an Interest Payment Date to and including the day before the next Interest Payment Date, except the first Interest Period for each Series of Bonds and Parity Indebtedness will be the period from and including the date specified in the Supplemental Indenture authorizing the Series of Bonds or the document authorizing the Parity Indebtedness for the Bonds or Parity Indebtedness to begin to bear interest to and including the day before the first Interest Payment Date.

"Investment Act" means the Investment of Public Funds Act, Chapter 18, Title 2.1, Code of Virginia of 1950, as amended.

"Master Indenture" means the Master Indenture of Trust, between the City and the Trustee, as it may be modified, altered, amended and supplemented from time to time in accordance with its terms.

"Net Proceeds" mean the proceeds from any insurance recovery remaining after payment of attorneys' fees, fees and expenses of the City and the Trustee and all other expenses incurred in collection of the gross proceeds.

"Net Revenues" mean Revenues less Operating Expenses.

"Operating Component" means the portion of the Cost of Contracted Services reasonably determined by an Authorized City Representative, in a certificate delivered to the Trustee from time to time, to be directly or indirectly attributable to the ownership or operation of the System without regard to its treatment under generally accepted accounting principles; provided, however, if no such determination is made, all of the Cost of Contracted Services will be treated as Operating Component.

"Operating Expenses" mean all expenses which may reasonably be determined by the City in its Annual Budget to be directly or indirectly attributable to the ownership or operation of the System and payable as Operating Expenses without regard to the treatment of such expenses under generally accepted accounting principles, including, without limitation, reasonable and usual expenses of administration, operation, maintenance and repair, which may include expenses not annually recurring, costs of billing and collecting the rates, fees and charges for the use of or the services furnished by the System, the Operating Component of the Cost of Contracted Services, insurance and surety bond premiums and reserves, other charges and fees necessary for the maintenance of adequate insurance coverage for the City and the System, fees and payments for any Credit Facility, legal, engineering and auditing expenses, expenses and compensation of the Trustee, reimbursement to the City's general fund for the cost of services rendered with respect to the System, and other expenses of the City required to be paid by law or under the Master Indenture or any Supplemental Indenture, but will not include (i) any allowance for amortization or depreciation, (ii) deposits or transfers to the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund, the Repair and Replacement Reserve Fund, the Rate Stabilization Fund, (iii) payments for Existing Debt Service or City Obligations and (iv) expenditures which the City makes an election to capitalize.

"Operating Fund" means the operating fund established under the Master Indenture.

"Opinion of Counsel" means a written opinion of any Counsel in form and substance acceptable to the Trustee.

"Option Obligations" mean any Indebtedness which by its terms may be tendered by and at the option of its Owner or holder for purchase before its stated maturity.

"Outstanding" means, at any date, the aggregate of all Indebtedness authorized, issued, authenticated and delivered under the Master Indenture and not paid and discharged, except:

- (a) Indebtedness cancelled or surrendered to the Paying Agent for cancellation;
- (b) Indebtedness deemed to have been paid as provided in the Master Indenture or in such other instrument authorizing its issuance; and
- (c) Indebtedness in lieu of or in substitution for which other Indebtedness has been authenticated and delivered pursuant to the Master Indenture and any Supplemental Indenture unless proof satisfactory to the Paying Agent is presented that any such Indebtedness is held by a bona fide Owner.

In determining whether Owners of a requisite aggregate principal amount of the Outstanding Bonds or Parity Indebtedness have concurred in any request, demand, authorization, direction, notice, consent or waiver under the Indenture, the principal amount of Capital Appreciation Bonds will be their Accreted Value (as of the immediately preceding Compounding Date). Indebtedness which is owned by the City will be disregarded and deemed not to be Outstanding for the purpose of any such determination; provided, however, that for the purpose of

determining whether the Trustee will be protected in relying upon any request, demand, authorization, direction, notice, consent or waiver, only Indebtedness which the Trustee knows to be so owned will be disregarded.

"Owner" means the Person in whose name a particular Bond is registered on the records of the Paying Agent or who is the holder of Parity Indebtedness.

"Parity Debt Service" means, for any period of twelve consecutive months, the Debt Service Requirement with respect to Parity Indebtedness.

"Parity Debt Service Component" means all or any portion of the Debt Service Component of the Cost of Contracted Services under the Service Contracts meeting the requirements of the Master Indenture that an Authorized City Representative, determines in a certificate delivered to the Trustee will be payable on a parity with the Bonds.

"Parity Debt Service Fund" means the parity debt service fund established under the Master Indenture.

"Parity Indebtedness" means (i) the Parity Debt Service Component of the Cost of Contracted Services and (ii) any other Parity Indebtedness incurred in accordance with the Master Indenture which is secured on a parity with the Bonds, including bonds, notes or other evidences of indebtedness issued pursuant to the Master Indenture and any Supplemental Indenture equally and ratably secured by a pledge of Net Revenues and, at the City's option, any other security pledged to such bonds, notes or other evidences of indebtedness but which are not secured by the Debt Service Reserve Fund. Parity Indebtedness may also include Bond Anticipation Notes, Hedge Agreements or obligations with respect to Credit Facilities; provided, however, Parity Indebtedness does not include any Bonds or any other indebtedness of the City issued from the time to time under any other indenture, trust agreement, ordinance, resolution or other instrument not secured by a pledge of Revenues.

"Paying Agent" means any paying agent for the Bonds (and may include the Trustee) and its successor or successors appointed pursuant to the provisions of any Supplemental Indenture. Unless otherwise provided in a Supplemental Indenture, the Trustee will be the Paying Agent.

"Person" means an individual, a corporation, a partnership, a general partner of a partnership, an association, a joint stock company, a trust, any unincorporated organization, or a governmental unit or its political subdivision.

"PILOT" means for any Fiscal Year the amount budgeted to be paid with respect to the System to the general fund of the City in lieu of taxes.

"Plain Par Investments" mean a Fixed Rate Investment:

- (a) Issued with not more than a De Minimis Amount of original issue discount or premium, or, if acquired on a date other than its issue date, acquired with not more than a De Minimis Amount of market discount or premium;
- (b) Issued for a price that does not include accrued interest other than pre-issuance accrued interest;
- (c) That bears interest from its issue date at a single, stated, fixed rate, with interest unconditionally payable at least annually; and
- (d) That has a lowest stated redemption price that is not less than its outstanding stated principal amount.

"Present Value" means the present value computed under the economic accrual method (using the same compounding interval and financial conventions used to compute the yield on the relevant Series of Bonds under Section 148 of the Code), of all unconditionally payable receipts to be received from and payments to be paid for an

investment after the valuation date, using the Yield (as defined in the Tax Compliance Agreement) on the investment as the discount rate.

"Principal Account" means the Principal Account of the Bond Fund.

"Principal Payment Date" means any date on which a payment of principal or Accreted Value of any Bonds or any Parity Indebtedness is due.

"Principal Period" means the period from and including a Principal Payment Date to and including the day before the next Principal Payment Date, except the first Principal Period for each Series of Bonds or Parity Indebtedness will be the twelve months immediately preceding the first Principal Payment Date unless some other period is specified in the Supplemental Indenture authorizing the Series of Bonds or the Service Contract or other document authorizing the Parity Indebtedness.

"Prior DSR Requirement" means an amount equal at least to the lesser of (i) the maximum principal and interest due on the Prior Series then Outstanding in the then current or any future Fiscal Year and (ii) 125% of the average annual principal and interest due on the Prior Series then Outstanding in the then current and each future Fiscal Year.

"Prior Series" means, for purposes of this Appendix A and as of any particular date of calculation, the then-Outstanding 2005 Bonds, 2008 Bonds and 2010 Bonds.

"Project" will have the meaning set forth in any Supplemental Indenture.

"Project Fund" means the project fund established under the Master Indenture.

"Rate Stabilization Fund" means the Rate Stabilization Fund established under the Master Indenture.

"Rate Stabilization Requirement" means such amount as may be established by the City pursuant to the Master Indenture, and if no such amount is established, the Rate Stabilization Requirement will be zero.

"Rating Agency" means any nationally recognized securities rating agency then rating the Bonds at the request of the City.

"Redemption Account" means the Redemption Account of the Bond Fund.

"Refunding Bonds" means a Series or portion of a Series of Bonds issued to retire or refund all or any portion of another Series of Bonds, Parity Indebtedness or other obligations of the City.

"Repair and Replacement Reserve Fund" means the repair and replacement reserve fund established under the Master Indenture.

"Replacement Reserve Requirement" means an amount to be determined by the City pursuant to Section 7.8(b) of the Master Indenture, but not less than \$1,000,000.

"Revenue Fund" means the fund established in the Master Indenture.

"Revenues" mean all revenues, receipts and other income derived or received by the City from the ownership or operation of the System including, without limitation, any investment earnings and transfers, if any, from the Rate Stabilization Fund to the Revenue Fund, but excluding (i) any gift, grant or contributions to the extent restricted by the donor or grantor to a particular purpose inconsistent with its use for the payment of Senior Debt Service or Subordinate Debt Service, (ii) proceeds derived from insurance or condemnation, and (iii) any transfers from the Revenue Fund to the Rate Stabilization Fund. Any lump sum prepayment of Revenues received by the City will be reserved by the City in a subaccount in the Revenue Fund and disbursed from the subaccount and recognized as Revenues monthly over the appropriate accrual period.

"ROI" means for any Fiscal Year the amount budgeted to be paid with respect to the System to the general fund of the City as a return on the City's investment in the System.

"Senior Debt Service" means for any period of twelve consecutive months the sum of Bond Debt Service and Parity Debt Service during the period.

"Serial Bonds" mean any Bonds of a Series which are stated to mature in annual installments including any Capital Appreciation Bonds, but not including any Term Bonds.

"Series" or "Series of Bonds" mean a separate series of Bonds issued under the Master Indenture pursuant to a Supplemental Indenture.

"Service Contracts" mean any contracts or agreements for Contracted Services entered into by the City from time to time.

"Subordinate Debt" means bonds, notes or other evidences of indebtedness of the City, including the Debt Service Component of the Cost of Contracted Services and any lease which is required to be capitalized by generally accepted accounting principles which is not a Parity Debt Service Component, secured by a pledge of Net Revenues expressly made subordinate to the pledge of Net Revenues securing the Bonds and Parity Indebtedness or which is unsecured.

"Subordinate Debt Service" means for any period of twelve consecutive months the Debt Service Requirement with respect to any Subordinate Debt and the Debt Service Component of the Cost of Contracted Services which is not a Parity Debt Service Component.

"Subordinate Debt Service Fund" means the subordinate debt service fund established in the Master Indenture.

"Supplemental Indenture" means any indenture supplemental to or amendatory of the Master Indenture as originally executed, which is duly executed and delivered in accordance with the provisions of the Master Indenture.

"System" means the water system, owned or operated by or on behalf of the City, including but not limited to, any Project and all additions, extensions, improvements and replacements to the System, and any other utility system which may be added by the City as a part of the System pursuant to the Master Indenture, but excluding any independent utility systems hereafter owned or operated by the City and accounted for separately by the City unless made part of the System by the City.

"Term Bonds" means Bonds of a Series which are stated to mature on one date and which are subject to scheduled mandatory redemption before such date.

"Test Period" has the meaning given to it in the Indenture in connection with the issuance of Additional Bonds.

"Variable Rate Indebtedness" means any Indebtedness, interest on which is not established at the time of its issuance at a rate which is fixed until its maturity.

Summary of Certain Provisions of the Indenture

The following is a brief summary of certain provisions contained in the Master Indenture and the Eleventh Supplemental Indenture and does not purport to be a complete statement of all of the provisions of those documents. Reference is made to the Master Indenture and the Eleventh Supplemental Indenture in their entirety for complete information on their terms and on the terms of the 2015 Bonds, the applicable security provisions and the application of the Revenues. See also "DESCRIPTION OF THE BONDS" and "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" in the Official Statement.

Definitions

Unless defined below, all capitalized terms used in this Appendix have the meanings set forth in the foregoing section entitled "Definitions of Certain Terms."

Additional Bonds

In connection with the issuance of Additional Bonds, the City is required to file, among other things, the following documents with the Trustee:

(1) A certificate of the City dated as of the date of delivery of the Additional Bonds and signed by the City Manager or Director of Finance to the effect that to the best of his or her knowledge, upon and immediately following the issuance of the Additional Bonds, no event of default under the Indenture and no event or condition which, with notice or lapse of time or both, would become an event of default, will have occurred and be continuing or, if such an event or condition has occurred and is continuing, it will be cured upon the issuance of the Additional Bonds or upon completion of the Project to be financed with the Additional Bonds.

(2) A copy of the resolution or ordinance and an executed counterpart of the supplement to the Master Indenture authorizing the Additional Bonds, which supplement will specify, among other things, the details of the Additional Bonds and the amount, if any, to be deposited from the proceeds of sale of the Additional Bonds into the Debt Service Reserve Fund.

(3) An opinion of Bond Counsel, subject to customary exceptions and qualifications, to the effect that the issuance of the Additional Bonds has been duly authorized, that the Additional Bonds are valid and binding limited obligations of the City entitled to the benefits and security of the Master Indenture and that the interest on the Additional Bonds is excludable from gross income for purposes of federal income taxation or, if the interest is not excludable, that the issuance and the intended use of the proceeds of the Additional Bonds will have no adverse effect on the tax exempt status of interest on any other Bonds then Outstanding, the interest on which was excludable from gross income when issued.

(4) If the Additional Bonds are issued to pay the cost of acquiring, renovating, equipping or constructing improvements, extensions, additions or replacements to the System,

(a) A written statement from (i) Director of Utilities setting forth his or her estimate of the cost of the acquisition, renovation, equipping or construction (including all financing, reserves and related costs) and the date on which such acquisition, renovation, equipping or construction will be completed and (ii) the Director of Finance giving his or her opinion that the proceeds of the Additional Bonds, together with any other money available for such purpose, will be sufficient to pay the cost of the acquisition, renovation, equipping or construction; and

(b) The amount of the Net Revenues as received during any 12 consecutive months of the twenty four months immediately preceding the issuance of the Bonds (the "Test Period"), as certified by the Director of Finance or the Consulting Engineer, subject to adjustment as permitted in subsection (c) below, will be equal to the revenue covenant contained in the Master Indenture for the Test Period taking into account the maximum principal and interest payments due on (i) any Bonds and Parity Indebtedness then outstanding, and (ii) the Bonds and Parity Indebtedness then proposed to be issued.

(c) Adjustments to Net Revenues permitted by the foregoing subsection, shall be certified by the Director of Finance or the Consulting Engineer to the Director of Utilities and shall be computed as follows:

(i) If the City, before the issuance of the proposed Bonds, has increased the rates, fees, rentals or other charges for the services or use of the System, the Net Revenues for the Test Period shall be adjusted to include the Net Revenues which would have been derived from the System during the Test Period as if such increased rates, fees, rentals or other charges had been in effect during the Test Period.

(ii) If the City has acquired or has contracted to acquire any privately or publicly owned existing water system, sewer system, solid waste collection and disposal system, stormwater retention system, or any other utility system that the City will consolidate with the System, the cost of which shall be paid from all or part of the proceeds of the issuance of the proposed Bonds, then the Net Revenues derived from the System during the Test Period shall be increased by adding to the Net Revenues for the Test Period the projected Net Revenues which would have been derived from the System as if such utility system had been operated by the City as part of the System during the Test Period.

(iii) If the City has entered into a contract on or before the date of the issuance of the proposed Bonds or Parity Indebtedness, with any public body whereby the City has agreed to furnish services consistent with the services performed by the System, which contract (A) is for a duration of not less than the final maturity of the Bonds or Parity Indebtedness proposed to be issued, or (B) if less than the final maturity of such Bonds or Parity Indebtedness, contain provisions obligating the party contracting with the City to pay in full its allocated share of the costs of capital improvements to the System needed to carry out the terms of the contract, then the Net Revenues of the System during the Test Period shall be increased by the least amount which the entity receiving such services shall be required to pay by the terms of the contract in any one year during which the City is to furnish services and such Bonds or Parity Indebtedness are anticipated to be Outstanding, after deducting from such payment the estimated proportion of operating expenses and repair, renewal and replacement cost attributable in such year to such services.

(iv) If there is an estimated increase in Revenues to be received by the City, as a result of additions, extensions or improvements to the System during the period of three years after delivery of the Bonds and the governing body of the City has by ordinance or resolution authorized the additions, extensions or improvements (and if such additions, extensions or improvements involve another jurisdiction, the governing body of such other jurisdiction has also given its approval by ordinance or resolution), then the Net Revenues derived from the System during the Test Period will be increased by the estimated average annual additional Net Revenues for the first two full years after such additions, improvements or extensions have been placed in service.

In connection with any Net Revenue adjustment permitted by subparagraphs (ii), (iii) or (iv) above, the City may take into account any increases in rates, fees or charges that have been approved by the City at the time of certification.

(5) If the Additional Bonds are issued to refund any of the Bonds or other Parity Indebtedness of the City issued under the Indenture,

(a) Evidence satisfactory to the Trustee that the City has made provision as required by the Indenture for the payment or redemption of all Bonds or Parity Indebtedness of the City to be refunded;

(b) A written determination by the Trustee or by a firm of independent certified public accountants that the proceeds (excluding accrued interest) of the refunding bonds, together with any other money deposited with the Trustee for such purpose and the investment income to be earned on funds held by the Trustee for the payment or redemption of Bonds or Parity Indebtedness, will be sufficient to pay, whether upon redemption or at maturity, the principal of and premium, if any, and interest on the Bonds or Parity Indebtedness to be refunded and the estimated expenses incident to the refunding; and

(c) (i) A written determination by the Trustee or by a firm of independent certified public accountants that after the issuance of the refunding bonds and the provision for payment or redemption of all Bonds or Parity Indebtedness of the City to be refunded, the Senior Debt Service for each Fiscal Year in which there will be Outstanding Bonds of any Series not to be refunded will be not more than the Senior Debt Service for the Fiscal Year would have been on all Outstanding Bonds and Parity Indebtedness immediately before the issuance of the refunding bonds, including the Bonds and Parity Indebtedness of the City to be refunded; or (ii) in the case of Refunding Bonds issued to refund Parity Indebtedness issued under the Master Indenture in the form of Bond Anticipation Notes, the City shall provide the written certification required in 4(b) above; or (iii) if the Refunding Bonds will satisfy neither (i) nor (ii) above, a written certification similar to that required in 4(b) above with respect to the first two full Fiscal Years following the issuance of the Refunding Bonds.

(6) If the Additional Bonds are issued to refund obligations of the City with respect to the System other than Bonds or Parity Indebtedness, the certifications similar to those required in 5(a) and 4(b) above.

The proceeds of Additional Bonds (including accrued interest) will be applied as set forth in the Eleventh Supplemental Indenture authorizing their issuance.

Parity Indebtedness

The City may designate the Debt Service Component of the Cost of Contracted Services as Parity Indebtedness and may issue or refinance other Parity Indebtedness provided the requirements of paragraphs (4) or (5), as appropriate, for the issuance of Additional Bonds are met as if the Parity Indebtedness was a series of Additional Bonds. Parity Indebtedness will be secured by the pledge of Net Revenues under the Indenture on a parity with Bonds issued under the Indenture, except Parity Indebtedness will not be secured by money in the Project Fund, the Bond Fund or the Debt Service Reserve Fund.

Subordinate Debt

Nothing in the Indenture prohibits or prevents the City from issuing Subordinate Debt for any lawful purpose payable from and secured by a pledge of Net Revenues subject and subordinate to the payment of any Bonds and Parity Indebtedness; provided, however, any Subordinate Debt may only be declared immediately due and payable if payment of the Bonds and Parity Indebtedness has been accelerated in accordance with the Indenture.

Establishment of Funds and Accounts

The following funds are established under the Indenture, to be held as follows:

- (1) City of Norfolk, Virginia, Project Fund, to be held by or at the direction of the City;
- (2) City of Norfolk, Virginia, Revenue Fund, to be held by or at the direction of the City;
- (3) City of Norfolk, Virginia, Operating Fund, to be held by or at the direction of the City;
- (4) City of Norfolk, Virginia, Bond Fund, in which there is established an Interest Account, a Principal Account and a Redemption Account and a Capitalized Interest Account, to be held by the Trustee;
- (5) City of Norfolk, Virginia, Parity Debt Service Fund, to be held by or at the direction of the City;
- (6) City of Norfolk, Virginia, Debt Service Reserve Fund, to be held by the Trustee;
- (7) City of Norfolk, Virginia, Subordinate Debt Service Fund, to be held by or at the direction of the City;

- (8) City of Norfolk, Virginia, Repair and Replacement Reserve Fund, to be held by or at the direction of the City;
- (9) City of Norfolk, Virginia, Rate Stabilization Fund, to be held by or at the direction of the City; and
- (10) City of Norfolk, Virginia, General Reserve Fund, to be held by or at the direction of the City.

Project Fund

The City will maintain for each Series of Bonds a separate subaccount, as provided in any supplemental indenture. Net Proceeds used to repair, restore or reconstruct the System will also be deposited in the Project Fund and maintained within separate subaccounts for each Series of Bonds.

Revenue Fund

The City will collect and deposit in the Revenue Fund as received all Revenues. Money on deposit in the Revenue Fund will be used as follows:

- (1) To make monthly deposits to the Operating Fund in an amount such that the balance on deposit in the Fund will be equal to not less than one sixth of the Operating Expenses budgeted to be paid from the Fund in the current Annual Budget;
- (2) To make equal monthly deposits to the Bond Fund and Parity Debt Service Fund so that there will be sufficient money in the Funds to pay the Bonds and Parity Indebtedness when due;
- (3) If the amount in the Debt Service Reserve Fund or any account therein is less than its respective Debt Service Reserve Requirement, the amount of money remaining in the Revenue Fund necessary to restore the Debt Service Reserve Fund and the accounts therein to their respective Debt Service Reserve Requirements on a pro rata basis, or all of the money remaining if less than the amount necessary; provided that such restoration of the amount in the Debt Service Reserve Fund and any account therein must occur not later than twelve months following the determination of the deficiency;
- (4) To make deposits to the Subordinate Debt Service Fund of amounts determined by the City to be necessary to pay Subordinate Debt when due;
- (5) To make deposits to the Repair and Replacement Reserve Fund to accumulate the Replacement Reserve Requirement in thirty six approximately equal installments and then to restore any deficit in sixty approximately equal monthly installments;
- (6) To make other deposits to the Repair and Replacement Reserve Fund in amounts determined by the City;
- (7) To make deposits to the Rate Stabilization Fund to accumulate the Rate Stabilization Requirement in twenty four approximately equal installments and thereafter to restore any deficit in such Fund in the same number of installments; and
- (8) To make deposits of any remaining balance to the General Reserve Fund.

Operating Fund

The City will pay Operating Expenses from the Operating Fund as they become due and in accordance with the purposes and amounts provided in the Annual Budget. In the event the balance in the Operating Fund is insufficient for its purposes, the City will transfer to the Operating Fund such amounts as may be necessary first from the General Reserve Fund and then from the Repair and Replacement Reserve Fund. The City may also make transfers from the Rate Stabilization Fund to the Operating Fund to cover any deficit and may do so before, in

combination with, or in lieu of transfers from the General Reserve Fund and the Repair and Replacement Reserve Fund. Interest received on and any profit realized from the investment of money in the Operating Fund will be transferred as earned to the Revenue Fund.

Bond Fund

The Trustee will pay the principal of and interest on the Bonds when due from the Principal Account and the Interest Account, respectively. The Trustee will use money in the Redemption Account of the Bond Fund to redeem Bonds pursuant to any optional redemption provision exercised by the City. In the event the balances on deposit in the Principal Account or the Interest Account are insufficient, the Trustee will transfer to such Accounts the amount necessary to pay the Bonds from the Debt Service Reserve Fund after making transfers first from the General Reserve Fund, the Repair and Replacement Reserve Fund and the Rate Stabilization Fund. Interest received on and any profit realized from the investment of money in the Bond Fund will become a part of the account in the Bond Fund in which the investment is held.

Parity Debt Service Fund

The City will use money in the Parity Debt Service Fund to make payments on any Parity Indebtedness when due. Interest received on and any profit realized from the investment of money in the Parity Debt Service Fund will be deposited when received in the Revenue Fund. Amounts in the Parity Debt Service Fund do not secure the Outstanding Series of Bonds and will not secure the 2015 Bonds or any Additional Bonds.

Debt Service Reserve Fund

The Debt Service Reserve Fund and any accounts therein will be used by the Trustee to make transfers to the Bond Fund to the extent necessary to pay when due the principal of and interest on the Bonds if the amounts on deposit in the Principal and Interest Accounts of the Bond Fund, and any amounts transferred by the City to the Debt Service Reserve Fund from the General Reserve Fund and the Repair and Replacement Reserve Fund are insufficient for such purpose. If there is a deficiency in the balance on deposit in the Debt Service Reserve Fund or any account therein, the City will transfer funds from the Revenue Fund to restore the Fund or account in the manner described above.

In lieu of maintaining and depositing money or securities in the Debt Service Reserve Fund or any account therein, the City may deposit with the Trustee a letter of credit, bond insurance policy or surety bond in an amount equal to all or a portion of the requirement for the Fund or such account, provided the issuer of the letter of credit or surety bond or the bond insurer, as appropriate, is rated in one of the two highest long term debt rating categories by the Rating Agencies then rating the Bonds, without regard to any refinement or gradation of such rating category by numerical modifier or otherwise. Any letter of credit, bond insurance policy or surety bond will permit the Trustee to draw or obtain amounts under it for deposit in the Debt Service Reserve Fund or such account that, together with any money already on deposit therein, are not less than the required balance. In addition, the Supplemental Indenture corresponding to any Series of Bonds (other than the Prior Series) may provide for the establishment of a separate account in the Debt Service Reserve Fund to secure only such Series of Bonds (and any Bonds issued to refund such Series in part), with such Series of Bonds having no claim on the other moneys deposited to the credit of the Debt Service Reserve Fund or any other account therein, the Debt Service Reserve Requirement for such Series of Bonds will be calculated as set forth in the corresponding Supplemental Indenture.

The Trustee will make a drawing on the letter of credit or obtain funds under the bond insurance policy or surety bond before its expiration or termination (1) whenever money is required for the purposes for which Debt Service Reserve Fund money may be applied and (2) unless the letter of credit or bond insurance policy has been extended or a qualified replacement for it delivered to the Trustee, in the event the City has not deposited money in immediately available funds equal to the respective requirement at least two Business Days preceding the expiration or termination of the letter of credit, bond insurance policy or surety bond.

If the City provides the Trustee with a letter of credit, bond insurance policy or surety bond, the Trustee will transfer the funds then in the Debt Service Reserve Fund or account therein to the City, provided the City

delivers to the Trustee an opinion of Bond Counsel that such transfer of funds will not adversely affect the exclusion from gross income for purposes of federal income taxation of interest on any Bonds and the City covenants to comply with any directions or restrictions contained in such opinion concerning the use of the funds.

Subordinate Debt Service Fund

The City will use money in the Subordinate Debt Service Fund to make payments of debt service on any Subordinate Debt when due. Interest received on and any profit realized from the investment of money in the Subordinate Debt Service Fund will be deposited when received in the Revenue Fund.

Repair and Replacement Reserve Fund

The City may use amounts in the Repair and Replacement Reserve Fund for any of the following purposes:

- (1) Reasonable and necessary expenses with respect to the System for major repairs, replacement or maintenance of items of a type not recurring annually;
- (2) To pay costs of reconstruction of parts of the System;
- (3) To pay costs of construction of parts of the System;
- (4) To pay any capital costs with respect to the System;
- (5) To make payments on Service Contracts; or
- (6) To make deposits to the Revenue Fund, the Operating Fund, the Bond Fund, the Parity Debt Service Fund or the Debt Service Reserve Fund.

At least biennially, the City agrees to review the adequacy of the amount of the Replacement Reserve Requirement under then current operating conditions, and in light of then applicable operating, replacement and maintenance costs of the major components of comparable systems. If at any time the City determines in its judgment that the amount of the Replacement Reserve Requirement should be increased or decreased, it will notify the Trustee of its determination setting forth the amount of the new Replacement Reserve Requirement. The new Replacement Reserve Requirement will take effect on the date of the receipt of the notice by the Trustee unless some other effective date is specified in the notice in which case the date specified in the notice will control. In no event will such requirement be reduced below \$1,000,000.

If the amount on deposit in the Repair and Replacement Reserve Fund exceeds the Replacement Reserve Requirement, the City may transfer the excess to the Rate Stabilization Fund or the General Reserve Fund.

Rate Stabilization Fund

The City may at its option make transfers from the Rate Stabilization Fund to the Revenue Fund and amounts so transferred will be deemed Revenues. Interest earnings or any profit from investing the Rate Stabilization Fund will be transferred at least monthly to the Revenue Fund.

The City may at any time reduce or increase the balance in the Rate Stabilization Fund to any amount, including zero upon certification of the Director of Finance setting forth the amount to be withdrawn or added. Upon satisfaction of the requirements set forth above, the amount of the reduction in the Rate Stabilization Fund will be transferred from the Rate Stabilization Fund to the Revenue Fund, unless otherwise specified in a Supplemental Indenture.

General Reserve Fund

Money on deposit in the General Reserve Fund may be used for any lawful purpose. The City has agreed to use money in the General Reserve Fund to cure deficits in the Operating Fund, the Bond Fund, the Parity Debt Service Fund and the Debt Service Reserve Fund. Money in the General Reserve Fund is not pledged to secure the Bonds or Parity Indebtedness.

Flow of Funds

The Indenture provides that the City will collect and deposit in the Revenue Fund as received all Revenues derived from the ownership or operation of the System, except as otherwise provided for in the Indenture for investment income on certain funds and accounts created by the Indenture. Not later than the fifth business day before the end of each month, the City will make transfers from the Revenue Fund in the following order of priority:

Operating Fund. An amount such that the balance on deposit in the Operating Fund will be equal to not less than one-sixth of the Operating Expenses to be paid from the Operating Fund in the then-current Fiscal Year as set forth in the annual budget for the System.

Bond Fund. The amount necessary to make the following deposits:

(a) *Interest Account.* An approximately equal amount each month such that (after taking into consideration with respect to each Series of Bonds the amount then on deposit in the Interest Account, any amount to be transferred from the Capitalized Interest Account to the Interest Account pursuant to the terms of any Supplemental Indenture and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Account), on the fifth business day immediately preceding the next interest payment date for each Series of Bonds, there will be on deposit in the Interest Account an amount equal to the interest on the Outstanding Bonds of each Series to become due on such Interest Payment Date.

(b) *Principal Account.* An approximately equal amount each month such that (after taking into consideration with respect to each Series of Bonds the amount then on deposit in the Principal Account and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Account), on the fifth business day immediately preceding the next principal payment date for each Series of Bonds, there will be on deposit in the Principal Account an amount equal to the principal and accreted value of the Outstanding Bonds of each Series maturing or required to be redeemed on such Principal Payment Date.

Parity Debt Service Fund. An amount with respect to any Parity Indebtedness such that (after taking into consideration the amount then on deposit in the Fund and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Fund) if the same amount is transferred to the Fund each month preceding the next ensuing Interest Payment Date or Principal Payment Date for the Parity Indebtedness, there will be on deposit in the Fund an amount equal to the payment due on the Parity Indebtedness on such payment date.

Debt Service Reserve Fund. If the amount in the Debt Service Reserve Fund or any account therein is less than its respective Debt Service Reserve Requirement, the amount of money remaining in the Revenue Fund necessary to restore the Debt Service Reserve Fund and the accounts therein to their respective Debt Service Reserve Requirements on a pro rata basis, or all of the money remaining if less than the amount necessary; provided that such restoration of the amount in the Debt Service Reserve Fund and any account therein must occur not later than twelve months following the determination of the deficiency.

Subordinate Debt Service Fund. Such amount with respect to any Subordinate Debt as may be determined by the City to be necessary to provide for the payment when due of the principal of and interest on the Subordinate Debt.

Repair and Replacement Reserve Fund. The amounts necessary to bring the balance in the Repair and Replacement Reserve Fund to the Replacement Reserve Requirement in not more than (i) thirty-six approximately equal monthly installments for the initial Requirement and (ii) sixty approximately equal monthly installments in the

case the Requirement is increased or moneys are withdrawn from the Fund. The "Replacement Reserve Requirement" was initially established and remains at \$1,000,000. The City will review periodically the adequacy of the amount of the Requirement and may increase or reduce (but not below the initial Requirement) such amount. Balances in the Repair and Replacement Reserve Fund may be used to pay for major repairs, additions and other capital improvements to the System and to make deposits to the Revenue Fund, Operating Fund, Bond Fund, Parity Debt Service Fund and Debt Service Reserve Fund.

Rate Stabilization Fund. The amounts necessary to bring the balance in the Rate Stabilization Fund to the Rate Stabilization Requirement in not more than twenty-four equal monthly installments. The City will review the adequacy of the amount of the Requirement and may adjust the Requirement at any time as it deems appropriate. Balances in the Rate Stabilization Fund may be transferred to the Operating Fund and will constitute Revenues. The City is not required to maintain any balance in the Rate Stabilization Fund.

General Reserve Fund. Any balance remaining in the Revenue Fund, after making the above deposits, will be deposited in the General Reserve Fund. Balances in the General Reserve Fund are not pledged to secure Bonds or Parity Indebtedness and may be used by the City for any lawful purpose. The City agrees to use amounts in the General Reserve Fund to cure any deficiency in the Operating Fund, the Bond Fund, the Parity Debt Service Fund and the Debt Service Reserve Fund. The City anticipates transferring from the General Reserve Fund to the City's general fund an amount equal to the sum of (i) debt service on general obligation bonds of the City issued to pay costs of the System, (ii) a payment in lieu of taxes and (iii) a return to the City for its investment in the System. These transfers to the City's general fund are not required by the Indenture.

In the event there are insufficient funds in the Revenue Fund to make the transfers required by the Bond Fund and the Parity Debt Service Fund, the City will allocate the available funds between the Bond Fund and the Parity Debt Service Fund in the proportion that the amount required to be deposited to each Fund bears to the total amount required to be deposited to both Funds.

Investments

Any money held in any funds and accounts established by the Indenture, except the Bond Fund and the Debt Service Reserve Fund, may be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized Representative of the City, in any of the following investments which are at the time legal investments for public funds under the Investment Act, or any subsequent provision of law applicable to such investments:

(1) Bonds, notes and other evidences of indebtedness to which the full faith and credit of the Commonwealth is pledged for the payment of principal and interest or which are unconditionally guaranteed as to the payment of principal and interest by the Commonwealth and which are rated on one of the two highest debt rating categories by at least one of the Rating Agencies;

(2) Government Obligations;

(3) Government Certificates;

(4) Bonds, notes and other evidences of indebtedness of any county, city, town, district, authority or other public body of the Commonwealth which are rated in one of the two highest long term debt rating categories by at least one of the Rating Agencies;

(5) Savings accounts, time deposits and certificates of deposit in any Bank, including the Trustee and its affiliates, or savings and loan association within the Commonwealth, provided that the funds are secured in the manner required by the Virginia Security for Public Deposits Act or any successor legislation and no deposit will be made for more than five years;

(6) Obligations of the Export Import Bank, the Farmers Home Administration, the General Services Administration, the United States Maritime Administration, the Small Business Administration, the Government

National Mortgage Association, the Department of Housing and Urban Development and the Federal Housing Administration, provided such obligations represent the full faith and credit of the United States;

(7) Bonds, notes or other evidences of indebtedness of the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Federal Home Loan Bank and the Federal Farm Credit Bank;

(8) Commercial paper issued by corporations, including banks and bank holding companies, organized under the laws of the United States or any State which is rated by Moody's Investors Service, Inc., or its successor, within its NCO/Moody's rating of prime 1 and by Standard & Poor's Ratings Services, or its successor, within its rating of A 1, and which matures not more than 270 days after the date of its purchase;

(9) Corporate notes with a rating of at least Aa by Moody's and AA by Standard & Poor's Ratings Services with a maturity of not more than five years;

(10) Banker's acceptance, as permitted by the Investment Act, with banks rated in one of the two highest debt rating categories by at least one of the Rating Agencies;

(11) Investments pursuant to the Government Non Arbitrage Act, Article 7.1, Chapter 14, Title 2.1 of the Virginia Code; and

(12) Such other investments as may be permitted by the Investment Act; provided they are rated within one of the two highest rating categories by at least one of the Rating Agencies.

Any money held by the Trustee in the Bond Fund will be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized City Representative, only in investments described in subsections (1), (2), (3), (4) and (5) above, which are at the time legal investments for public sinking funds under the Investment Act, or any subsequent provisions of law applicable to such investments.

Any money held by the Trustee in the Debt Service Reserve Fund will be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized City Representative, only in investments described in subsections (1), (2), (3), (4), (5), (6) and (7) above.

Any investments described above may be purchased by the Trustee or the City pursuant to an overnight term or open repurchase agreement in accordance with the provisions of the Indenture.

Investments in a money market fund or in the shares of any other management type investment company registered under the Investment Company Act of 1940, the investments of which fund or company are exclusively in obligations or securities described in paragraphs (1), (2), (3), (4), (6) or (7) above, will be considered investments in obligations described in such subsections, provided that the fund or company, which investments are comprised exclusively of the obligations described in subsections (1), (4) or (7), is rated in the highest debt rating category by at least one of the Rating Agencies.

Subject to the provisions of any Supplemental Indenture, all investments will be held by or under the control of the Trustee or the City, as the case may be, and while so held will be deemed a part of the fund or account in which the money was originally held. Except as otherwise specifically provided in the Master Indenture or any Supplemental Indenture, the interest received on and any profit realized from such investments will be transferred not less frequently than monthly to the City for deposit in the Revenue Fund. The Trustee and the City will sell and reduce to cash a sufficient amount of such investments whenever the cash balance in any fund or account is insufficient for its purpose.

Investments of money in the Debt Service Reserve Fund must mature or be payable at the option of the Trustee for purposes of the Debt Service Reserve Fund not more than 10 years after the date of their purchase.

Money in funds and accounts held by the City may be pooled and commingled for purposes of investment.

Investments are subject to change to the extent and in the manner permitted by subsequent modification or amendment to the Investment Act; provided, however, any rating limitations imposed by the Indenture on a particular type or category of investment will apply to any additional permitted investments of the same or similar type or category.

Particular Covenants

Compliance with Indenture; Payment of Bonds. In the Indenture, the City covenants to perform its obligations under the Indenture and related documents and to pay the Bonds, but only from the Net Revenues and other funds specifically pledged for such purpose.

Revenue Covenant. The City will establish, fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System, and will, from time to time and as often as appears necessary, revise such rates, fees and other charges, so that in each Fiscal Year Net Revenues are not less than the greater of (i) the sum of 1.1 times Senior Debt Service and 1.0 times Subordinated Debt Service for the Fiscal Year and (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund as set forth in the Master Indenture.

Billing; Enforcement of Charges; Free Service. The City will bill the users of the services of the System no less frequently than quarterly, except in the case of wholesale customers who will be billed as provided in the contract between the City and the wholesale customer. The City has agreed to take all appropriate steps to enforce collection of any overdue charges by any remedy available at law or in equity. The City will not permit connection with or the use of the System, or furnish any services of the System, without making a charge based on the City's schedule of rates, fees and charges, except for connections and service for fire protection purposes.

Sale or Encumbrance. The City may grant easements, licenses or permits across, over or under parts of the System for streets, roads and utilities as will not adversely affect the use of the System. The City may sell or otherwise dispose of any property constituting a part of the System which is either no longer needed or useful or is replaced from the proceeds of the disposition and any other necessary money with property serving the same or similar function. If the proceeds received from a sale or disposition not used to replace property exceeds \$100,000, the proceeds will at the option of the City be (1) applied to the payment or redemption of Bonds then Outstanding and Parity Indebtedness in a manner which in the opinion of Bond Counsel will not adversely affect the exclusion from gross income for purposes of federal income taxation of interest on any Bonds the interest on which was excludable on the date of their issuance or (2) deposited in the Repair and Replacement Reserve Fund and applied solely to pay the costs of capital improvements to the System. The City may transfer all or substantially all of the assets of the System to an authority or special purpose political subdivision; provided, the City's obligations under the Indenture are assumed in writing, the City receives an Opinion of Bond Counsel that the exempt status of the interest income on the Bonds will not be adversely affected and upon compliance with certain other conditions in the Indenture. The City may add to the System sewer systems, solid waste systems, storm water systems and other utilities on certain terms and conditions set forth in the Indenture similar to those regarding the transfer of System assets.

Creation of Liens. The City has agreed not to create or suffer to be created any lien or charge upon the System, except as provided in the Indenture.

Insurance. To the extent such insurance is available at reasonable costs, the City has agreed to continuously maintain and pay the premiums on insurance against such risks as are customarily insured against by other entities owning and operating similar systems.

Damage, Destruction, Condemnation and Loss of Title. If all or any part of the System is destroyed or damaged by fire or other casualty, condemned or lost by failure of title, the City will restore promptly the property damaged or destroyed to substantially the same condition as before the damage, destruction, condemnation or loss of title with such alterations and additions as the City may determine and which will not impair the capacity or character of the System for the purpose for which it then is being used or is intended to be used. The Trustee will apply as much as may be necessary of the Net Proceeds received on account of any the damage, destruction,

condemnation or loss of title to payment of the cost of such restoration, either on completion or as the work progresses. If the Net Proceeds are not sufficient to pay in full the cost of the restoration and other funds are not available for such purpose, the City will pay from the Repair and Replacement Reserve Fund or the General Reserve Fund so much of the cost as may be in excess of such Net Proceeds. Any balance of Net Proceeds remaining after payment of the cost of restoration will be deposited in the Repair and Replacement Reserve Fund.

Financial Records and Statements. The City will keep proper books of records and accounts, in which full and correct entries will be made in accordance with generally accepted accounting principles, of all of its business and affairs. The City will cause an audit of its records and accounts to be made by an independent certified public accountant at the end of each Fiscal Year.

Arbitrage and Tax Covenants. The City has covenanted that it will comply throughout the term of the 2012 Bonds with the requirements of Section 148 of the Code applicable to them, including the rebate and reporting requirements of Section 148(f), and that the City will not take or omit to take any action that would cause interest on any of the Bonds to be or to become includable in the gross income of the Owners for purposes of federal income taxation.

Events of Default

Each of the following events is an Event of Default under the Indenture:

- (1) Payment of any interest on any Bond or Parity Indebtedness is not made when due and payable;
- (2) Payment of the principal of or premium, if any, on any Bond or Parity Indebtedness is not made when due and payable;
- (3) Subject to certain rights of the City to cure such defaults as set forth in the Master Indenture, default in the observance or performance of any other covenant, condition or agreement on the part of the City under the Master Indenture, any Supplemental Indenture, in the Bonds or any document under which Parity Indebtedness has been issued; or
- (4) Appointment by a court of competent jurisdiction of a receiver for all or any substantial part of the Revenues and other funds of the City pledged pursuant to the Master Indenture, or the filing by the City of any petition for reorganization of the City or rearrangement or readjustment of the obligations of the City under provisions of any applicable bankruptcy or insolvency law.

Remedies; Rights of Bondholders

Upon the occurrence and continuation of an event of default under the Indenture, the Trustee may, and if requested by the Owners of not less than 25% in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding will, by notice to the City, declare the entire unpaid principal of, Accreted Value of and interest on the Bonds and Parity Indebtedness due and payable. Upon any such declaration the City will pay to the Owners the entire unpaid principal of and accrued interest on the Bonds and Parity Indebtedness, but only from the Net Revenues and the other funds specifically pledged in the Indenture for such purpose.

Upon the occurrence and continuation of an event of default under the Indenture the Trustee may pursue any available remedy, at law or in equity, to enforce the payment of the principal of, Accreted Value of, premium, if any, and interest on the Bonds and Parity Indebtedness, to enforce any covenant or condition under the Indenture or to remedy any event of default.

Upon the occurrence and continuation of an event of default under the Indenture, if requested to do so by the Owners of at least 25% in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding and if indemnified as provided in the Indenture, the Trustee will exercise such of the rights and powers conferred by the Indenture as the Trustee, upon being advised by counsel, deems most effective to enforce and protect the interests of the Owners.

Anything in the Indenture to the contrary notwithstanding the Owners of a majority in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding will have the right, upon providing satisfactory security and indemnity to the Trustee, by an instrument in writing executed and delivered to the Trustee, to direct the method and place of conducting all remedial proceedings to be taken by the Trustee under the Indenture.

No Owner of any Bonds or Parity Indebtedness will have any right to institute any suit action or proceeding in equity or at law for the enforcement of the Indenture or any remedy under the Indenture or the Bonds except as expressly provided in the Indenture.

Waiver of Events of Default

The Trustee will waive any event of default under the Indenture and its consequences and rescind any declaration of acceleration upon the written request of the Owners of a majority in aggregate principal amount of all Outstanding Bonds and Parity Indebtedness. If any event of default with respect to the Bonds and Parity Indebtedness has been waived as provided in the Master Indenture, the Trustee will promptly give written notice of the waiver to the City and by first class mail, postage prepaid, to all Owners of Outstanding Bonds and Parity Indebtedness if the Owners had previously been given notice of the event of default. No waiver, rescission and annulment will extend to or affect any subsequent event of default or impair any right, power or remedy available under the Master Indenture.

Discharge of Indebtedness

If (1) all Bonds and Parity Indebtedness secured by the Indenture have become due and payable or irrevocable instructions to redeem the Bonds and Parity Indebtedness or to pay them at maturity have been given by the City to the Trustee and (2) the Trustee holds cash or noncallable Government Obligations or Government Certificates the principal of, Accreted Value of, and the interest on which at maturity will be sufficient (i) to redeem in accordance with the relevant section of the Indenture all Bonds and Parity Indebtedness that have been called for redemption on the date set for such redemption, (ii) to pay at maturity all Bonds and Parity Indebtedness not irrevocably called for redemption, (iii) to pay interest accruing on all Bonds and Parity Indebtedness until their redemption or payment at maturity, and (iv) to pay to the Trustee its reasonable fees and expenses, including the costs and expenses of cancelling and discharging the Indenture, the Trustee will cancel and discharge the Indenture, and assign and deliver to the City any property at the time subject to the Indenture that may then be in its possession, except funds or securities in which such funds are invested which are held by the Trustee for the payment of principal of, Accreted Value of, or premium, if any, or interest on the Bonds and Parity Indebtedness.

Bonds and Parity Indebtedness will be deemed paid and no longer Outstanding for the purposes of the Indenture when there has been deposited with the Trustee cash or noncallable Government Obligations or Government Certificates the principal of, Accreted Value of, and interest on which will be sufficient to pay or redeem such Bonds and Parity Indebtedness and to pay interest on them to their payment or redemption date (whether on or before the date of their maturity or their redemption date), however, that if such Bonds and Parity Indebtedness are to be redeemed before their maturity, notice of the redemption must have been duly given or irrevocable instructions to redeem such Bonds and Parity Indebtedness must have been given to the Trustee.

Modification or Amendment of the Indenture

The City and the Trustee may, without consent of, or notice to, any of the Owners, enter into an agreement or agreements supplemental to the Indenture for any one or more of the following purposes:

(1) To add to the covenants and agreements of the City contained in the Master Indenture and any Supplemental Indentures other covenants and agreements, and to surrender any right or power in the Master Indenture and any Supplemental Indentures reserved to or conferred upon the City;

(2) To cure any ambiguity, to supply any omission or to cure, correct or supplement any defect or inconsistent provisions contained in the Master Indenture or any Supplemental Indenture;

- (3) To grant to the Trustee for the benefit of the Owners additional rights, remedies, powers or authority;
- (4) To subject to the Master Indenture and the Supplemental Indentures additional collateral;
- (5) To modify the Master Indenture, any Supplemental Indenture, or the Bonds or Parity Indebtedness to permit qualification under the Trust Indenture Act of 1939 or any similar federal statute at the time in effect, or to permit the qualification of the Bonds for sale under the securities laws of any state of the United States;
- (6) To provide for uncertificated Bonds or Parity Indebtedness;
- (7) To evidence the succession of a new Trustee or Paying Agent or the appointment by the Trustee or the City of a Co Trustee or a Co Paying Agent and to specify the rights and obligations of such Co Trustee or Co Paying Agent;
- (8) To make any change (including but not limited to a change to reflect any amendment to the Code or interpretations of it by the United States Department of the Treasury or the Internal Revenue Service) that in the opinion of the Trustee does not materially adversely affect the rights of any Owner of any Bonds or Parity Indebtedness;
- (9) To make any modifications or changes necessary or appropriate to issue an additional Series of Bonds or any Parity Indebtedness; or
- (10) To make any modifications or changes necessary or appropriate to permit Bonds of any Series or Parity Indebtedness to be secured by a credit or liquidity facility or to accommodate the issuance of Bonds or Parity Indebtedness bearing variable interest rates, including the addition of provisions for the appointment of tender agents and similar parties and the specification of the duties and powers of such parties that in the opinion of the Trustee does not materially adversely affect the rights of any Owner of any Bonds or Parity Indebtedness.

Any other modification or alteration of the Master Indenture and any Supplemental Indenture or the rights and obligations of the City or of the Owners of the Bonds or Parity Indebtedness may be made by the City and the Trustee with the consent of (1) the Owners of a majority in aggregate principal amount of the Bonds and Parity Indebtedness then Outstanding; or (2) in case less than all of the Bonds and Parity Indebtedness then Outstanding are affected by the modifications or amendments, the Owners of a majority in aggregate principal amount of the Bonds and Parity Indebtedness so affected then Outstanding. However, without the consent of each Owner affected, no modification or alteration may (i) extend the maturity of the principal of, or interest on, any Bond or Parity Indebtedness, (ii) reduce the principal amount of, or rate of interest on, any Bond or Parity Indebtedness, (iii) effect a privilege or priority of any Bond or Bonds over any other Bond or Bonds, (iv) reduce the percentage of the principal amount of the Bonds or Parity Indebtedness required for consent to such modification or alteration, (v) if applicable, impair the exclusion of interest on any Bonds or Parity Indebtedness from gross income for purposes of federal income taxation, (vi) eliminate or extend the mandatory redemption date of any Bonds or Parity Indebtedness or reduce the redemption price of Bonds or Parity Indebtedness, (vii) create a lien ranking prior to or on a parity with the lien of the Master Indenture or (viii) deprive any Owner of the lien created by the Master Indenture on such property.

**WATER UTILITY FUND FINANCIAL STATEMENTS
FOR THE YEAR ENDED JUNE 30, 2014**

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Water Utility Fund

An Enterprise Fund of the City of Norfolk, Virginia

Financial and Compliance Report **Fiscal Year Ended June 30, 2014**

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Financial and Compliance Report

Fiscal Year Ended June 30, 2014

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KPMG LLP
Suite 1900
440 Monticello Avenue
Norfolk, VA 23510

Independent Auditors' Report

The Honorable Members of the City Council
City of Norfolk, Virginia:

Report on the Financial Statements

We have audited the accompanying statement of net position of the Water Utility Fund of the City of Norfolk, Virginia (the Fund), as of and for the year ended June 30, 2014, and the related statements of revenues, expenses, and changes in net position and cash flows for the year then ended, which collectively comprise the Fund's basic financial statements as listed in the accompanying 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 audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, and the *Specifications for Audits of Counties, Cities and Towns* (Specifications), issued by the Auditor of Public Accounts of the Commonwealth of Virginia. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Water Utility Fund of the City of Norfolk, Virginia, as of June 30, 2014, and the



respective changes in financial position, and cash flows for the year 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 accompanying financial statements present only the Water Utility Fund and do not purport to, and do not present fairly the financial position of the City of Norfolk, Virginia, the changes in its financial position or its cash flows, where applicable, in conformity with the 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 fiscal year 2014, the Fund adopted new accounting guidance described in Governmental Accounting Standards Board Statement No. 65, *Items Previously Reported as Assets and Liabilities*. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that management's discussion and analysis on pages 4 through 7, the Supplemental Other Post-Employment Benefits (OPEB) Information – Schedule of Funding Progress on page 24 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 financial statements that collectively comprise the Fund's basic financial statements. The Supplemental Debt Capacity Information is presented for purposes of additional analysis and is not a required part of the basic financial statements.

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

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated January __, 2015 on our consideration of the Fund'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 Fund's internal control over financial reporting and compliance.

KPMG LLP

Norfolk, Virginia
January 29, 2015`

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Management's Discussion and Analysis (Unaudited)
For the Fiscal Year Ended June 30, 2014

The following discussion and analysis of the Water Utility Fund of the City of Norfolk, Virginia's (the "Fund") financial performance provides an overview of the Fund's financial activities for the fiscal year ended June 30, 2014.

Financial Highlights for the Fiscal year 2014

The Fund's financial statements are reported on the full accrual basis as required by U.S. Generally Accepted Accounting Principles (GAAP) as prescribed by the Governmental Accounting Standards Board (GASB).

- For the fiscal year ended June 30, 2014, the Fund has reported net operating revenues of \$81,968,928, which represents an increase of 2.8% from fiscal year 2013 operating revenues.
- The Fund's operating expenses for fiscal year 2014 were \$50,221,173, an increase of \$587,293 over fiscal year 2013 operating expenses of \$49,633,880.
- Total net position of \$235,353,203, which is defined as total assets and deferred outflows of resources less total liabilities and deferred inflows, includes net investment in capital assets of \$143,231,180; restricted net position of \$25,478,070 required by the Water Revenue Bonds Master Indenture of Trust as reserve funds for operating, repair and replacement, rate stabilization, and debt service; and \$66,643,953 unrestricted net position as of June 30, 2014.
- At the close of the fiscal year, the Fund's total cash and investments were \$110,170,521.
- For fiscal year 2014, the Fund had total outstanding bonds payable of \$361,994,278. There were no new bonds issued for the Fund in the fiscal year ended June 30, 2014. Total amount of bonds retired was \$7,801,047.
- For the fiscal year ended June 30, 2014, the Fund implemented GASB 65 *Items Previously Reported as Assets and Liabilities*, which required debt issuance cost to be treated as a period cost and expensed in the year incurred. The Fund had a restatement of the beginning net position of \$2,995,952 related to prior years' bonds issuance costs. The fiscal year 2013 comparative statements have not been restated for purposes of this management disclosure and analysis. As a result of this adoption, the Fund also reclassified a loss on debt refunding as a deferred outflow of resources of \$2,121,773 at July 1, 2013.

Basic Financial Statements

The statement of net position presents information on all Fund assets, deferred outflow of resources, and liabilities, with the difference reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Fund is improving or deteriorating.

The statement of revenues, expenses and changes in net position presents information showing how net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are reported in this statement for those items that will result in cash flows in future fiscal periods.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Management's Discussion and Analysis (Unaudited)
For the Fiscal Year Ended June 30, 2014

The statement of cash flows, when taken together with the statement of net position and statement of revenues, expenses, and changes in net position, provides the reader a complete "snapshot" of the financial condition and results of operations of the Fund as of June 30, 2014 and for the year then ended.

Notes to the financial statements are an integral part of the statements and should be read in conjunction with the financial statements and Management's Discussion and Analysis.

Financial Analysis

The following financial analysis provides insight into the factors that had a significant impact on the variance between fiscal years 2014 and 2013.

The following table provides a summary of the Fund's net position as of June 30, 2014 and 2013:

	2014	2013
Current assets	\$ 127,104,365	\$ 127,592,125
Capital assets	487,577,220	480,998,910
Deferred outflows of resources	2,010,101	-
Total assets and deferred outflows of resources	<u>\$ 616,691,686</u>	<u>\$ 608,591,035</u>
Current liabilities	\$ 25,466,567	\$ 19,286,623
Long-term liabilities	355,871,916	365,517,583
Total liabilities	<u>\$ 381,338,483</u>	<u>\$ 384,804,206</u>
Net position:		
Net investment in capital assets	\$ 143,231,180	\$ 161,534,514
Restricted	25,478,070	11,000,000
Unrestricted	66,643,953	51,252,315
Total net position	<u>\$ 235,353,203</u>	<u>\$ 223,786,829</u>

Overall, total net position increased by approximately \$11.6 million. The increase in position was a result of the positive change in net position in the fiscal year ended June 30, 2014 of approximately \$14.6 million and restatement of the beginning fund balance of approximately \$3.0 million for implementation of GASB 65.

The table below provides a summary of the Fund's revenues, expenses and changes in net position for the years ended June 30, 2014 and 2013.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Management's Discussion and Analysis (Unaudited)
For the Fiscal Year Ended June 30, 2014

	2014	2013
Operating revenues, net	\$ 81,968,928	\$ 79,720,738
Operating expenses	50,221,173	49,633,880
Operating income	<u>\$ 31,747,755</u>	<u>\$ 30,086,858</u>
Non-operating revenues	\$ 109,074	\$ 1,418,329
Non-operating expenses	(19,954,919)	(11,045,446)
Total non-operating expenses	<u>(19,845,845)</u>	<u>(9,627,117)</u>
Net income before contributions	11,901,910	20,459,741
Capital contributions	2,660,416	191,592
Change in net position	<u>\$ 14,562,326</u>	<u>\$ 20,651,333</u>
Net position - beginning, as previously reported	223,786,829	211,635,496
Effect of implementation of GASB 65	(2,995,952)	-
Net position - beginning, as restated	<u>220,790,877</u>	<u>211,635,496</u>
Total net position - end	<u><u>\$ 235,353,203</u></u>	<u><u>\$ 232,286,829</u></u>

The 2014 net operating revenues increase is a result of the planned annual water rates increase and are in line with the approved budgeted amount for the fiscal year ended June 30, 2014. The decrease in non-operating revenues of approximately \$1.3 million in 2014 is due to the one-time receipt of a grant in 2013 with the proceeds used towards the construction of capital assets of the Fund. The increase in capital contributions of approximately \$2.5 million in 2014 is due to the construction costs charged back to a wholesale raw water customer.

Capital Assets

A summary of the Fund's net capital assets at June 30, 2014 and 2013 is as follows:

	2014	2013
Land	\$ 11,771,211	\$ 11,771,211
Land improvements	16,269,870	16,626,522
Buildings	142,543,312	145,692,608
Equipment	281,315,688	282,296,074
Intangible assets	4,203,293	4,466,913
Construction in progress	31,473,846	20,145,582
	<u><u>\$ 487,577,220</u></u>	<u><u>\$ 480,998,910</u></u>

The Fund's capital assets totaled \$487.6 million (net of accumulated depreciation) and accounted for 79.3% of total assets at June 30, 2014. Total increase in the Fund's net capital assets for fiscal year 2014 was \$6.6 million which is due to an increase in the number of projects remained in the construction phase at year end. During fiscal year 2014, major capital projects spending included replacing and rehabilitating water mains, upgrading water treatment plants and pump stations, and designing and constructing dams and spillways.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Management's Discussion and Analysis (Unaudited)
For the Fiscal Year Ended June 30, 2014

Additional information on the Fund's capital assets can be found in Note 5 of the financial statements.

Debt Administration

For fiscal year 2014, the Fund had outstanding bonds payable of \$362.0 million. The outstanding bonds payable consisted primarily of revenue bonds. The City of Norfolk (the "City") manages debt in accordance with the City's debt policies. Water revenue bond proceeds are used to finance capital projects that improve the City's water system. Water system revenue secures outstanding bonds. A summary of the Fund's outstanding bonds as of June 30, 2014 and 2013 is as follows:

	2014	2013
Revenue bonds	\$ 361,446,492	\$ 366,795,343
General obligation bonds	547,786	1,089,226
Total	<u>\$ 361,994,278</u>	<u>\$ 367,884,569</u>

The table below is the latest credit rating for the Fund's water revenue bond programs as of the date of this report.

Bonding Program	Fitch Ratings	Standard and Poor's	Moody's Investors Service
Water Revenue	AA+	AA+	Aa2

Future Outlook

The Fund continues to support the City of Norfolk's long-term objective of being a well-managed government and strives to enhance quality of life by providing excellent and sustainable water services at the best value to the City's customers. The Fund aims its attention on ensuring a sufficient supply of safe drinking water is available to the City's customers and promotes opportunities for the City's businesses growth.

Contacting the Fund's Financial Management

This financial report is designed to provide our citizens, clients, and taxpayers with a general overview of the Fund's finances and to demonstrate the Fund's accountability for the money it receives. Questions concerning this report or requests for additional financial information should be forwarded to the Director of Utilities Department, City of Norfolk.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Statement of Net Position
June 30, 2014

	<u>2014</u>
Assets	
Current assets:	
Cash and short term investments (Note 2)	\$ 57,194,861
Unrestricted short term investments (Note 2)	11,848,217
Receivables:	
Accounts (net) (Note 3 and 8)	8,915,238
Unbilled accounts (Note 4 and 8)	4,883,796
Accrued investment income	24,433
Other receivables	71,582
Inventories	3,038,795
Restricted cash held in escrow (Note 2)	107,696
Restricted short term investments (Note 2):	
Restricted investment held with fiscal agent	7,796,378
Reserve funds	17,585,232
Investments restricted for construction	15,638,137
Total current assets	<u>127,104,365</u>
Capital assets (Note 5):	
Non-depreciable assets	45,680,822
Depreciable assets	644,639,164
Accumulated depreciation and amortization	<u>(202,742,766)</u>
Total noncurrent assets	<u>487,577,220</u>
Total assets	<u>614,681,585</u>
Deferred outflows of resources	<u>2,010,101</u>
Loss on revenue bonds refunding	
Total assets and deferred outflows of resources	<u>616,691,686</u>
Liabilities	
Current liabilities:	
Vouchers payable	1,223,926
Vouchers payable for CIP projects	3,875,145
Contract retainage	777,296
Accrued interest	13,695
Accrued payroll	312,152
Due to General Fund and other City funds	1,740,789
Payable to employees' retirement system	2,268,623
Compensated absences	631,185
Current portion of bonds payable (Note 6)	8,352,786
Accrued revenue bonds interest payable	2,591,186
Other liabilities (Note 13)	3,679,784
Total current liabilities	<u>25,466,567</u>

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Statement of Net Position (Continued)

June 30, 2014

	<u>2014</u>
Noncurrent liabilities:	
General obligation bonds payable (Note 6)	-
Revenue bonds payable (Note 6)	353,641,492
Liability for other post employment benefits (OPEB) (Note 12)	1,807,691
Compensated absences	422,733
Total noncurrent liabilities	<u>355,871,916</u>
Total liabilities	<u>381,338,483</u>
 Net Position	
Net investment in capital assets	143,231,180
Restricted	25,478,070
Unrestricted	66,643,953
Total net position	<u><u>\$ 235,353,203</u></u>

See Notes to Financial Statements

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Statement of Revenues, Expenses and Changes in Net Position
For Fiscal Year Ended June 30, 2014

	2014
Operating Revenues:	
Charges for services, net	\$ 79,096,905
Miscellaneous	2,872,023
Total operating revenues	<u>81,968,928</u>
Operating Expenses:	
Personnel services	14,844,295
Plant operations	6,650,541
Chemicals	3,173,508
Depreciation and amortization	12,917,853
Retirement contribution (Note 7)	2,268,623
OPEB expense (Note 12)	172,356
Administrative expenses	1,376,142
Other	8,817,855
Total operating expenses	<u>50,221,173</u>
Operating income	<u>31,747,755</u>
Nonoperating Revenue (Expenses):	
Interest income, net of interest capitalized	109,074
Interest expense and fiscal charges	(11,328,582)
Loss on sale or disposal of assets	(67,120)
Other nonoperating revenue	(59,217)
Payments to General Fund	(8,500,000)
Total nonoperating expenses, net	<u>(19,845,845)</u>
Net income before contributions	<u>11,901,910</u>
Capital contributions	<u>2,660,416</u>
Change in Net Position	<u>14,562,326</u>
Net Position:	
Total net position - beginning, as previously reported	223,786,829
Adoption of GASB 65 (Note 1)	(2,995,952)
Total net position - beginning, as restated	<u>220,790,877</u>
Total net position - end	<u>\$ 235,353,203</u>

See Notes to Financial Statements

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Statement of Cash Flows
For Fiscal Year Ended June 30, 2014

	2014
Cash Flows From Operating Activities:	
Receipts from customers	\$ 82,304,104
Payments to suppliers	(11,080,794)
Payments to employees	(17,285,305)
Other payments	(10,075,731)
Net cash provided by operating activities	<u>43,862,274</u>
Cash Flows From Noncapital Financing Activities:	
Internal activity, payments from other funds	429,637
Payments to General Fund	(8,500,000)
Net cash used in noncapital financing activities	<u>(8,070,363)</u>
Cash Flows From Capital and Relating Financing Activities:	
Capital contributions	2,660,416
Purchases of capital assets	(18,005,912)
Principal paid on capital debt	(7,801,047)
Interest paid and bond service charges	(14,461,710)
Net cash used in capital and related financing activities	<u>(37,608,253)</u>
Cash Flows From Investing Activities:	
Proceeds from sale of investments	48,819,413
Purchase of investments	(42,122,089)
Interest and dividends	109,074
Net cash provided by investing activities	<u>6,806,398</u>
Net increase in cash and cash equivalents	4,990,056
Cash and short-term investments - beginning of year	<u>52,204,805</u>
Cash and short-term investments - end of year	<u><u>\$ 57,194,861</u></u>

(Continued)

An Enterprise Fund of the City of Norfolk, Virginia

Statement of Cash Flows (Continued)

For Fiscal Year Ended June 30, 2014

	<u>2014</u>
Reconciliation of Operating Income to Net Cash	
Provided by Operating Activities:	
Operating income	\$ 31,747,755
Adjustments to reconcile operating income to net cash provided by operating activities:	
Depreciation and amortization expense	12,917,853
Accounts receivable (net), billed and unbilled	335,176
Inventories	(1,613,901)
Vouchers payable	357,156
Accrued payroll	(172,387)
Other liabilities	290,622
Net cash provided by operating activities	<u>\$ 43,862,274</u>
 Noncash investing, capital and financing activities:	
Unrealized loss on investments	<u>\$ (59,217)</u>
Loss on sale or disposal of capital assets	<u>\$ (67,120)</u>
Acquisition of capital assets through change in contract retainage	<u>\$ 154,045</u>
Acquisition of capital assets through change in vouchers payable	<u>\$ 1,403,326</u>
Capitalized interest, net	<u>\$ 1,083,073</u>

See Notes to Financial Statements

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

Note 1. Summary of Significant Accounting Policies

The Water Utility Fund (the "Fund") was established at the direction of Norfolk City Council as an enterprise fund on July 1, 1979. The Fund accounts for the provision of water services to City of Norfolk (the "City") residents, municipal customers and others outside the City. Activities necessary to provide water services, including operations, maintenance, financing and related debt service, and billing and collection, are accounted for in the Fund. Although separate financial statements have been presented for the Fund, it is also included in the City of Norfolk's Comprehensive Annual Financial Report as a major Enterprise Fund. These financial statements are those of the Fund and not of the City of Norfolk, Virginia as a whole.

A summary of the Fund's significant accounting policies is as follows:

Basis of accounting: The accounting policies of the Fund are based upon accounting principles generally accepted in the United States of America as prescribed by the Governmental Accounting Standards Boards (GASB). The financial statements are presented on the accrual-basis of accounting, wherein revenues are recognized in the accounting period in which it is earned and expenses are recognized in the accounting period in which the related liabilities are incurred.

New Accounting Standards Adopted: In March 2012, GASB issued Statement No. 65, *Items Previously Reported as Assets and Liabilities*. This Statement establishes accounting and financial reporting standards that reclassify, as deferred outflows of resources or deferred inflows of resources, certain items that were previously reported as assets and liabilities. The Fund has adopted this Statement retrospectively in fiscal year 2014. In connection with the adoption of GASB Statement No. 65, the Fund's deferred loss on the refunding of debt has been reclassified from long-term liabilities to deferred outflows of resources on the statement of net position. In addition, bond issuance costs are expensed and no longer amortized annually. The effect of adoption of GASB 65 is the reduction of beginning net position by \$2,995,952.

Net Position:	2014
Total net position - beginning, as previously reported	\$ 223,786,829
Adoption of GASB 65	(2,995,952)
Total net position - beginning, as restated	<u>\$ 220,790,877</u>

The new standard requires the disclosure of gain and loss on defeasance as deferred inflows and outflows. The reclassified amount for the Fund is \$2,121,773 at July 1, 2013.

Deposits and Investments: The Fund's cash and short-term investments include cash on hand, demand deposits, and short-term investments with original maturities of one year or less from the date of acquisition.

Investments of the Fund are stated at fair value. Short-term investments are recorded at cost, which approximates fair value. The fair value of the State Treasurer's Local Government Investment Pool (LGIP) is estimated at the value of the pool shares. The LGIP is not registered with the Securities and Exchange Commission (SEC) as an investment company, but maintains a policy to operate in a manner consistent with the SEC's Rule 2a7 of the Investment Company Act of 1940. The external investment pool is administered by the Treasury Board of Virginia. Other investments are stated at their fair value. Securities traded on a national securities exchange are valued at the last reported sales price on the last business day of the fiscal year. Investments that do not have an established market are reported at estimated fair value, primarily net asset value determined based on the fair value of the underlying securities. These investments are reported in the accompanying financial statements as cash and short-term investments, unless the original maturity exceeded one year, in which case they are reported as investments.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

The City uses the pooled cash investment method, as a result income from the investment of pooled cash is allocated to the various funds based on the percentage of cash and temporary investments of each fund to the total pooled cash and temporary investments. For purposes of the statement of cash flows, all highly liquid debt instruments and certificates of deposit are grouped into cash and short-term investments. The cash and investment pool discussed above is considered cash, since it has the same characteristics as a demand account.

Accounts receivable: Accounts receivable are receivables due at the end of the fiscal year which have not been collected by year-end, net of allowance for doubtful accounts. The Fund determines past due status of individual water account receivables based on contractual terms and generally does not charge interest on past-due amounts. The Fund estimates its allowance for doubtful accounts based on a combination of factors, including the Fund's historical loss experience and any anticipated effects related to current economic conditions, as well as management's knowledge of the current composition of water receivables. Accounts that management believes to be ultimately not collectible are written off upon such determination. Unbilled accounts, net, are estimated at each fiscal year-end based on water usage by customers for whom billings have not yet been processed.

Inventories: Inventories are stated at the lower of cost (using the moving average method) or market.

Restricted assets: Certain unspent proceeds of the revenue bonds as well as certain resources set aside for their repayment are classified as restricted net position on the Statement of Net Position because they are maintained in separate bank accounts and their use is limited by applicable bond covenants.

Capital assets: Capital assets are recorded at cost, less accumulated depreciation. Assets acquired prior to July 1977, for which historical cost records were not available, were appraised and valued at estimated historical cost by means of accepted price indexing methodology.

Depreciation: Depreciation is computed using the straight-line method over the following estimated useful lives:

	<u>Years</u>
Buildings and improvements	35 - 100
Transmission and distribution mains	40 - 100
Service meters and meter installation	35 - 50
Pumping and other water equipment	10 - 60
Furniture, fixtures and equipment	5 - 25
Intangible Assets	5 - 10

When an asset is retired or otherwise disposed of, the related cost and accumulated depreciation are eliminated from the accounts and any resulting gain or loss is reflected as nonoperating revenue or expense.

Interest costs incurred on funds borrowed for construction projects are capitalized, net of interest earned on the temporary investment of the unexpended portion of those funds.

The Fund evaluates prominent events or changes in circumstances affecting capital assets to determine whether impairment of a capital asset has occurred. A capital asset is generally considered impaired if both (a) the decline in service utility of the capital asset is large in magnitude and (b) the event or change in circumstance is outside the normal life cycle of the capital asset. Impaired capital assets that will no longer be used by the Fund are reported at the lower of carrying value or fair value. Impairment losses on capital assets that will continue to be used by the Fund are measured using the method that

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

best reflects the diminished service utility of the capital asset. Any insurance recoveries received as a result of impairment events or changes in circumstances resulting in the impairment of a capital asset are netted against the impairment loss.

Compensated absences: It is the Fund's policy to permit employees to accumulate earned but unused vacation and sick pay benefits. Vacation leave is fully vested when earned by Fund employees. Sick leave does not vest for Fund employees; however, upon retirement, Fund employees receive credit for each day of accumulated sick leave toward their pension benefit. There is no liability for unpaid accrued sick leave service since the Fund does not pay when the employee separates from service.

Net position: Net position in the financial statements are classified as net investment in capital assets, restricted; and unrestricted. Restricted net position represents constraints on resources that are either externally imposed by creditors, grants, contributions, laws and regulations of other governments or imposed by law through state statute.

Operating and nonoperating revenues: The Fund reports as operating revenues all charges for services generated through service fees and certain other miscellaneous revenues. Other revenues, including interest revenue and grants, are reported as nonoperating. When both restricted and unrestricted resources are available for use, the policy is to use restricted resources first and then unrestricted resources as they are needed.

General allocations: The General Fund of the City provides administrative services to the Fund, which totaled \$1,993,002 for the fiscal year ended June 30, 2014. Charges for these services are treated as expenses by the Fund. In addition the Fund recorded, as other expenses, payments to the General Fund in lieu of taxes of \$2,836,443 for the fiscal year ended June 30, 2014.

Bond premium, discounts and issuance costs: Bond premiums and discounts are deferred and amortized over the life of the bonds using the effective interest method. Bonds payable are reported net of the applicable bond premium or discount. Bond issuance costs are expensed in the period incurred.

Loss on bond refunding: In accordance with GASB 65, loss on bond refunding is reported as deferred outflows of resources in the fund's financial statements and is amortized using straight line method over the term of the debt.

Estimates: The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Note 2. Cash and Investments

At June 30, 2014, the Fund's cash and investments consist of the following:

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

	2014
Investment in LGIP	\$ 11,011,236
Other investments	61,862,144
Cash	37,297,141
	<u>\$ 110,170,521</u>
Cash and short term investments	\$ 57,194,861
Restricted cash held in escrow	107,696
Restricted short term investments held with fiscal agent	7,796,378
Unrestricted short term investments	11,848,217
Reserve funds	17,585,232
Investment restricted for construction	15,638,137
	<u>\$ 110,170,521</u>

Deposits: All cash of the Fund is maintained in accounts collateralized in accordance with the Virginia Security for Public Deposits Act, Section 2.2-4400 et. seq. of the Code of Virginia or covered by federal depository insurance. Under the Act, any public depository that receives or holds public deposits ("Qualified Public Depositories") shall elect to secure deposits by either the Pooled Method or the Dedicated Method (which became available by amendments made to the Act effective July 1, 2010). The Pooled Method requires any public depository that receives or holds public deposits to pledge collateral, ranging from 50 to 100 percent of the public deposits, to the State Treasury Board to cover public deposits in excess of Federal deposit insurance. The Pooled Method also provides that if any member financial institution fails, the entire collateral pool becomes available to satisfy the claims of participating governmental entities. If the value of the pool's collateral were inadequate to cover a loss, additional amounts would be assessed on a pro rata basis to members of the pool. Under the Dedicated Method, Qualified Public Depositories are responsible for securing their own public deposits, by the pledge and deposit of eligible collateral with qualified escrow agent, equal to or in excess of required collateral amounts, priced at a minimum of 105% to 130% of all public deposits held by the bank, based on rating determined under the Act; and therefore will not be assessed for losses of another bank that is in default or has become insolvent. The State Treasury Board is responsible for monitoring compliance with the collateralization and reporting requirements of the Act and for notifying local governments of compliance by banks. Both methods of securing public deposits are similar to depository insurance. Funds deposited in accordance with the Act are considered to be fully insured. The City's primary banking institutions have elected to be governed by the Dedicated Method.

Investments: Statutes authorize the Fund to invest in obligations of the United States or agencies thereof, obligations of the Commonwealth of Virginia or political subdivisions thereof, obligations of the International Bank for Reconstruction and Development ("World Bank") and Asian Development Bank, the African Development Bank, commercial paper rated A-1 by Standard and Poor's or P-1 by Moody's Commercial Paper Record, banker's acceptances, repurchase agreements, and the State Treasurer's Local Government Investment Pool ("LGIP"), certain mutual funds, corporate notes, asset-backed securities, and savings accounts or time deposits.

The Fund has no formal policy regarding credit risk, interest rate risk, concentration of credit risk, custodial credit risk, or foreign investment risk.

Certain cash and short-term investments of the Fund are combined with other City funds for investment purposes. These amounts are treated as cash because they have the same characteristics as a demand deposit account and are reflected as cash and short term investments in the accompanying statement of net position. These amounts were covered by federal depository insurance or collateralized in accordance with the Virginia Security for Public Deposits Act.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

At June 30, 2014, the Fund had \$11,011,236 deposited in the LGIP which carries a Standard and Poor's rating of AAAm and is included in cash and short-term investments and reserve funds.

The Fund's investments for the year ended June 30, 2014, other than in LGIP, are categorized below to give an indication of the level of interest rate risk for each investment type by the entity at year-end.

Investment Type	Fair Value Less than 1 year
SNAP Money Market Mutual Funds	\$ 27,486,354
US Agency Notes	6,573,996
PFM Funds Government Series	7,796,378
SunTrust Bank Money market funds	20,005,416
	<u>\$ 61,862,144</u>

The Fund's rated debt investments, other than in LGIP, as of June 30, 2014 were rated by Standard and Poor's and the ratings are presented below using the Standard and Poor's rating scale.

Investment Type	AA+	AAAm	Total
Money Market Mutual Funds:			
SNAP Money Market Mutual Funds	\$ -	\$ 27,486,354	\$ 27,486,354
PFM Funds Government Series	-	7,796,378	7,796,378
US Agency Notes	6,573,996	-	6,573,996
	<u>\$6,573,996</u>	<u>\$ 35,282,732</u>	<u>\$ 41,856,728</u>

Note 3. Accounts Receivable

Accounts receivable at June 30, 2014 was comprised of the following:

	2014
Governmental	\$ 2,205,633
Residential	2,853,698
Refuse disposal fees	3,189,397
Commercial	1,144,943
Utility taxes	714,728
Industrial	418,815
Other	1,115,758
	<u>11,642,972</u>
Less allowance for uncollectible accounts	<u>(2,727,734)</u>
	<u>\$ 8,915,238</u>

Utility taxes and refuse disposal fees receivable are remitted to the City's General Fund when collected.

The Fund recorded \$75,495 of provision for bad debts which was offset against the operating revenue for the fiscal year ended June 30, 2014.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

Note 4. Unbilled Accounts Receivable

At June 30, 2014, the Fund recognized \$4,883,796 as unbilled accounts receivable. These amounts were billed in July 2014.

Note 5. Capital Assets

Capital assets at June 30, 2014 were comprised of the following:

	Balance June 30, 2013	Additions	Retirements / Transfers	Balance June 30, 2014
Nondepreciable assets:				
Land	\$ 11,771,211	\$ -	\$ -	\$ 11,771,211
Intangible assets	2,398,465	37,300	-	2,435,765
Construction in progress	20,145,582	18,292,913	(6,964,649)	31,473,846
Total nondepreciable assets	34,315,258	18,330,213	(6,964,649)	45,680,822
Depreciable & amortized assets:				
Land improvements	20,738,946	48,499	-	20,787,445
Buildings	193,590,596	51,497	-	193,642,093
Equipment	416,604,155	7,850,275	(734,031)	423,720,399
Intangible assets	6,165,207	324,020	-	6,489,227
Total depreciable & amortized assets	637,098,904	8,274,291	(734,031)	644,639,164
Less accumulated depreciation for				
Land improvements	(4,112,424)	(405,151)	-	(4,517,575)
Buildings	(47,897,988)	(3,200,793)	-	(51,098,781)
Equipment	(134,308,081)	(8,686,969)	590,339	(142,404,711)
Intangible assets	(4,096,759)	(624,940)	-	(4,721,699)
Total accumulated depreciation	(190,415,252)	(12,917,853)	590,339	(202,742,766)
Depreciable assets, net	446,683,652	(4,643,562)	(143,692)	441,896,398
Total capital assets, net	\$ 480,998,910	\$ 13,686,651	\$ (7,108,341)	\$ 487,577,220

The Fund capitalized \$1,209,674 of interest expense and \$126,601 of interest income for the fiscal year ended June 30, 2014. The total interest cost was \$12,538,256 for the fiscal year ended June 30, 2014.

Note 6. Long-Term Obligations

General obligation bonds: A summary of general obligation bond transactions for the fiscal year ended June 30, 2014 follows:

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

	2014
General obligation bonds outstanding at July 1	\$ 1,098,833
Bonds retired/refunded	(551,047)
Bonds outstanding at June 30	547,786
Unamortized discount/premium, net	-
General obligation bonds outstanding at June 30, adjusted for unamortized discount/premium	547,786
Less current portion bond payable	(547,786)
	<u>\$ -</u>

Water utility general obligation bonds outstanding are comprised of the following individual issues:

Bond Issue/Purpose	Dated	Issue Amount	Interest Rate	2014
Series 2009 Refunding	5/21/2009	21,895,000	3.00 - 5.00%	\$ 547,786
Total Water Utility General Obligation Bonds				<u>\$ 547,786</u>

A summary of the requirements to amortize general obligation bonds outstanding at June 30, 2014 is as follows:

Year Ending June 30,	Principal	Interest
2015	\$ 547,786	\$ 13,695
	<u>\$ 547,786</u>	<u>\$ 13,695</u>

General obligation bonds are payable first from the revenue of the specific funds in which they are recorded; however, the full faith and credit of the City is pledged to the payment of the principal and interest on general obligation bonds.

Revenue bonds: A summary of revenue bond transactions for the fiscal year ended June 30, 2014 follows:

	2014
Revenue bonds outstanding at July 1	\$ 332,445,000
Bonds retired	(7,250,000)
Bonds issued	-
Bonds outstanding at June 30	325,195,000
Unamortized discount/premium, net	36,251,492
Revenue bonds outstanding at June 30, adjusted for unamortized discount/premium	361,446,492
Less current portion	(7,805,000)
	<u>\$ 353,641,492</u>

Water utility revenue bonds outstanding are comprised of the following individual issues:

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

Bond Issue/Purpose	Dated	Issue Amount	Interest Rate	2014
Series 2005 Water Revenue and Refunding	3/23/2005	22,810,000	3.50 - 5.00%	\$ 16,520,000
Series 2008 Water Revenue	4/23/2008	58,415,000	3.00 - 5.00%	53,300,000
Series 2010 Water Revenue	9/23/2010	47,415,000	2.00 - 4.50%	44,635,000
Series 2012 Water Revenue Refunding	4/4/2012	176,925,000	2.00 - 5.00%	167,670,000
Series 2013 Water Revenue	2/20/2013	43,070,000	2.00 - 5.00%	43,070,000
Total Water Utility Revenue Bonds				<u>\$ 325,195,000</u>

A summary of the requirements to amortize water revenue bonds outstanding at June 30, 2014 is as follows:

Year Ending June 30,	Principal	Interest
2015	7,805,000	15,398,269
2016	8,750,000	15,047,794
2017	10,655,000	14,591,519
2018	13,860,000	13,994,269
2019	14,820,000	13,291,244
2020-2024	89,310,000	54,270,393
2025-2029	75,720,000	32,717,994
2030-2034	43,325,000	19,207,962
2035-2039	43,000,000	9,177,290
2040-2043	17,950,000	1,513,850
	<u>\$ 325,195,000</u>	<u>\$ 189,210,584</u>

Water revenue bonds are payable solely from the revenue of the Fund. The most restrictive covenant of the water revenue bonds requires that the Fund's net revenue to be not less than the greater of (i) the sum of 1.1 times senior debt service and 1.0 times subordinated debt service for the fiscal year or (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Revenue Fund, the Subordinated Debt Service Fund and the Repair and Replacement Reserve Fund. Pursuant to the terms of the revenue bond indenture, certain resources have been set aside for the repayment of the revenue bonds. These resources are classified as restricted cash held with fiscal agent on the balance sheet because their use is limited by applicable bond covenants.

Bonds authorized and unissued as of June 30, 2014 were \$90,085,932.

Note 7. Retirement Obligations

The Fund contributes to the Employees' Retirement System of the City of Norfolk (the "System"), a single-employer noncontributory defined benefit plan, which is accounted for as a separate Pension Trust Fund. The System provides retirement benefits as well as death and disability benefits. All benefits vest after 5 years of creditable service. Cost-of-living adjustments ("COLAs") are provided at the discretion of the City Council. The System and its benefits are established by Section 37 of the Code of the City of Norfolk, Virginia as amended. All employees hired on or after October 5, 2010 contribute 5% of compensation to the benefit plan. Reference should be made to the Comprehensive Annual Financial

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

Report of the System for a further description of the plan. Retirement expense was \$2,268,623 for the year ended June 30, 2014.

Note 8. Significant Customers

Billed and unbilled accounts receivable includes \$3,918,034 due from the City of Virginia Beach and \$990,730 due from the United States Navy for water sales at June 30, 2014. Net charges for services include \$23,188,120 for water sales to the City of Virginia Beach and \$9,927,016 for water sales to the United States Navy for the fiscal year ended June 30, 2014.

Note 9. Commitments and Contingencies

Commitment for completion of capital projects authorized at June 30, 2014 was approximately \$39,719,600.

Note 10. Litigation

From time-to-time the Fund is a defendant in a number of lawsuits. Although it is not possible to determine the final outcome of these matters, management and the City Attorney are of the opinion that the ultimate liability will not be material and will not have a significant effect on the Fund's financial condition.

Note 11. Risk Management

The Fund is exposed to various risks of loss related to: theft of, damage to, and destruction of assets; injuries to employees; general liability; automobile liability; crime and employee dishonesty; professional liability; and directors' and officers' liability. The Fund's coverage is provided through the City's combination of purchased insurance policies and self-insurance plans.

Note 12. Other Postemployment Benefits (OPEB)

The City provides post-retirement health care benefits, in accordance with state statutes, which require extending access to healthcare benefits to certain retirees. General City employees are eligible to participate at the earlier of age 55 and 15 years of creditable service or 25 years of creditable service. Employees who retire on accidental disability are also eligible. Retirees that elect to participate may purchase health care coverage using the same health care plans and premium structures available to active employees. Retiree participation, plan/benefit elections and contributions are administered by the City's Retirement Bureau based on the participation guidelines established by the Norfolk City Council. Effective January 1, 2014, the City eliminated health care coverage for post 65 retirees (e.g. retirees eligible for Medicare).

Projections of benefits for financial reporting purposes are based on the plan and include the types of benefits provided at the time of each valuation. The actuarial methods and assumptions used include techniques 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. The actuarial valuation was performed as of July 1, 2013 with results projected for the fiscal year ended June 30, 2014.

The City's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC), an amount actuarially determined in accordance with GAAP wherein governments report on an accrual basis, benefit costs related to the period in which benefits are earned rather than to the period of benefit distribution. The ARC represents a level of funding that, if paid on an on-going basis, is projected to cover normal costs each year and amortize any unfunded actuarial liabilities over a period not to exceed thirty years. The ARC as computed for the City is allocated to the Fund based on payroll.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

The Fund and the City use the pay as you go method to calculate the OPEB liability for June 30, 2014 as the City has not funded a trust for the OPEB liability. Using the most recent OPEB plan valuation date of July 1, 2013, the following table shows the components of the Fund's annual OPEB costs projected for the current fiscal year, the amount contributed to the Plan and the changes in the net OPEB obligation:

	2014	2013	2012
Net beginning OPEB obligation	\$ 1,635,335	\$ 1,527,018	\$ 1,199,565
Annual required contributions	305,780	362,335	495,054
Interest on net OPEB obligation	65,140	49,318	51,047
Adjustment to ARC	(60,488)	(48,613)	(47,402)
Annual OPEB cost	310,432	363,040	498,699
Less: contributions made	138,076	254,723	171,246
Increase in net OPEB obligation	172,356	108,317	327,453
Net ending OPEB obligation	\$ 1,807,691	\$ 1,635,335	\$ 1,527,018

The total unfunded actuarial accrued liability (UAAL) for 2014, 2013 and 2012 is \$3,028,083, \$3,259,474 and \$3,616,202, respectively, and is allocated to the Fund on the same basis as the ARC. The allocation is based on covered payroll and does not purport to represent the OPEB liability of the Fund on a stand-alone basis. Reference should be made to the Comprehensive Annual Financial Report of the City of Norfolk for further information.

Note 13. Other short-term liabilities

In fiscal year 2013, a long-term liability of \$3,325,128 was recorded in the Fund to reflect the cost of service true-up for a wholesale customer during fiscal year 2012 and 2013 under a water services contract. Pursuant to the terms of the water services contract, billings to the customer were based on a projected water rate applicable to the customer. The liability reflects the adjustments to billings based on the difference between the projected water rate and actual cost of service for that customer. This liability was reclassified as current liability as of June 30, 2014 and, in accordance with the water services contract, it will be reduced in fiscal year 2015 through credits to the customer billings.

Note 14. Accounting Pronouncements Issued But Not Yet Implemented

The GASB has issued several pronouncements that may impact future financial presentations. Management has not determined what, if any, impact implementation of the following statements will have on the Fund.

GASB Statement 68: Accounting and Financial Reporting for Pensions—an amendment of GASB Statement

No. 27. This Statement replaces the requirements of Statement No. 27, Accounting for Pensions by State and Local Governmental Employers, as well as the requirements of Statement No. 50, Pension Disclosures, as they relate to pensions that are provided through pension plans administered as trusts or equivalent arrangements (hereafter jointly referred to as trusts) that meet certain criteria. The objective of GASB 68 is to improve accounting and financial reporting by state and local governments for pensions. Governments providing defined benefit pensions will be required to recognize their long-term obligation for pension benefits as a liability and to recognize more pension expense immediately. The Statement also requires revised and new disclosures, and required supplementary information. It also requires cost-sharing employers to record a liability and expense equal to their proportionate share of the collective net pension liability and expense for the cost-sharing plan. The provisions of Statement 68 are effective for fiscal years beginning after June 15, 2014; however, earlier application is encouraged.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Notes to Financial Statements
For the Fiscal Year Ended June 30, 2014

GASB Statement 69: Government Combinations and Disposals of Government Operations. This Statement provides specific accounting and financial reporting guidance for the combination and disposal of entities in a governmental environment. This Statement also enhances the disclosures around these types of activities to improve the usefulness of financial reporting in this area. The provisions of this Statement are effective for financial statements for periods beginning after December 15, 2013. Earlier application is encouraged.

GASB Statement 70: Accounting and Financial Reporting for Non-exchange Financial Guarantees. This Statement requires specific accounting for governments that extend a non-exchange financial guarantee as well as governments that have issued obligations guaranteed in non-exchange transactions. This Statement also specifies the information required to be disclosed in relation to these types of transactions. The provisions of this Statement are effective for financial statements for periods beginning after June 15, 2013. Earlier application is encouraged.

GASB Statement 71: Pension Transition for Contributions Made Subsequent to the Measurement Date. This statement will eliminate the source of a potentially significant understatement of restated beginning net position and expense in the first year of implementation of GASB 68 in the accrual-basis financial statements of employers and non-employer contributing entities. The provisions of this Statement should be applied with the implementation of GASB 68.

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Supplementary Schedules
For the Fiscal Year Ended June 30, 2014

Supplemental Other Post Employment Benefit (OPEB) Information
Schedule of Funding Progress
Water Utility Fund
Last Three Fiscal Years
(Unaudited)

Actuarial valuation date	Actuarial value of assets (a)	Actuarial accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Estimated covered payroll (c)	UAA as a percentage of covered payroll (b-a)/c
July 1, 2013	\$ -	\$ 3,028,082	\$ 3,028,082	0%	\$ 10,444,697	29.0%
July 1, 2012	-	3,259,474	3,259,474	0%	9,551,246	34.1%
July 1, 2011	-	3,616,202	3,616,202	0%	10,566,480	34.2%

Water Utility Fund
An Enterprise Fund of the City of Norfolk, Virginia

Supplementary Schedules
For the Fiscal Year Ended June 30, 2014

Debt Capacity Information - Revenue Bonds Debt Service Coverage
Last Ten Fiscal Years

Fiscal Year	Revenue Available for Debt Service (1)	Operating Expenses		Income Available for Debt Service	Debt Service			Coverage
		Less Depreciation / Amortization and PILOT (2)			Principal	Interest	Total	
2005	69,183,154	34,643,668		34,539,486	6,250,000	14,041,059	20,291,059	1.70
2006	78,788,158	34,144,763		44,643,395	6,580,000	14,827,960	21,407,960	2.09
2007	76,013,563	32,427,377		43,586,186	7,310,000	14,379,821	21,689,821	2.01
2008	78,730,024	37,026,528		41,703,496	7,665,000	14,022,200	21,687,200	1.92
2009	78,020,552	38,182,373		39,838,179	8,050,000	16,411,343	24,461,343	1.63
2010	82,470,020	34,567,741		47,902,279	9,420,000	15,929,680	25,349,680	1.89
2011	83,737,444	37,068,753		46,668,691	9,875,000	16,527,844	26,402,844	1.77
2012	81,295,219	34,667,524		46,627,695	11,285,000	11,184,363	22,469,363	2.08
2013	80,091,220	34,810,702		45,280,518	7,000,000	14,700,777	21,700,777	2.09
2014	82,078,002	34,466,877		47,611,125	7,250,000	15,630,219	22,880,219	2.08

1. Includes operating revenue plus interest income, net of interest capitalized.

2. Includes operating expenses less depreciation/amortization and payment in lieu of taxes (PILOT).



KPMG LLP
Suite 1900
440 Monticello Avenue
Norfolk, VA 23510

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

The Honorable Members of the City Council
City of Norfolk, Virginia:

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the basic financial statements of the Water Utility Fund of the City of Norfolk, Virginia (the Fund), which comprise the statement of net position as of June 30, 2014, and the related statements of revenues, expenses, and changes in net position and cash flows for the year then ended, and the related notes to the basic financial statements, and have issued our report thereon dated January 29, 2015, which included a paragraph emphasizing that in fiscal year 2014, the Fund adopted new accounting guidance described in Governmental Accounting Standards Board Statement No. 65, *Items Previously Reported as Assets and Liabilities*.

Internal Control Over Financial Reporting

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

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

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



Compliance and Other Matters

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

Purpose of this Report

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

KPMG LLP

Norfolk, Virginia
January 29, 2015

PROPOSED FORM OF OPINION OF BOND COUNSEL

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Set forth below is the proposed form of the opinion of McGuireWoods LLP, Bond Counsel, regarding the 2015 Bonds. It is preliminary and subject to change prior to the delivery of the 2015 Bonds.

[Letterhead of McGuireWoods LLP]

April 16, 2015

City Council of the
City of Norfolk, Virginia
Norfolk, Virginia

\$29,660,000
City of Norfolk, Virginia
Water Revenue Bonds,
Series 2015A

\$54,020,000
City of Norfolk, Virginia
Water Revenue Refunding Bonds,
Series 2015B

Ladies and Gentlemen:

We have served as Bond Counsel in connection with the issuance and sale by the City of Norfolk, Virginia (the "City"), of its \$29,660,000 Water Revenue Bonds, Series 2015A and its \$54,020,000 Water Revenue Refunding Bonds, Series 2015B (collectively, the "2015 Bonds"), dated the date hereof. The City Council of the City authorized the issuance of the 2015 Bonds by Ordinance No. 45,693 and Ordinance No. 45,871 enacted on September 9, 2014, and March 10, 2015, respectively. The City issued the 2015 Bonds under the terms and conditions of a Master Indenture of Trust dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between U.S. Bank National Association, as successor trustee (the "Trustee"), and the City, and as further supplemented by a Eleventh Supplemental Indenture of Trust dated as of April 1, 2015 (the "Eleventh Supplemental Indenture"), between the Trustee and the City. The Master Indenture and the Eleventh Supplemental Indenture are referred to collectively as the "Indenture."

We refer you to the 2015 Bonds and the Indenture for a description of the purposes for which the 2015 Bonds are issued, their terms and the security for them.

In connection with this opinion, we have examined (i) the Constitution of Virginia (the "Constitution"), (ii) the applicable laws of (A) the Commonwealth of Virginia (the "Commonwealth"), including without limitation the Public Finance Act of 1991, Chapter 26, Title 15.2, Code of Virginia of 1950, as amended, and (B) the United States of America, including without limitation the Internal Revenue Code of 1986, as amended (the "Code"), and (iii) copies of proceedings and other documents relating to the issuance and sale of the 2015 Bonds by the City as we have deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon (i) representations of the City, including, without limitation, representations as to the use of proceeds of the 2015 Bonds, (ii) certifications of public officials furnished to us and (iii) certifications and representations contained in certificates of the City and others delivered at closing, without undertaking to verify them by independent investigation. In addition, without undertaking to verify the same by independent investigation, we have relied on computations provided to us by Public Financial Management, Inc., financial advisor to the City, the mathematical accuracy of which was verified by Robert Thomas CPA, LLC, relating to the yield on investments in the escrow fund established with a portion of the proceeds of the 2015 Bonds and the yield on the 2015 Bonds.

We have assumed that all signatures on documents, certificates, and instruments examined by us are genuine, all documents, certificates, and instruments submitted to us as originals are authentic, and all documents, certificates, and instruments submitted to us as copies conform to the originals. In addition, we have assumed that all documents, certificates, and instruments relating to this transaction have been duly authorized, executed, and delivered by all parties to them other than the City, and we have further assumed the due organization, existence, and powers of all parties other than the City.

Based on the foregoing, in our opinion, under current law:

1. The City has the requisite authority and power to enter into the Indenture to issue and sell the 2015 Bonds, and to apply the proceeds from the issuance and sale of the 2015 Bonds as set forth in the Eleventh Supplemental Indenture. Neither the faith and credit of the Commonwealth nor the faith and credit of the City or any other political subdivision of the Commonwealth are pledged to the payment of the principal of or premium, if any, or interest on the 2015 Bonds.

2. The 2015 Bonds have been duly authorized, executed, and delivered in accordance with the Constitution and statutes of the Commonwealth and the Indenture and constitute valid and binding limited obligations of the City, payable solely from the Net Revenues, as hereinafter defined, and other property pledged for such purpose under the Indenture for the security of the 2015 Bonds on a parity with the bond currently outstanding under the Indenture (the "Outstanding Bonds"), any additional bonds to be issued in the future under the Indenture ("Additional Bonds") and any parity indebtedness incurred in the future under the Indenture ("Parity Indebtedness").

3. The Indenture has been duly authorized, executed, and delivered by the City, constitutes a valid and binding obligation of the City, and is enforceable against the City in accordance with its terms. The Eleventh Supplemental Indenture complies in all respects with the requirements of the Master Indenture.

4. The Master Indenture requires the City to fix, revise, and collect rates, fees, and other charges for the use of and for the services furnished by the City's water system so that the revenues, receipts and income derived therefrom after payment of the City's operating expenses

(the "Net Revenues") will be at least sufficient to pay when due, among other things, the principal of and interest on the Outstanding Bonds and the 2015 Bonds.

5. Interest on the 2015 Bonds, including any accrued "original issue discount" properly allocable to the owners of the 2015 Bonds, is (i) excludable from gross income for purposes of federal income taxation under Section 103 of the Code, (ii) not a specific item of tax preference for purposes of the federal alternative minimum income tax imposed on individuals and corporations (a "Specific Tax Preference Item"). However, for purposes of the alternative minimum tax imposed on corporations, as defined for federal income tax purposes under Section 56 of the Code, interest on the 2015 Bonds must be included in computing adjusted current earnings. The "original issue discount" on any 2015 Bond is the excess of its stated redemption price at maturity over the initial offering price to the public at which price a substantial amount of the 2015 Bonds of the same maturity was sold. The "public" does not include bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers. We express no opinion regarding other federal tax consequences arising with respect to the 2015 Bonds.

In delivering this opinion, we are (i) relying upon and assuming the accuracy of certifications and representations of representatives of the City as to facts material to the opinion, and (ii) assuming continuing compliance with the Covenants, as hereinafter defined, by the City, so that interest on the 2015 Bonds will remain excludable from gross income for federal income tax purposes. The Code and the regulations promulgated thereunder contain a number of requirements that must be satisfied after the issuance of the 2015 Bonds in order for interest on the 2015 Bonds to be and remain excludable from gross income for purposes of federal income taxation and do not become a Specific Tax Preference Item. These requirements include, by way of example and not limitation, restrictions on the use, expenditure and investment of the proceeds of the 2015 Bonds and the use of the property financed or refinanced by the 2015 Bonds, limitations on the source of the payment of and the security for the 2015 Bonds, and the obligation to rebate certain excess earnings on the gross proceeds of the 2015 Bonds to the United States Treasury. The tax certificate and related documents for the 2015 Bonds (the "Tax Certificate") delivered at closing by the City contain covenants (the "Covenants") with which it has agreed to comply. Failure to comply with the Covenants could cause interest on the 2015 Bonds to become includable in gross income for federal income tax purposes retroactive to their date of issue. In the event of noncompliance with the Covenants, the available enforcement remedies may be limited by applicable provisions of law and, therefore, may not be adequate to prevent interest on the 2015 Bonds from becoming includable in gross income for federal income tax purposes.

We have no responsibility to monitor compliance with the Covenants after the date of issue of the 2015 Bonds.

Certain requirements and procedures contained, incorporated or referred to in the Tax Certificate, including the Covenants, may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such document. We express no opinion concerning any effect on the excludability of interest on the

2015 Bonds from gross income for federal income tax purposes of any such subsequent change or action that may be made, taken or omitted upon the advice or approval of counsel other than this firm.

6. Interest on the 2015 Bonds is excludable from the gross income of the owners thereof for purposes of income taxation by the Commonwealth. We express no opinion regarding (i) other tax consequences arising with respect to the 2015 Bonds under the laws of the Commonwealth or (ii) any consequences arising with respect to the 2015 Bonds under the tax laws of any state or local jurisdiction other than the Commonwealth.

The obligations of the City under the 2015 Bonds and the Indenture are subject to the provisions of applicable bankruptcy, insolvency, reorganization, moratorium, and similar laws, now or hereafter in effect, relating to or affecting the enforcement of creditors' rights generally. Such obligations are also subject to usual equitable principles, which may limit the specific enforcement of certain remedies but which do not affect the validity of the obligations.

Additional Bonds may be issued and Parity Indebtedness incurred from time to time under the conditions, limitations, and restrictions set forth in the Indenture, and any such Additional Bonds or Parity Indebtedness will be secured equally and ratably as to the pledge of Net Revenues with the Outstanding Bonds and the 2015 Bonds, as provided in the Indenture.

Our services as Bond Counsel have been limited to rendering the foregoing opinion based on our review of such legal proceedings as we deem necessary to opine on the validity of the 2015 Bonds and the income tax status of the interest on them. We express no opinion as to the accuracy, completeness or sufficiency of any information that may have been relied upon by any owner of the 2015 Bonds in making a decision to purchase the 2015 Bonds, including without limitation the Preliminary Official Statement of the City dated March 24, 2015, and the Official Statement of the City dated April 1, 2015. This opinion is given as of the date hereof, and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention, or any changes in law that may hereafter occur.

Very truly yours,

CERTAIN INFORMATION CONCERNING THE CITY

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THE CITY OF NORFOLK

INTRODUCTION

The City of Norfolk was established as a town in 1682, as a borough in 1736 and incorporated as a city in 1845. The City lies at the mouth of the James and Elizabeth Rivers and the Chesapeake Bay, and is adjacent to the cities of Virginia Beach, Portsmouth and Chesapeake.

Table D-1
City of Norfolk, Virginia
Area of City

Year	Square Miles
1950	37.19
1960	61.85
1970	61.85
1980	65.75
1990	65.98
2014	65.98

The City was a 2013 recipient of the National Civic League's "All-America City" award. The City received the award in recognition for innovatively promoting civic engagement and cooperation among public, private and nonprofit sectors to address local challenges, specifically in regards to Veteran's initiatives, flood mitigation and its Neighbors Building Neighborhoods program.

CITY GOVERNMENT

Norfolk is an independent, full-service City with sole local government taxing power within its boundaries. It derives its governing authority from the City Charter, originally adopted by the General Assembly of Virginia (the "General Assembly") in 1918, which authorizes a council-manager form of government. The City Council exercises all of the governmental powers conferred upon the City. Having sought and gained approval from the U.S. Justice Department and the General Assembly, the City gave its citizens the right to elect their Mayor directly, effective May 2006. Previously the City's Mayor had been chosen by the City Council from among its members. This change added an eighth member to the City Council, with the Mayor elected at large, and retains the current seven wards with two members elected from super wards. The City Council elects a Vice Mayor from among its members. Among the City officials appointed by the City Council is the City Manager, the administrative head of the municipal government. The City Manager carries out its policies, directs business procedures and appoints, with the power to remove, the heads of departments and other employees of the City except those otherwise specifically covered by statutory provisions. The City Council also appoints certain boards, commissions and authorities of the City.

Certain Elected Officials

The City's current elected officials include:

Paul D. Fraim, Mayor

In May 2006, Mayor Fraim became the City's first popularly elected mayor in nine decades. Mayor Fraim was first elected Mayor by his peers in 1994. He is the president of the law firm Fraim & Fiorella, P.C., and was first elected to City Council in 1986. He has a Bachelor's degree from Virginia Military Institute, Lexington, Virginia, and a Master's degree from the University of Virginia, Charlottesville, Virginia. He received his law degree from the University of Richmond, Richmond, Virginia. Mayor Fraim is an active member of the Virginia State Bar, the Virginia Bar Association and the Norfolk-Portsmouth Bar Association and has held a number of leadership positions in these organizations.

Angelia M. Williams Graves, Vice Mayor

Ms. Williams Graves, representing Super Ward 7, was first elected to City Council in November 2010. She holds a current real estate license and is a realtor with Berkshire Hathaway Home Services Towne Realty. Ms. Williams Graves received an Associate of Science degree in Business Administration from Tidewater Community College. She graduated from the University of Virginia's Sorensen Institute for Political Leadership and from the Alpha School of Real Estate. She received a Bachelor's degree in Marketing from Old Dominion University, Norfolk, Virginia. She is involved in many local professional and civic organizations, where she has held a number of leadership positions.

Mamie B. Johnson, Council Member

Mrs. Johnson, representing Ward 3, was elected to City Council in May 2014. Mrs. Johnson was employed with Norfolk Public Schools as a teacher for 14 years and an instructional specialist for six years. She is currently the director of the before and after care program at Richard Bowling Elementary School. She received a Bachelor's degree from Norfolk State University, Norfolk, Virginia. She is active in many local professional and civic organizations, where she has held a number of leadership positions.

Andrew A. Protogyrou, Council Member

Mr. Protogyrou, representing Ward 1, was first elected to City Council in May 2010. Mr. Protogyrou is an attorney and a member of Protogyrou & Rigney, P.L.C. He has a Bachelor's degree from Virginia Military Institute, Lexington, Virginia, and he received his law degree from the University of Richmond, Richmond, Virginia. Mr. Protogyrou is active in many local professional and civic organizations, where he has held a number of leadership positions.

Paul R. Riddick, Council Member

Mr. Riddick, representing Ward 4, was first elected to City Council in July 1992. He is the owner and operator of Riddick Funeral Service in Norfolk. He attended Norfolk State University, Norfolk, Virginia, and has an Associates' degree in Funeral Service from John Tyler Community College, Chester, Virginia. Mr. Riddick is active in many local professional organizations.

Thomas R. Smigiel, Council Member

Mr. Smigiel, representing Ward 5, was first elected to City Council in May 2010. He received a Bachelor's degree in Education from Old Dominion University, Norfolk, Virginia, and a Master of School Administration from Cambridge College's Regional Center, Chesapeake, Virginia. He was recently selected to be the principal of The Academy for Discovery at Lakewood, a new Pre-International Baccalaureate Program and science, technology, engineering and math (STEM) focused school for third through eighth grades which will open for the 2016-2017 school year in Norfolk. He is involved in many local professional and civic organizations, where he has held a number of leadership positions.

Dr. Theresa W. Whibley, Council Member

Dr. Whibley, representing Ward 2, was first elected to City Council in July 2006. She is an obstetrician and gynecologist in private practice at Woman Caring, PLC in Norfolk. Dr. Whibley is a graduate of Eastern Virginia Medical School, Jones Institute of Reproductive Medicine, Norfolk, Virginia, Old Dominion University, Norfolk, Virginia and the College of William and Mary, Williamsburg, Virginia. Dr. Whibley is active in many local professional organizations.

Barclay C. Winn, Council Member

Mr. Winn, representing Super Ward 6, was first elected to City Council in July 2000. He is the Chief Executive Officer of Winn Nursery of Virginia, Inc., which is headquartered in Norfolk. He received a Bachelor's

degree from North Carolina State University, Raleigh, North Carolina. Mr. Winn is active in many civic and business activities.

Certain Appointed Officials

Marcus D. Jones, City Manager

Marcus D. Jones returned to the City of Norfolk in February 2011 to assume the post of City Manager. His responsibilities include the supervision of the administrative operations of the City including the preparation of its annual budget. Prior to returning to Norfolk, he served as Deputy Chief Administrative Officer for Finance & Administration for the City of Richmond, Virginia. Prior to serving in Richmond, Mr. Jones served as an Assistant City Manager and Director of Budget & Grants Management for the City of Norfolk from 2004 to 2009. In the prior decade, Mr. Jones served as Deputy Secretary of Finance and Assistant Secretary of Finance under Governors Mark Warner and Jim Gilmore, respectively. He earned his Bachelor's degree in Public Administration from James Madison University, Harrisonburg, Virginia, and a Master's degree in Public Administration from Virginia Commonwealth University, Richmond, Virginia.

Alice M. Kelly, CPA, Director of Finance

Alice M. Kelly assumed her position as Director of Finance in January 2013. At the direction of the City Manager, she is responsible for identifying strategic opportunities for the City in the policy areas of taxation, financial management and fiscal policy development. In addition, she is responsible for the administration of the financial affairs of the City which include cash management and investments, debt management, financial accounting and reporting, procurement, risk management and retiree benefits. Ms. Kelly has worked for the City since April 1990 in various capacities and departments including Utilities, Finance and Public Works. She previously served as Acting Director of Finance from June 2008 to August 2009, and prior to her appointment as Director of Finance, her most recent position was Assistant Director of Public Works. Ms. Kelly earned a Bachelor of Science degree in Accounting from Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, Virginia. She is a licensed Certified Public Accountant and serves on the Board of the Norfolk Municipal Employees Federal Credit Union.

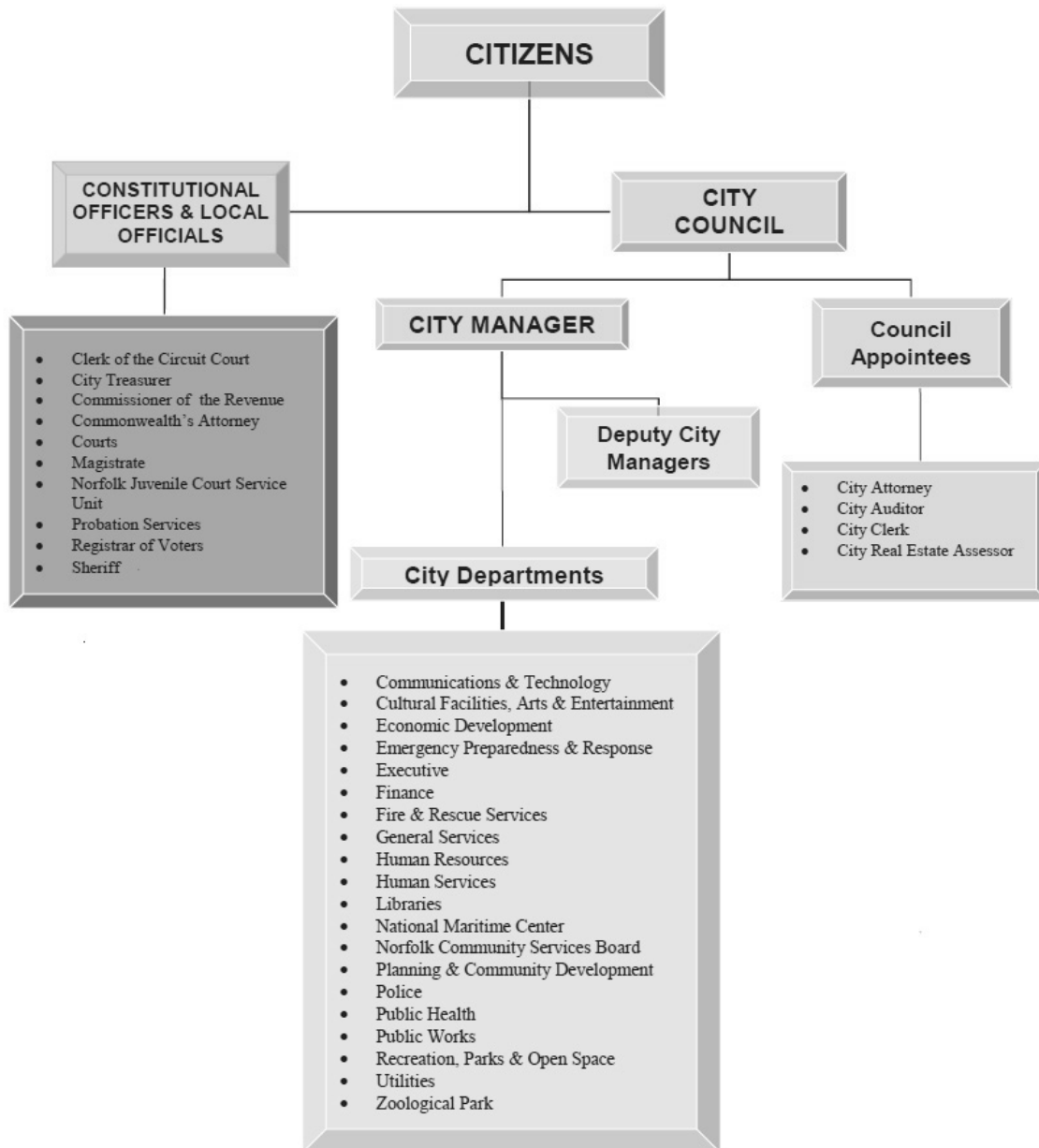
Bernard A. Pishko, City Attorney

Bernard A. Pishko was first appointed by City Council as City Attorney in November 1997. He previously served as Deputy City Attorney from 1989 to 1997 and as an Assistant City Attorney from 1984 to 1989. He has practiced law since 1982. The City Attorney is also general counsel for the Norfolk School Board, Norfolk Recreational Facilities Authority, Norfolk Community Services Board, Hospital Authority of Norfolk, Norfolk Municipal Employees' Retirement System, Norfolk Electoral Board, Civil Service Commission and The Chrysler Museum of Art. Mr. Pishko is a member of many professional associations and community organizations. He received his undergraduate degree from Brown University, Providence, Rhode Island, a Master's degree in Business Administration from the College of William and Mary, Williamsburg, Virginia, and a law degree from the Marshall-Wythe School of Law, Williamsburg, Virginia.

Governmental Services and Facilities

In Virginia, cities and counties are not overlapping units of government. Each city or county is a distinct political entity providing services for the population within its respective jurisdiction. The City provides a comprehensive range of public services characteristic of its form of government under Virginia law. These services are designed to provide an environment within which the educational, physical, social and cultural needs of its citizens are met. These general governmental services include police protection, fire and paramedical services, public health and social services, planning and zoning management, code enforcement, storm water management, street maintenance, traffic control, parks and cemeteries operation and maintenance, recreation and library services, economic development, solid waste disposal and general administrative services. In addition, water and wastewater utilities and parking facilities services are provided under an enterprise fund concept with user-charges set by City Council.

City Organization



OTHER GOVERNMENTAL ENTITIES

School Board of the City of Norfolk

The seven members of the School Board are appointed by the City Council. In November 2014 voters elected to have School Board members elected instead of appointed. In January 2015, City Council approved that the School Board members would be elected based on the same ward system used to elect City Council members. Voters will begin electing School Board members in May 2016. The School Board is a corporate body and in its corporate capacity is vested with all of the duties, obligations and responsibilities imposed upon school boards by law. The City Council is required to appropriate annually to the School Board the amount needed for the support of the public schools in maintaining educational programs which meet the standards of quality prescribed by law.

Categorical aid from the Commonwealth and the federal government designated for educational purposes is included in the City's General Fund budgetary revenue. This categorical aid, plus moneys derived from local sources, provides the funds for the major share of the School Board's operations. On an ongoing basis, the City also issues debt to finance needed capital projects of the school system.

The School Board presently operates 35 elementary schools, nine middle schools, five high schools and several auxiliary schools, including alternative, magnet and specialty programs. For the Fiscal Year 2014 the School Board's expenditures for education totaled \$357,363,799.

Norfolk Airport Authority

The Norfolk Airport Authority, a political subdivision of the Commonwealth, was created to operate an airport and to promote industrial growth and consists of both an Airport Fund and an Investment Fund. The Airport Fund was established by the Authority to account for the operations of the Norfolk International Airport. Revenue generated by airport operations is used to meet all operating expenses and to provide for payment of all principal and interest on debt of the Authority related to the airport. The Investment Fund was established by the Authority to provide for certain airport capital improvements.

The Authority finances individual capital projects by issuing bonds or obtaining loans and intergovernmental grants in its own name and concurrently entering into leases which provide for payment of all principal and interest on the related obligations as they become due. Revenue includes rental income on non-airport property owned by the Authority and interest on investments.

The Authority's Commissioners are appointed by City Council, but the Commission designates its own management and has oversight responsibility for its own financial matters. The City does not provide funds for the operations of the Authority, and pursuant to Section 144(q) of the City Charter, the Authority is required to submit its annual budget to the City Council for the purposes of information only. The City has the option to reacquire, without consideration, title to all property and equipment after payment by the Authority of all obligations relating to the improvements at the airport.

Hampton Roads Regional Jail Authority

The Hampton Roads Regional Jail Authority ("HRRJA") is a regional organization which includes the cities of Chesapeake, Hampton, Newport News, Norfolk and Portsmouth, created for the purpose of providing, operating and maintaining a regional jail facility for the correctional overflow from each community. HRRJA is a primary government, with no component units, that is a body politic and corporate created pursuant to Article 3.1, Chapter 3, Title 53.1 of the Virginia Code and is governed by a 12 member Board of Directors, consisting of three representatives appointed by each of the member cities. The budgeting and financing of HRRJA are subject to the approval of the Board of Directors, with each individual having a single vote. HRRJA is responsible for its own financial matters, maintains its own books of account and is audited annually by independent accountants that it engages.

The regional jail facility (the "Jail"), which opened in April 1998, consists of approximately 385,518 square feet of building area, including three housing building units, a support building and a central plant. The Jail holds 875 inmates, 250 of which are designated to the City. The City is responsible for a maximum of 28.57% of the total operating cost less the revenue derived from the Virginia Compensation Board and the per diem reimbursement from the Commonwealth for the housing of state inmates. However, this percentage will be reduced as the City of Chesapeake incrementally increases their inmate allocation to 250 through July 2, 2016. The City's responsibility may be reduced to 22.22% at full allocation to Chesapeake.

The Southeastern Public Service Authority of Virginia

The Southeastern Public Service Authority ("SPSA") is a joint venture of the cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk and Virginia Beach and the counties of Isle of Wight and Southampton,

created for the purpose of providing, operating and maintaining a regional system for the collection, transfer, processing and disposal of solid waste refuse.

SPSA is a primary government, with no component units, that is a public body politic and corporate created pursuant to the Virginia Water and Sewer Authorities Act, and is governed by a Board of Directors consisting of representatives appointed by each of the member cities and counties and by the Governor. Budgeting and financing of SPSA is subject to the approval of the Board of Directors, with each individual having a single vote. SPSA is responsible for its own financial matters, maintains its own books of account and is audited annually by independent accountants that it engages.

The regional system includes solid waste transfer stations in each of the member jurisdictions, a landfill, rolling stock and ancillary facilities.

Hampton Roads Planning District Commission

Hampton Roads Planning District Commission ("HRPDC"), a regional planning agency authorized by the Virginia Area Development Act of 1968, was created by the merger of the Southeastern Virginia Planning District Commission and the Peninsula Planning District Commission on July 1, 1990. HRPDC performs various planning services for the cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Portsmouth, Poquoson, Suffolk, Williamsburg and Virginia Beach, and the counties of Gloucester, Isle of Wight, James City, Southampton and York. Revenue of HRPDC is received primarily from member contributions and various state and federal grant programs. The participating governments do not have an equity interest in HRPDC, and accordingly, no equity interest has been reflected in the City's financial statements. Complete financial statements of HRPDC can be obtained from HRPDC.

Transportation District Commission of Hampton Roads

The Transportation District Commission of Hampton Roads, known as Hampton Roads Transit ("HRT"), a political subdivision of the Commonwealth, was formed on May 9, 1973, as a joint exercise of governmental power in accordance with provisions of Chapter 32 of Title 15.2 of the Virginia Code.

HRT was created on October 1, 1999, with the consolidation of the Tidewater Regional Transit and Peninsula Transportation District Commission. It is believed to be the first voluntary merger of public transit agencies in the nation. HRT continues to be a political subdivision of the Commonwealth, formed as a joint exercise of governmental power in accordance with the provisions of Chapter 32 of Title 15.2 of the Virginia Code. HRT provides public transportation facilities and services within cities of Norfolk, Chesapeake, Hampton, Newport News, Portsmouth and Virginia Beach.

Oversight responsibility is exercised by all of the participating localities through their designated representatives. Responsibility for the day-to-day operations of HRT rests with professional management. HRT constructed the City's light rail system.

The participating governments do not have an equity interest in HRT, and accordingly, no equity interest has been reflected in the City's financial statements. Complete financial statements of HRT can be obtained from HRT.

Hampton Roads Transportation Accountability Commission

The Hampton Roads Transportation Accountability Commission ("HRTAC") was created effective July 1, 2014, as a political subdivision of the Commonwealth in accordance with the provisions of Chapter 26, Title 33.2 of the Virginia Code (the "HRTAC Act"). HRTAC's purposes include assessment and prioritization of regional transportation projects to be funded with, among other potential sources of funds, the Hampton Roads Transportation Fund ("HRTF"). HRTF is a fund generated by the assessment and collection of fuel and sales tax in the Hampton Roads region by the Commonwealth. HRTAC is comprised of 23 members, which include locally elected officials and ex-officio members from several state agencies. The Mayor of the City, as the City's chief

elected officer, is a member of HRTAC. HRTAC is expected to consider multiple transportation projects for funding, and eventually, to issue bonds to finance the costs of such transportation projects. Repayment of any bonds issued by HRTAC will be made from sources described in the HRTAC Act, including without limitation the HRTF. Bonds of HRTAC will not be obligations of any jurisdiction in the Hampton Roads region, including the City.

Hospital Authority of Norfolk

The Hospital Authority of Norfolk (the "HAN"), which has a nine-member Board of Commissioners appointed by City Council, is a tax-exempt, not-for-profit political subdivision of the Commonwealth. The HAN operates Lake Taylor Hospital as a long-term care facility licensed by the Virginia State Health Department to provide a continuum of patient care ranging from sub-acute hospital services to skilled nursing care.

Norfolk Redevelopment and Housing Authority

The Norfolk Redevelopment and Housing Authority ("NRHA"), a political subdivision of the Commonwealth, was created by the City on July 30, 1940, under the provisions of the United States Housing Act of 1937. The NRHA provides subsidized public housing and administers redevelopment and conservation efforts within the City in accordance with state and federal legislation. The seven members of the Board of Commissioners are appointed by City Council. The NRHA is responsible, through a contract with the City, for the administration of such activities as community development and urban renewal. The NRHA develops its operating budget without approval from the City Council and executes contracts on its own behalf. The City does not exercise a significant degree of oversight responsibility for the NRHA, as it is responsible for designating its own management, developing its own operating budget and executing major contracts on its own behalf. The NRHA is responsible for its own financial matters as it maintains its own books of account, is audited annually by independent accountants it engages, and has authority over earnings, deficits and moneys other than City contract funds. The City contracts with NRHA to complete specific projects, generally capital improvement projects.

The Economic Development Authority of the City of Norfolk

The Economic Development Authority ("EDA"), a political subdivision of the Commonwealth of Virginia, was created by ordinance of the City of Norfolk in 1972, pursuant to the provisions of the Economic Development and Revenue Bond Act of the Commonwealth of Virginia. The EDA is authorized to acquire, own, lease and dispose of properties to the end that such activities may promote industry and develop trade by inducing manufacturing, industrial and commercial enterprises to locate or remain in the City and further the use of the Commonwealth's agricultural and natural resources. The EDA is empowered by the Commonwealth to authorize and issue industrial development bonds. The EDA acts as an intermediary between financial institutions and borrowers; it has no responsibility for borrowers' debt. Although Commissioners are appointed by City Council, the EDA designates its own management, which is self-sustaining, maintains its own books of account, and receives revenue from administrative fees charged to borrowers.

The Slover Library Foundation

The Slover Library Foundation (the "Library Foundation"), a not-for-profit organization, was formed on October 31, 2008, to participate in the funding of a new central library for the City. The new central library that opened in January 2015 is named the Slover Library. Two historic downtown structures, the Seaboard Building and the Selden Arcade, were joined by an architecturally significant structure to create the new technologically advanced library. Funding provided by the Library Foundation was used for construction costs and the purchase and maintenance of technology used in the library. The Library Foundation designates its own management, maintains its own books of account, engages its own independent accountant and receives its revenue from third parties.

The Chrysler Museum, Inc.

The Chrysler Museum, Inc. (the "Museum"), a Virginia non-stock, not-for-profit organization, was formed on January 1, 1980, by incorporating the Chrysler Museum in Norfolk. The main purpose of the Museum is the advancement, encouragement and promotion of the study and appreciation of art. The Museum designates its own

management, which is self-sustaining, maintains its own books of account, engages its own independent accountant and receives its revenue from facility rental fees, patron membership, planned giving and from other independent grants.

ECONOMIC AND DEMOGRAPHIC FACTORS

Population

As reflected in Table D-2 and D-3 below, from 2005 to 2014 the City's population grew 2.9%. The City is the second most populous city in Virginia, as shown in Table D-3.

**Table D-2
Population Trend Comparisons
2004 – 2013**

Calendar Year	Norfolk ⁽¹⁾	Hampton Roads MSA ^{(1) (2)}	Virginia ⁽³⁾	U.S. ⁽³⁾
2005	239,396	1,612,304	7,577,105	295,516,599
2006	239,355	1,616,911	7,673,725	298,379,912
2007	241,941	1,621,986	7,751,000	301,231,207
2008	242,983	1,631,967	7,833,496	304,093,966
2009	243,957	1,636,770	7,925,937	306,771,529
2010	242,803	1,641,078	8,001,024	308,745,538
2011	243,985	1,654,311	8,105,850	311,582,564
2012	245,803	1,672,401	8,186,628	313,873,685
2013	246,392	1,682,842	8,260,405	316,128,839
2014	246,394	1,690,090	8,326,289	318,857,056

Sources: U.S. Census Bureau and the Weldon Cooper Center.

- Notes: (1) Norfolk and Hampton Roads MSA population estimates are from the Weldon Cooper Center, except for the 2010 population estimates, which are from the U.S. Census Bureau.
- (2) The Hampton Roads MSA is the Virginia portion only.
- (3) U.S. and Virginia population estimates are from the U.S. Census Bureau.

**Table D-3
Five Most Populous Cities in Virginia**

City	2010 Census Population	2014 Population Estimate
Virginia Beach	437,994	451,672
Norfolk	242,803	246,394
Chesapeake	222,209	235,638
Richmond	204,219	213,504
Newport News	180,719	183,362

Sources: U.S. Census Bureau and the Weldon Cooper Center.

Table D-4 provides an annual comparison of per capita personal income since 2003.

Table D-4
City of Norfolk, Virginia
Per Capita Personal Income Comparisons
2004 – 2013

Calendar Year	City	Hampton Roads MSA	Virginia	U.S.
2004	\$30,162	\$34,131	\$37,759	\$34,300
2005	32,087	35,765	39,841	35,888
2006	33,792	37,855	42,085	38,127
2007	35,075	39,660	43,927	39,804
2008	35,806	40,814	44,901	40,873
2009	35,514	40,613	44,056	39,379
2010	36,061	41,220	44,836	40,144
2011	37,754	43,179	47,076	42,332
2012	38,762	44,553	48,715	44,200
2013	39,009	44,756	48,838	44,765

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System. 2013 is the most recent year for which data is available.

The age distribution of the City's population is presented in Table D-5.

Table D-5
City of Norfolk, Virginia
City Population Distribution by Age
1960 – 2010

Year	Population	Under 20	20-64	65 or Older
1960	305,872	39.8%	54.5%	5.7%
1970	307,951	35.4	57.8	6.8
1980	266,979	30.7	60.1	9.2
1990	261,250	28.1	61.4	10.5
2000	234,403	27.3	61.5	11.2
2010	242,803	25.3	65.3	9.4

Source: U.S. Census Bureau.

Housing and Construction Availability

The City saw total home sales decrease by 0.4 percent (11 units) during calendar year 2014, as compared to calendar year 2013. Total sales for calendar year 2014 were 2,610, as compared to 2,621 for calendar year 2013. The average price of homes sold in calendar year 2014 decreased by approximately 0.7%, from \$194,520 to \$193,141, when compared to the average home price in calendar year 2013. However, the decline in the average price of homes sold in Norfolk occurred mainly during the first seven months of calendar year 2014. Since then, the average price of homes sold in Norfolk has been rising year-over-year in each month, from August 2014 through December 2014. During the August-December period in calendar year 2014, the average price of homes sold was up by about 4.4 percent from the same period in calendar year 2013.

Table D-6 provides an annual breakdown of residential building permits over the past ten Fiscal Years.

**Table D-6
City of Norfolk, Virginia
Residential Construction
Fiscal Years 2005 – 2014**

Fiscal Year	Building Permits	Number of Units	Value (in thousands)
2005	560	1,191	\$204,391
2006	531	1,058	133,053
2007	389	491	68,476
2008	277	815	101,212
2009	209	535	35,878
2010	191	621	58,729
2011	221	479	37,298
2012	268	371	39,360
2013	385	948	67,302
2014	1,338	432	93,072

Source: Permit Tracking System, Department of Planning, City of Norfolk, Virginia.

Table D-7 presents annual nonresidential construction permits, which includes commercial buildings, public buildings, schools, public utility buildings and miscellaneous structures, over the past ten Fiscal Years.

**Table D-7
City of Norfolk, Virginia
Nonresidential Construction
Fiscal Years 2005 – 2014**

Fiscal Year	Building Permits	Value (in thousands)
2005	70	\$70,677
2006	60	165,989
2007	55	81,396
2008	35	102,714
2009	38	138,131
2010	35	104,922
2011	27	40,073
2012	26	116,401
2013	28	105,635
2014	30	30,565

Source: Permit Tracking System, Department of Planning, City of Norfolk, Virginia.

Employment

Businesses in the City provide residents with employment opportunities in a variety of industries of which services, government and trade are the most significant.

The unemployment rate for the City is illustrated in Table D-8.

Table D-8
City of Norfolk, Virginia
Unemployment Rates
2005 – 2014

Calendar Year	Norfolk	Hampton Roads MSA	Virginia	U.S.
2005	5.0%	3.9%	3.5%	5.1%
2006	4.2	3.3	3.0	4.6
2007	4.1	3.2	3.1	4.6
2008	5.3	4.2	4.0	5.8
2009	8.9	7.1	7.0	9.3
2010	9.1	7.5	7.1	9.6
2011	8.3	7.1	6.4	8.9
2012	7.7	6.5	5.9	8.1
2013	7.0	6.0	5.5	7.4
2014 ⁽¹⁾	5.9	5.0	4.5	5.4

Source: U.S. Bureau of Labor Statistics.

Note: (1) Figures as of December 2014.

Table D-9
City of Norfolk, Virginia
Civilian Employment and Average Weekly Gross Wages ⁽¹⁾
2nd Quarter, 2014

	Number of Establishments	Number of Employees	Average Weekly Wage	Percentage of Employment
Construction	332	3,776	\$852	2.78%
Manufacturing	135	6,131	1,047	4.52
Trade, Transportation and Utilities	1,187	24,704	971	18.19
Information	85	2,707	1,056	1.99
Financial Activities	550	8,323	997	6.13
Professional and Business Services	1,014	20,752	3,594	15.28
Education and Health Services	909	37,893	849	27.91
Leisure and Hospitality	628	12,953	808	9.54
Other Services	548	4,371	592	3.22
Public Administration	68	14,174	1,190	10.44
Total	5,456	135,784		100.00%

Sources: U.S. Bureau of Labor Statistics. Virginia Employment Commission, Quarterly Census of Employment & Wages Program. Totals include non-disclosable data.

Note: (1) Excludes (i) Agriculture, Forestry, Fishing and Hunting; (ii) Mining, Quarrying, and Oil and Gas Extraction and (iii) Utilities, which information is considered confidential.

Federal Government Impacts

As a continuation of the federal government sequestration, which began in federal fiscal year 2013, federal subsidy payments to issuers of direct pay qualified bonds were reduced by 7.2% in federal fiscal year 2014 and are reduced by 7.3% in federal fiscal year 2015. This reduction will affect the subsidy received on the City's Series 2010B Build America Bonds, Series 2010B Recovery Zone Economic Development Bonds, Series 2010F Recovery Zone Economic Development Bonds, Series 2012D Qualified School Construction Bonds and Series 2013C Qualified Energy Conservation Bonds. The total sequestration amount expected to be deducted from the City's anticipated subsidy payment for Fiscal Year 2015 represents only 0.02% of the City's Fiscal Year 2015 budget of \$817.8 million. The City budgets for all interest payments on a gross basis, so any subsidy reduction is not expected to materially affect the City's finances.

Continued federal sequestration could result in a softening of the regional economy due to the concentration of direct and indirect federally funded employment; however, any potential adverse effects on the City's revenue sources are not expected to be material.

Economic Development

Economic development initiatives are focused on the attraction, expansion and retention of businesses, neighborhood and community revitalization and commercial corridor development. Some of the City-led initiatives to stimulate commercial revitalization include: Tax Abatement for Property Rehabilitation, State Enterprise Zone, Historically Underutilized Business Zones, Pedestrian Commercial Overlay Zones, Tax and Grant Benefits, public infrastructures and amenities. In the past 18 months, the City has seen economic development from existing and new business, as well as new retail development and redevelopment of existing infrastructure, including over \$40 million in business expansion and retention and the creation of approximately 400 jobs for existing companies; over \$50 million in investment from new business and the creation of approximately 300 jobs; over \$41 million in new retail investment and the creation of approximately 570 retail jobs; and over \$300 million in reinvestment and redevelopment projects. The following pages describe many of the economic development projects that account for these investments and employment.

Downtown Development

Downtown offers a mix of cultural attractions and entertainment for its citizens and tourists. The average vacancy rate for Downtown Class A office space as of March 2015 is approximately 12.91%, as shown in Table D-10.

Table D-10
City of Norfolk, Virginia
Downtown Norfolk Vacancy
March 2015

Class A	Rentable SF	Vacant SF	Percent Vacant
150 West Main Street	225,498	39,137	17.36%
Crown Center	58,674	9,538	16.26
Dominion Tower	405,539	49,016	12.09
Main Street Tower	201,307	5,262	2.61
Norfolk Southern Tower	293,035	47,494	16.21
Wells Fargo Center	249,887	39,802	15.93
World Trade Center	367,000	42,341	11.54
Total	1,800,940	232,590	12.91%

Source: CoStar, March 2015.

Bank presence along Main Street includes Bank of America, BB&T, Monarch, Old Point National, PNC, SunTrust, TowneBank and Wells Fargo. Bank of Hampton Roads, Heritage, Southern Bank and several credit unions are also located downtown.

The Wells Fargo Center, a \$170 million office, retail and residential development opened June 2010, on Monticello Avenue adjacent to the Monticello Avenue light rail station, MacArthur Center, Scope and Chrysler Hall. This Class A, mixed-use development is comprised of a 23-story, 255,000 square foot office tower, 50,000 square feet of retail space on Monticello Avenue, 121 luxury apartments and 1,859 parking spaces in two garages.

The new \$121.7 million Consolidated Courts Complex opened in January 2015 near City Hall and adjacent to the Civic Plaza light rail station. The complex is being built in two phases to allow for uninterrupted court operations. The General District and Circuit Courts moved initially into the new building, while construction of the second phase is scheduled to be completed in the next two years to further consolidate the Juvenile and Domestic Relations Court and the law library in the complex.

Residential Development

Neighborhood revitalization is one of the City's core initiatives and part of the economic development plan. By increasing the diversity of housing opportunities, the City expects to increase the diversity of its citizenry and expand the tax base. The City's goal for neighborhood and commercial development is to provide an environment that will increase private sector investment, retail sales generation and corresponding municipal revenue generation, create a framework for targeted and coordinated public and private investment and build upon and coordinate with other ongoing community development initiatives.

Residential investment continues to grow throughout the City, including downtown. Plans are underway to convert the Savoy, a historical building, into affordable work force apartments. Additionally, the Metro on Granby project includes two new \$12 million apartment buildings, which opened in 2014, 401 Granby (65 units and 2,100 square feet of retail) and 416 Boush (71 units and pool/fitness center). Other new residential projects downtown include The Wainwright Downtown (126 units), Banks at Berkley (50 units), The Crossings at Campostella Station (156 apartments and 25 single-family homes), Element at Ghent (164 units), Fort Tar Lofts (13 units), The James (79 units), The Seaboard (135 units), The Promenade Pointe (187 units), The Pointe at Pickett Farm (300 units), 1500 Monticello (a mixed-use project with 207 units and 10,131 square feet of retail space), The Watermark (372 units), The Law Building (135 units), The Virginia Building (32 units and two retail spaces) and 450 Boush (a mixed-use project with 150 units and 10,000 square feet of retail). Other residential development includes Atlas Flats in the Midtown area and Front Street Apartments in the Fort Norfolk area.

The seven-mile stretch of beaches on the Chesapeake Bay known as Ocean View experienced redevelopment over the past decade. The East Beach section of Ocean View will have 700 housing units with prices ranging from \$350,000 to over \$1.5 million, with an average home sales price of \$733,507. A portion of the homes are currently occupied with the remainder of the properties planned for development. Lot sales total approximately \$47 million representing nearly \$230 million in home values and approximately \$2,553,000 in annual real estate taxes to the City. East Beach Phase 7, the final phase of East Beach consists of 38,000 square feet of retail and commercial space, as well as a mixture of 80 townhomes, single family homes, cottages and carriage houses. A \$25 million project with 80 homes to the south of East Beach, Pointe East at Harbor Walk, is being developed. East Beach Marina Apartments, with 136 apartments, is also being developed in East Beach. This project will have waterfront boardwalk access and is expected to be completed in May 2015.

Broad Creek is a \$200 million community near Norfolk State University with 600 mixed-income homes. In Broad Creek, the region's first mixed-use, mixed-income community, construction is complete on 400 rental units and 70 homes. Construction on Broad Creek Village, a mixed-use residential and retail development, began during 2008, and is being followed by Broad Creek's final phase of 200 mixed-income residential units north of Princess Anne Road.

Commercial Development

Simon Property Group Inc. has announced an investment of approximately \$75 million to build its second Premium Outlets mall in Hampton Roads on an existing City-owned golf course. The redevelopment plan calls for the City to retain approximately 65 acres for green space and walking trails around the lake creating new public open space. Construction is expected to start in 2015, with a projected opening in 2016. Phase I of the Simon Premium Outlet Park is planned to include approximately 90 stores, 350,000 square feet of leasable space and is

anticipated to generate an estimated \$3 million in tax revenue. The timetable for Phase II has not been announced, but is expected to include an additional 100,000 square feet for approximately 30 stores.

Westside Place is a \$50 million investment featuring 250 apartments and over 100,000 square feet of retail space off of Hampton Boulevard.

Arts and Culture

Norfolk offers a mix of cultural attractions and entertainment for its citizens and tourists. Norfolk's entertainment and theatre venues include the Attucks Theatre, the Harrison Opera House, Chrysler Museum, and the "Theater District" which includes Chrysler Hall, Jeanne and George Roper Theater, Wells Theatre and the NorVa.

A \$24 million, 10,000 square foot expansion and renovation of the Chrysler Museum of Art was completed in May 2014. Previously only 20% of the collection was on display and the expansion allows for more of the collection to be seen.

A major City initiative underway is the development of a Downtown Arts and Design District, in the area north of Brambleton Avenue. Sparked by interest from the public, a workgroup was established to explore possibilities for an arts district and to develop an implementation plan. Urban Design Associates was hired to develop a master plan for an arts district. The City engaged Team Better Block to create a "living charette" to support the vision of future development and improvements. In May 2013, the City Council adopted revisions to the D-4 downtown zoning district to create a Downtown Arts and Design zoning district with an expanded mission statement and list of permitted use more in line with the vision of the arts district.

Other recent investments to the City's cultural attractions include the Virginia Arts Festival headquarters, a home for the Hurrah Players, and the Chrysler Museum Glass Art Studio. The Virginia Arts Festival headquarters, which is located across the street from Chrysler Hall, houses year-round education outreach activities, a rehearsal and intimate performance space, as well as the Festival's administrative offices. Adjacent to the Virginia Arts Festival headquarters is the new home of the Hurrah Players, which features a 100-seat theater and two rehearsal halls. The Chrysler Museum Glass Studio supports artists working in a variety of glassmaking processes, including blown glass, casting, fusing, flameworking and cold working. Located adjacent to the museum, the Glass Studio is the only one of its kind in the Mid-Atlantic region, and complements the museum's extensive glass collection.

The Virginia Zoological Park completed the Trail of the Tiger exhibit in 2011. It features animals from Asia, and nearly doubled the number of large animals at the Zoo. A new \$4.25 million animal wellness center, completed in February 2014, consists of a 3,000 square foot Nutrition Center and an 8,000 square foot Veterinary Hospital. The hospital provides state of the art surgical and treatment suites, laboratory and pharmacy.

The 80,000 square foot Half Moone Cruise and Celebration Center opened in spring 2007 and is located in the harbor between Town Point Park and Nauticus/Battleship Wisconsin. The Half Moone Center continues to serve as a multi-purpose facility for the City offering five distinct event spaces that can accommodate from 50 to 1500 guests. In 2013, the City celebrated its twelfth anniversary of welcoming Carnival Cruise Lines to the Half Moone Center.

The Slover Library, a new main public library, opened in January 2015. It combines the historic downtown Seaboard Building with a new architecturally significant structure designed by a nationally recognized New Haven, Connecticut architectural firm, Newman Architects. The library combines the historic integrity of the Seaboard Building with a seamless expansion creating a state-of-the-art, highly efficient library complex. A \$20 million gift from Frank Batten Sr., announced in 2008, allowed the City to accelerate the planning and construction of the downtown library by at least ten years. An additional \$20 million matching grant was announced in 2010, which combined with the City's original \$20 million brings the total project investment to over \$60 million.

In the Wards Corner section of the City, work was completed in March 2014 on new \$8.5 million performing arts center for Norfolk Collegiate School. Also in Wards Corner, an 8-acre shopping center anchored by Harris Teeter opened in February 2014.

Today, there are more than 350 public art programs that support thousands of artists' projects in government buildings, the airport, in libraries, in parks and in neighborhoods. Additional artwork is being displayed in the light rail stations.

Transportation Initiatives

The City's light rail system, the Tide, began operation in August 2011, and has to date, exceeded passenger count expectations. The Tide runs from the Eastern Virginia Medical School complex near Fort Norfolk to the Newtown Road/Virginia Beach city line. Amtrak passenger rail line service connecting Norfolk to Washington DC via Petersburg and Richmond began operation in December 2012 and has, to date, exceeded aggregate passenger count expectations. The intercity passenger rail will serve a multi-modal center located at Harbor Park, which includes a light rail station and will feature ferry service to Portsmouth. A \$3 million, 3,500 square foot train station supports the new service. The facility will link intercity passenger rail to the light rail and regional bus systems, ferry service, cruise ship facilities and provide direct interstate access.

In 2012 construction began on the Downtown Tunnel/Midtown Tunnel/MLK Extension project. This \$1.9 billion project achieved financial close on its senior and subordinate funding in April 2012 and is expected to be completed in 2017.

The Commonwealth is also funding the Hampton Boulevard Grade Separation project, which is an \$89 million project, expected to be completed in 2014. This project will remove the railroad crossing conflict affecting Hampton Boulevard by depressing the road below the existing railroad tracks to improve vehicular traffic to the port terminals and Navy base.

In 2013, construction began on the I-564 intermodal connector project. This \$170 million project is expected to alleviate congestion and improve transportation flow on City and naval station streets, when completed. Completion of the I-564 intermodal connector project is expected in June 2017. This project is funded by the Commonwealth. The Virginia Port Authority was awarded a \$15 million Transportation Investment Generating Economic Recovery (TIGER) grant from the U.S. Department of Transportation to create a new intermodal gate complex at Norfolk International Terminals ("NIT"). This project is expected to cost approximately \$29 million and connect with the I-564 intermodal connector project with the goals of easing commuting around NIT, reducing truck traffic on local roads and increasing cargo velocity and efficiency at NIT.

In order to provide additional state funds to road construction and maintenance, effective July 1, 2013, the Commonwealth commenced collecting an increased sales and use tax and new state and regional taxes on gasoline, motor vehicle sales and other specific taxes, which includes the collection of sales and use taxes from remote sellers (i.e., retailers that, other than their sales to residents, do not have a physical presence in the Commonwealth). Under existing federal law, the Commonwealth does not have the authority to collect state and local retail sales and use tax from remote sellers, but if federal law changes, then the taxes on remote sellers will be collected. In addition, purchasers in the Hampton Roads region, which includes the City, will pay increased sales and use taxes and other specific regional taxes on transactions that take place in Hampton Roads jurisdictions. Receipts from such additional taxes must be used to pay for transportation projects within the region. Such projects will be prioritized and selected by a regional transportation planning organization, which will allocate such tax revenues for regional transportation projects. There can be no assurance that these new state and regional taxes will not be changed, but such taxes are expected to generate approximately \$880 million per year for transportation funding across the Commonwealth, with the Hampton Roads regional taxes expected to generate approximately \$200 million per year for major projects in the Hampton Roads region.

Norfolk Airport

Norfolk International Airport ("NIA") is one of the most powerful economic generators in the Hampton Roads region. Currently, NIA is served by American, Delta, Southwest, United and US Airways and their regional partners. Offering over 150 arrivals and departures daily to major cities throughout the United States, NIA presently ranks as the 69th largest primary airport of the country's airports in terms of passengers served annually, with nearly 3.0 million scheduled passengers served in 2014.

NIA generates nearly 1,700 jobs and over \$135 million in direct economic impacts annually. More than 760,000 annual visitors use NIA and other facilities in the region and contribute an additional \$565 million in indirect economic impacts that create more than 12,500 local jobs with a payroll in excess of \$210 million. Total direct and indirect/induced economic impact to the region is nearly \$1.1 billion annually, according to the Commonwealth of Virginia Statewide Impact Study – Technical Report, issued August 2011.

The first phase of the passenger terminal refurbishment was completed in May 2014 and work on phase two is underway and when completed in Spring 2016 will include a renovated and enlarged security checkpoint and continued interior finishes.

Hotel Development

Norfolk has nearly 5,000 hotel rooms, including over 1,500 in the downtown area. Tourism and conventions employ over 6,800 workers in the City and generate \$25.8 million in state taxes and \$22.1 million in local tax revenue. Travelers to the City spend over \$719 million annually. Construction of the new Hilton Norfolk at The Main and The Exchange conference center is underway. The \$126 million public/private downtown project will include a 50,000 square foot conference center; a 23-story hotel with approximately 300 rooms, three restaurants, and a 600-space parking garage. The project is expected to create approximately 500 construction jobs, 300 hotel jobs and an estimated \$2 million in annual tax revenue. It is being developed by Gold Key PHR Hotels and Resort, with delivery expected in 2017.

Waterfront Recreation Investment

Norfolk has seven miles of Chesapeake Bay beachfront and a total of 144 miles of shoreline along its lakes, rivers and the Chesapeake Bay. Numerous marinas are located along Downtown's Elizabeth River, the Lafayette River, lakes, the Hampton Roads Harbor and the Chesapeake Bay. Town Point Park, located in the downtown area along the Elizabeth River, brings thousands of visitors downtown annually and generates both tax and parking revenue for the City.

The City approved a contract with the Cordish Company for the renovation of the Waterside Festival Marketplace that would reposition the facility into Waterside Live!, a world-class dining and entertainment complex.

Sports and Recreation

The Kroc Center, an \$84 million state of the art community center located in Broad Creek opened in April 2014. Norfolk's center is the final of 22 Kroc Centers being built across the nation by the Ray and Joan Kroc Foundation and the Salvation Army.

The Y on Granby, a 32,000 square foot YMCA facility in Park Place, opened in June 2013. The \$8 million project features an outdoor pool with slides, soundproof music room, gym and computer lab. The construction of an early childhood center called E3 or Elevate Early Education, opened in January 2015. Funded by private donations the school will educate children from 1 to 5 years old from varying income families.

The Skate Park at Northside Park is a professionally designed, 21,000 square feet skate plaza. The concrete facility integrates transitional and street style elements into one park. Designed to be one of the region's largest, tournament-style skate parks, it boasts one of the largest bowls in Hampton Roads with a 7' to 9' transition next to a mini half-pipe.

The Southside Aquatic Center, a \$7.7 million facility, opened in October 2013. The 20,000 square foot facility, located in Campostella, features a 25-yard, six-lane competition pool, as well as two 1-meter diving boards, a two-story twisty tube slide, locker rooms, instructional areas and a handicap-accessible plunge area.

Norfolk is home to the Norfolk Tides, a AAA minor league baseball team. In September 2014 the Tides and Orioles renewed their predevelopment agreement through the end of the 2018 season. The Tides renewed their

15-year lease at Harbor Park in December 2013. The Norfolk Admirals announce in January 2015 the sale of the American Hockey League (AHL) franchise to the National Hockey League's (NHL) Anaheim Ducks. As a result of the transaction, the Edmonton Oilers (NHL) have agreed to move their ECHL affiliate from Bakersfield, California to Norfolk beginning with the 2015-2016 season and play in Norfolk as the Admirals. Old Dominion University ("ODU") began a football program in the fall of 2009, and currently competes in the Conference USA. Norfolk State University has a long-established football program, which currently competes in the Mid-Eastern Athletic Conference.

Norfolk's Educational Institutions

Available within the City are a wide variety of educational facilities including public elementary, middle and high schools, private and parochial schools, two universities, one college, one community college and a medical school.

Public Schools

Norfolk public schools have a low pupil-teacher ratio with class sizes below the national average. Norfolk offers innovative public school programs, which include Early Childhood Education, a unique, comprehensive program for three and four-year-olds and their parents located in the public housing community of Diggs Town, at the Park Place/Colonial Place Community Center and at Ocean Air Elementary.

The new Crossroads Elementary School, housing Pre-Kindergarten – 8th grade, opened in September 2012, and replaced the existing elementary school to create a more efficient footprint on the same 10-acre site. The new school features a three story academic wing, a media center, a multi-purpose room, a gymnasium and a student dining area with a performance platform. A dedicated portion of the facility is used by the Recreation, Parks and Open Space Department including access to many of the public portions of the building.

The City is home to the Governor's Magnet School for the Arts, Virginia's only magnet school for the arts, which offers classes in performing or visual arts to approximately 300 students from six cities and two counties. The School consolidated its location in downtown Norfolk on Granby Street. The \$9 million renovation was completed in January 2014.

Over the past decade, the City provided support to construct Norview High, Blair Middle, Coleman Place Elementary and Crossroads K-8. School construction remains a priority for the City as the City has made a commitment to build or replace five schools. The first school replaced was Crossroads Elementary, which opened in 2012. The first \$0.02 of a \$0.04 per \$100 of assessed value increase in the real estate tax rate, effective for Fiscal Year 2014 is dedicated to fund the City's School Construction, Technology, and Infrastructure (CTI) Program and is expected to allow the City to fund the design and construction of the next four schools at a faster rate than previously planned.

In July 2012, the City received and accepted an unsolicited proposal to construct four schools under the Public-Private Education and Infrastructure Act of 2002, which allows private groups to make unsolicited proposals to build public buildings and allows local governments to solicit private proposals for construction projects such as prisons, fire stations and schools. The City subsequently issued a request for proposals for school construction where three total proposals were received in December 2013. Through this process, the City entered into a comprehensive agreement with S.B. Ballard Construction Company for the construction of four new schools Campostella, Broad Creek, Larchmont and Ocean View. Campostella, a K-8 elementary/middle school broke ground in February 2015.

Student population for the past five Fiscal Years is shown in Table D-11.

Table D-11
City of Norfolk, Virginia
Public Schools Student Population
Fiscal Years 2009 – 2013

Fiscal Year	September 30 Membership	Percent Change
2009	32,272	(2.05)%
2010	31,766	(1.57)
2011	31,485	(0.85)
2012	31,142	(1.09)
2013	30,702	(1.41)

Source: Virginia Department of Education, Superintendent's Annual Report. 2013 is the most recent year for which information is available.

Higher Education

Norfolk is home to five institutions of higher learning: ODU, Norfolk State University, Virginia Wesleyan College, Tidewater Community College and Eastern Virginia Medical School. ODU is one of only 100 public research universities nationwide. Its Board of Visitors approved a new \$140 million master plan in December 2013. Norfolk State University is Virginia's largest public, historically black university and the seventh largest in the nation. Located in downtown, Tidewater Community College has five buildings, including the Jeanne and George Roper Performing Arts Center. An Eastern Virginia Medical School, dedicated solely to biomedical and health education, has an economic impact on the regional economy of \$824 million annually. Virginia Wesleyan recently announced plans for a new academic facility for the fine arts on its campus.

Institutional Technology Parks

Old Dominion University – University Village ("University Village"). University Village is a mixed-use development initiative by the Old Dominion University Real Estate Foundation, in partnership with the City, the NRHA and private developers, and represents the expansion of a 75-acre urban village, adjacent to the Ted Constant Convocation Center. University Village includes The District Apartments, University Village Apartments, restaurants, shops, the North Village Parking Garage, the Innovation Research Park, the president's house, Marriott SpringHill Suites Hotel, the University Bookstore and the Powhatan Sports Complex to support the expansion of the University's athletic programs. The Innovation Research Park @ ODU consists of two 100,000 sq. ft. Class A wet/dry lab buildings, and is one of a few research parks in the country located on the campus of its research institution. It was designed to leverage the access, proximity and infrastructure of ODU, the surrounding federal labs and military centers to aid companies at every point in their lifecycle.

Norfolk State University – Research and Innovations to Support Empowerment Center (the "RISE Center"). The RISE Center, located on the campus of Norfolk State University, is designed to promote interaction between the university, the business sector and community and federal agencies in research and technology. The first phase of the Marie V. McDemmond Center for Applied Research houses classrooms, labs and offices for professors in areas such as materials research, engineering and computational science, as well as the office of research and technology.

Norfolk's Medical Institutions

Within the City, there are five general, acute care and specialized hospitals including Sentara Norfolk General Hospital ("Sentara Norfolk General"), Sentara Leigh Hospital, Bon Secours DePaul Medical Center, Children's Hospital of The King's Daughters ("CHKD") and Lake Taylor Transitional Care Hospital ("Lake Taylor Transitional"). Sentara Norfolk General is home to the area's heart hospital, a 112-bed, 254,000 square feet center. CHKD, the site of Virginia's only free-standing, full-service pediatric hospital is home to one of the nation's top

pediatric residency programs. With 212 rooms, the hospital serves the medical and surgical needs of children throughout the greater Hampton Roads metro area, the eastern shore of Virginia and northeastern North Carolina.

Work on a major campus upgrade for Sentara Leigh Hospital is underway. The current hospital will be replaced with two five-story towers for inpatient rooms, a 48-bed orthopedic and rehabilitation center, and an internal garden, as well as a new parking deck for staff. The first tower was completed in November 2013 and the two-story atrium and second tower is expected to be completed in 2016. The \$126 million expansion will increase the hospital's size by more than 40%, to 517,000 square feet.

Bon Secours DePaul Medical Center is also undergoing change. A new \$25 million medical office building with specialist care and a comprehensive cancer center opened on January 2015. The third and final phase of the campus expansion is the building of a 124-bed replacement hospital, scheduled to open in 2017.

The Virginia Port Authority

In 1981, the General Assembly passed landmark legislation designed to unify the ports in southeastern Virginia Hampton Roads harbor under a single agency, the Virginia Port Authority, with a single operating company, the Virginia International Terminals, Inc. The Port of Virginia (the "Port"), one of the world's largest natural deep-water harbors, is an integral part of Norfolk's economy.

The Virginia Port Authority is one of the top three ports on the east coast in terms of total value of port trade. In 2014, the Port handled a total of 19,061,402 tons of general cargo, including 18,733,342 tons of containerized cargo, with 328,060 tons of breakbulk making up the remainder.

Table D-12
Virginia Port Authority Terminals
General Cargo Tonnage
Calendar Years 2010 – 2014

Calendar Year	Total General Cargo Tonnage (in thousands)	Percent Change over Previous Year
2010	15,323	2.78%
2011	15,616	1.91
2012	17,528	12.24
2013	18,840	7.49
2014	19,061	1.17

Source: Virginia Port Authority.

Increase in the port-related business use of the Virginia International Terminals drives new capital investment into the region. The Heartland Corridor gives the Port rail access to markets in Ohio, Illinois, Michigan and points west. Additionally, a 300-acre expansion of Norfolk International Terminal makes it the largest inter-modal center in the United States.

Business, Industry and Commerce*

Several major companies are headquartered in Norfolk, including:

- Norfolk Southern, a Fortune 500 company and one of the country's largest railroad operators;
- Landmark Communications, one of the country's largest privately owned media companies with ownership of several daily newspapers, local TV stations, and specialty publications;

* This section has changed from the Preliminary Official Statement dated March 24, 2015.

- Dominion Enterprises, a wholly-owned subsidiary of Landmark Communications, Inc., is a print and internet media group that includes numerous specialty publications and online classifieds;
- FHC Health Systems, one of the top 250 largest private companies in the country, specializing in health care management, health services, and online medical reports;
- CMA CGM Inc., the America's Headquarters, one of the world's largest container transportation and shipping company;
- Portfolio Recovery Associates, a firm whose primary business is the purchase, collection and management of defaulted customer receivables and which recently expanded its regional headquarters and added approximately 350 new jobs; and
- Bauer Compressor, North America's headquarters of the Munich, Germany company, has been located in Norfolk for more than 30 years and is a leading manufacturer of air compressor equipment.

The \$14 million Virginia Renaissance Center ("VRC") is being developed by Jacoby Development Group at the site of the former Ford Plant in Camptella. Of the 110 acre site, 40 acres have been sold to Katoen Natie for \$12 million as a warehouse and distribution center to repackage and distribute plastic pellets. Katoen Natie exercised its option to develop an adjacent 25 acre site and will expand its options. In February 2014, The Schaubach Cos. bought the VRC from VRC Ventures for \$4.1 million. Three of five parcels comprising nearly 18 acres and a 30,000 square foot building at the property were sold. Currently about 50 acres with access to a 400 foot pier and a Norfolk Southern rail connection are still available.

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There are a large variety of industrial, commercial and service employers located within the City. Table D-13 below presents data regarding the major non-government employers in the City.

Table D-13
City of Norfolk, Virginia
Major Non-Government Employers in 2nd Quarter 2014

Company	Number of Employees	Product/Service
	1,000+	
Sentara Healthcare		Hospitals
Old Dominion University		Educational Services
Children's Hospital of the King's Daughter		Hospitals
Norfolk State University		Educational Services
Norshipco		Transportation Equipment Manufacturing
Eastern Virginia Medical School		Educational Services
Portfolio Recovery Association		Administrative and Support Services
Bon Secours DePaul Medical Center		Hospitals
Maersk Line Limited		Water Transportation
	500 – 999	
Tidewater Community College		Educational Services
Wal-Mart		General Merchandise Stores
CMACGM (America), Inc.		Support Activities for Transportation
Bank of America		Credit Intermediation and Related Activities
Sentara Health Management		Insurance Carriers and Related Activities
Virginia International Terminal		Support Activities for Transportation
Anthem		Insurance Carriers and Related Activities
Colonna's Shipyard		Transportation Equipment Manufacturing
ODU Research Foundation		Professional, Scientific and Technical Services
Virginia Wesleyan College		Educational Services
	250 – 499	
McDonald's		Food Services
Electronic Data Systems Corp		Internet Service Providers and Data Processing Services
Food Lion		Food and Beverage Stores
United Services Automobile Association		Insurance Carriers and Related Activities
Farm Fresh		Food and Beverage Stores
Tidewater Wholesale Grocery		Merchant Wholesalers, Nondurable Goods
Top Guard Inc.		Administrative and Support Services
Marine Hydraulics International		Transportation Equipment Manufacturing
Horizon Services, LLC		Administrative and Support Services
Alorica Inc.		Administrative and Support Services
CP&O LLC		Support Activities for Transportation
Personal-Touch Home Care, Inc.		Ambulatory Health Care Services
American Funds Service Company		Financial Investments
Lake Taylor Hospital		Nursing and Residential Care Facilities
Soc LLC		Administrative and Support Services
Booz, Allen and Hamilton		Professional, Scientific and Technical Services
Event Staffing Inc.		Food Services and Drinking Places
United Express Airtran Jet Con		Air Transportation
Hampton Roads Transit		Administration of Economic Programs
Transit Management Company		Transit and Ground Passenger Transportation
The Virginian-Pilot		Publishing Industries
L 3 Unidyne Inc.		Professional Scientific and Technical Services
Community Alternatives		Social Assistance
Zim American Integrated Shipping Services		Support Activities for Transportation

Source: Virginia Employment Commission.

New development, expansion and retention of Norfolk's business community has led to continued economic growth over the past five years. Recent growth in areas such as manufacturing, research and technology, healthcare, residential apartments, craft brewing and boutique retail has increased the diversification of Norfolk's local economy. Since 2008, the City has realized over \$2.0 billion in new development, business expansion and announcements of pending projects.

Table D-14
City of Norfolk, Virginia
Business Growth
A Sampling of Business Activity in 2008 – 2014

Company	Type	E/N	C/D/A	Investment (mil)
201 Twenty-One	Mixed-use residential apartments & retail	N	C	\$ 40
Bauer Compressor Facility	Expansion of existing Norfolk business	E	D	15
Bay Village Condominiums	Senior only residences	N	D	15
Belmont at Freemason	Apartments	N	C	45
Colonnas Shipyard	Expansion	E	D	11
CMA CGM	Americas Headquarters, shipping line	E	C	11.5
Commander Corporate Center	Second office building for spec	N	C	12
Crossing at Campostella Station	156 apartments and 25 single-family homes	N	A	20
Court Complex	New combined Court Complex	N	D	123
Downtown Hotel and Conference Center	New hotel and conference center	N	D	126
Eastern Virginia Medical School	New education and research building	N	C	80
Element at Ghent	164 new luxury apartments	N	D	26
Fort Norfolk Plaza	Mixed-use medical office, retail	N	C	70
Ghent Station	New medical space and retail	N	C	17.5
Hampton Roads Barge Company	New transportation/shipping company	N	C	2.3
Harbor's Edge Phase II	Residential retirement community in Fort Norfolk	N	A	100
Harris Teeter Expansion	Replacement of existing grocery store	E	C	14
Harris Teeter	Construction of new store at Wards Corner	N	C	18
Hurrah Players	Theatre, dance, voice and acting troupe	N	C	1.4
Kroc Center	Community center	N	C	84
Lamberts Point	Recreation facility	N	C	7.6
Light Rail	Starter line	N	C	338.3
MacArthur Memorial	Expansion	E	C	5
Marine Hydraulics	Expansion	E	C	82
Metro on Granby	Two new apartment buildings on Granby St	N	D	24
Norfolk Premium Outlets and Park	Includes 90 to 120 new stores	N	A	75
Norfolk State University (NSU)	Library and student center	N	C	75
Old Dominion University (ODU)	Innovations Research Park II	N	C	22.5
Old Dominion University (ODU)	Student fitness center	N	C	28
Old Point National Bank	New branch office in Ghent	N	C	2.8
P & P, LLC	Office/flex (4th building on site)	E	D	1
Passenger Rail Facility	Station for new Amtrak service	N	C	3.8
Residence Inn by Marriott	Extended-stay hotel	N	C	35
Riverside Terrace / Westport	Phasing townhouses and condominiums	N	D	80
Sentara Offices	48,000 sq. ft. office at Poplar Halls	N	D	9
Sentara Garage	Colley Avenue	N	C	15
Sentara Leigh Hospital	Two new patient towers	E	D	126
Sheraton Hotel	Renovation	E	C	32
Slover Library	Construction of new main library	N	C	64
Tidewater Community College	Student center	N	C	17.6
The Market at Ghent	Expansion to existing Farm Fresh store	E	C	3
The River House Apartments	197 apartments	N	C	36
Virginia Arts Festival Headquarters	Offices and rehearsal studios	N	C	7.5
Virginia Zoo	Animal Wellness Center	E	C	4.3
Waterside Live!	Premier dining, entertainment and retail	E	D	40
Wells Fargo Center	Mixed-use office, retail and residential	N	C	170
Westside Place	Mixed-use residential and retail	N	A	50
Total:				<u>\$2,186</u>

Source: Economic Development Department, City of Norfolk, Virginia.

Note: E/N – Expansion or New; C/D/A – Completed, Under Development or Announced.

Military

The presence of the military in Norfolk has a significant impact on the local economy. The City is the home of the world's largest naval complex, with headquarters for Commander in Chief of U.S. Atlantic Command, NATO's Supreme Allied Command Atlantic, Commander in Chief U.S. Atlantic Fleet and other major naval commands. Hampton Roads is the largest center of Coast Guard units in the world with the Atlantic Area Command and Maritime Defense Zone Atlantic in Portsmouth and its Maintenance & Logistic Command Atlantic headquarters in downtown Norfolk.

The military assigns to and reassigns from its various locations within the region ships, squadrons and personnel on a regular basis. Due to the ongoing military presence, the arrivals and departures from the region do not typically have a material impact on the economic condition of the City. However, in the last two years, the region has seen the arrival of the USNS Comfort, a hospital ship, and three ships, the USS New York, the USS Iwo Jima and the USS Fort McHenry were relocated to other home ports. Additionally, a new command with approximately 450 personnel has been slated to relocate from Washington, D.C. to Norfolk. The Hampton Roads Planning District Commission has reported that the three departing ships carry approximately 1,847 personnel (representing approximately 2.1% of the Navy personnel in the Hampton Roads region) and their departure is estimated to result in an employment loss of between 3,000 and 6,000 throughout the Hampton Roads region and \$590 million decrease in Hampton Roads' gross regional product. In addition in January 2014, the first of three destroyers, the USS Cook, moved to Rota, Spain. The second was the USS Ross that moved in June 2014 under a NATO ballistic missile defense plan, and the third the USS Porter is expected to move in 2015.

The Navy has announced in March 2015, that Hampton Roads region will soon be home to six aircraft carriers. While not a permanent homeporting, it will mean the 2,500 plus personnel from the Gerald R. Ford, currently under construction in Newport News, will be in the region for a few years due to schedule and maintenance requirements for the Navy. Additionally, the region also stands to gain two amphibious assault ships to be based at Joint Expeditionary Base Little Creek. The additional carrier will join the USS Dwight D. Eisenhower, USS Abraham Lincoln (currently undergoing overhaul at Newport News Shipbuilding), USS Harry S. Truman, USS George H.W. Bush and eventually the USS George Washington at Naval Station Norfolk.

According to the most recent data available to the City, the U.S. Navy's direct economic impact on the region was \$9.1 billion in Fiscal Year 2013, comprised of a total annual payroll of \$7.8 billion and the balance consumed on goods and services and procurement contracts. The region and particularly the City expects to continue as a center of activity for the U.S. Navy with current total personnel (military and civilian) of more than 75,000. In addition, the Hampton Road's region is home port to approximately 68 ships and home to 38 aircraft squadrons.

Norfolk is home to the Navy Reserve Forces Command. This is the global headquarters for more than 68,000 reserve sailors and is responsible for readiness, oversight, manpower management, logistics, mobilization and training of reserve sailors.

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SUMMARY OF WHOLESALE CONTRACTS

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INTRODUCTION

The City maintains wholesale contracts or water service agreements with Chesapeake, Virginia Beach, Portsmouth, the WTW and the Navy. These contracts and agreements set forth the amount of water to be sold, rate setting procedures, metering points, dispute resolution and other matters.

The descriptions of the contracts and agreements set forth below are brief outlines or summaries of certain of their provisions. Such outlines and summaries do not purport to be complete, and reference should be made to each respective contract or agreement. Copies of the contracts and agreements may be obtained from the City for a full and complete statement of their provisions.

Capitalized terms used and not defined in this Appendix E shall have the meanings given them in the applicable water service contract or agreement.

VIRGINIA BEACH, VIRGINIA

The City of Norfolk ("Norfolk") and the City of Virginia Beach ("Virginia Beach") entered into a Water Services Contract originally dated July 14, 1993, and amended and restated as of February 14, 2001 (as amended and restated, the "Water Services Contract"). Capitalized terms used in this Appendix are defined in the Water Services Contract or in the Official Statement.

The Water Services Contract provides for Norfolk to store, wheel and treat Virginia Beach's Gaston and Stumpy Lake water (sometimes referred to herein as "Virginia Beach Water").

Term of Contract

The Water Services Contract is in effect until June 30, 2030, unless earlier terminated.

Water Treatment, Delivery Services and Obligations

Norfolk must receive and store Virginia Beach Water at locations satisfactory to both parties, transport the water through Norfolk's raw water system, treat the water, provide clear well storage, pump and transport the treated water to the metered points of delivery for the Virginia Beach Water distribution system, and perform all related acts to provide treated water to Virginia Beach. Virginia Beach must pay for these services and provide Virginia Beach Water. The Water Services Contract is a water services contract, not a contract for the sale of treated water, and the right of Virginia Beach to receive treated water under the Water Services Contract is dependent on Virginia Beach's ability to provide Virginia Beach Water, including, but not limited to, obtaining all necessary permits from governmental agencies, and constructing, operating and maintaining the Gaston pipeline, Stumpy Lake and Stumpy Lake pipeline providing Virginia Beach Water to discharge points satisfactory to Norfolk and Virginia Beach. Norfolk must obtain all permits required to construct, operate, maintain or expand Norfolk's water system in conjunction with performance of the Water Services Contract; provided, however, in obtaining or retaining any permit, Norfolk is only required to use its good faith best efforts by all reasonable legal means. Virginia Beach and Norfolk must cooperate and assist each other in obtaining the permits. Norfolk must also keep and maintain its water facilities in good working order in accordance with generally accepted standards for the operation and maintenance of a water system.

Except as otherwise provided in the Water Services Contract, Norfolk must deliver treated water to the Virginia Beach distribution system in such amounts as required by Virginia Beach, up to a total annual average amount of 45 mgd, but not to exceed 0.9 times the maximum sustainable rate of Gaston water which Virginia Beach is capable of delivering to Norfolk for Virginia Beach's use, plus 1.8 mgd for Stumpy Lake water. If the Stumpy Lake contract capacity increase option is exercised (as described under the caption "Effective Date" below), the maximum permissible total annual average amount stated above shall increase by 1.8 mgd to 46.8 mgd.

Virginia Beach is obligated to supply additional Virginia Beach Water above the Virginia Beach current monthly demand if requested by Norfolk, but is not required to supply an amount of Virginia Beach Water in any

consecutive 36-month period in excess of the amount of treated water delivered to Virginia Beach under the Water Services Contract during the same period adjusted for certain losses.

Norfolk is obligated to exercise due care and adhere to generally-accepted engineering practices in the planning, construction, operation, maintenance, and expansion of its water system in order to meet its obligations under the Water Services Contract. Norfolk may not use, sell, assign, or otherwise commit to supply water in excess of Norfolk's safe yield, transmission or treatment capacity except as otherwise provided in the Water Services Contract. Norfolk may sell water, pursuant to a written contract, in excess of its safe yield on an interruptible basis to industrial customers having installed and permitted alternate water sources available, with the consent of Virginia Beach, such consent not to be unreasonably withheld. Norfolk must terminate or restrict the supply of water to such interruptible customers (in accordance with the terms of each contract) in order that Norfolk can meet its obligations to Virginia Beach under the Water Services Contract.

Delivery Points and Measurement.

Norfolk must deliver treated water to Virginia Beach at the delivery points set forth in the Water Services Contract, and at such additional points as may be mutually agreed upon by the parties. Unless otherwise agreed by both parties, Norfolk must construct, own and maintain treated water meter vaults, meters, and all associated facilities located at the delivery points. Virginia Beach must provide Norfolk's employees and agents ingress and egress across property owned by Virginia Beach to all of Norfolk's premises inside Virginia Beach's boundaries to install, operate, inspect, test, and maintain pipelines, pump stations, and facilities, and to read meters owned or maintained by Norfolk within the city limits of Virginia Beach or on property controlled by Virginia Beach. Virginia Beach must install and operate raw water meter or meters capable of measuring the amount of water being delivered from the Gaston pipeline and the Stumpy Lake pipeline to Norfolk including totalizing and recording total flow and daily rates of flow. Each meter must be tested at least once every two years.

Quality and Pressure of Water Delivered to Virginia Beach.

Norfolk must provide the necessary water treatment facilities, operational practices and related services to ensure that the quality of treated water delivered to Virginia Beach pursuant to the Water Services Contract meets all potable water standards mandated by federal and state law, rule or regulation. Except as otherwise provided in the Water Services Contract, Virginia Beach bears the sole responsibility for maintaining water quality beyond the delivery points within the Virginia Beach distribution system.

Rates and Charges.

Method of Rate Determination. The annual rates charged by Norfolk for rendering treated water service under the terms of the Water Services Contract are based upon the utility basis of cost of service principles established by the American Water Works Association. Under such principles, Virginia Beach is charged for treated water service in a manner which recovers its allocable share of operation and maintenance expense, depreciation expense and return on rate base associated with the Norfolk water system.

Operation and Maintenance Expense. Virginia Beach must pay its share of annual expenses of the Norfolk water system, including appropriate departmental and city general overhead and payments in lieu of real estate and tangible personal property taxes, excluding payments to Norfolk's general fund and certain non-common payments.

Depreciation Expense. Virginia Beach must pay an annual depreciation expense associated with the Virginia Beach rate base, excluding construction work in progress.

Return on Rate Base. Virginia Beach must pay to Norfolk an annual return on the Virginia Beach rate base. The annual rate of return to be applied to the Virginia Beach rate base is computed by multiplying the embedded effective average annual interest cost of the Norfolk Utilities Department water system debt for the applicable rate year by 1.25.

Rate Base. The rate base for the purposes of the Water Services Contract is the original cost of the Norfolk water system less accrued depreciation (as shown on Norfolk's books and records). The rate base includes construction work in progress, expenditures which have been paid by Norfolk at the time of rate determination, and general facilities related to the Norfolk water system.

The rate base is allocated between Virginia Beach and Norfolk based on the contract allocation capacities and safe yield of Virginia Beach compared to the capacities of the Norfolk water system facilities serving Virginia Beach and the combined system safe yield. All facilities in the Norfolk water system providing service or benefit to Virginia Beach, including raw water supply, storage and transmission, treatment, pumping, storage, and treated water transmission mains, meters, and administrative and general facilities are included in the rate base subject to allocation to Virginia Beach. Excluded from the rate base subject to allocation to Virginia Beach are: fire hydrants; retail meters and services; all transmission and distribution facilities not used to serve Virginia Beach; and land, land rights and general plant related to excluded items; and certain contributed capital.

Fixed Capacity Charge. Virginia Beach must pay an annual fixed capacity charge sufficient to recover depreciation expense and the return on the Virginia Beach rate base. This fixed capacity charge is payable in equal monthly amounts during the year or years for which rates are applicable.

Demand Charge. Virginia Beach must pay an annual unit demand charge per mgd applied to the measured coincidental maximum hourly demand of Virginia Beach. The annual unit demand charge is based on the common-to-all operation and maintenance expense of the facilities providing service to Virginia Beach, excluding the energy portion of power costs, chemical costs, sludge disposal and other costs which vary directly with volume of treated water produced. The annual unit demand charge per mgd is 1.01 times the result of dividing the common-to-all operation and maintenance expense described in the preceding sentence by the sum of the Virginia Beach and Norfolk noncoincidental maximum hourly pumpage outputs at the Norfolk treatment plants providing service to Virginia Beach.

Supplemental Demand Charge. In the event that Virginia Beach's maximum hourly demand exceeds its contract hourly demand rate of 90 mgd, Virginia Beach must pay a supplemental demand charge for that portion of its maximum hourly demand which exceeds 90 mgd. The amount of the supplemental unit demand charge is equal to two (2) times the unit demand charge as determined in accordance with the formulas set forth above. If the Stumpy Lake contract capacity increase option is exercised (as described under the caption "*Effective Date*" below), the maximum hourly demand rate above shall be 93.6 mgd.

Commodity Charge. Virginia Beach must pay a commodity rate per 1,000 gallons of treated water. This charge is sufficient to recover the energy portion of power costs, chemical costs, sludge disposal, and other costs which vary directly with the volume of treated water produced. The Virginia Beach commodity charge is 1.01 times the amount determined by dividing the total variable cost described in the preceding sentence for the Norfolk water treatment plants providing service to Virginia Beach by the total treated water volume output of such Norfolk water treatment plants, in thousands of gallons.

Biennial Adjustment of Rates. Norfolk is obligated to develop projections of rates applicable to Virginia Beach for treated water service on a biennial basis based on a cost of service study prepared by an independent consulting firm. The projections of rates, along with a copy of the cost of service study, must be submitted to Virginia Beach not less than 120 days prior to the beginning of the two year period. Virginia Beach will be billed monthly for treated water service by Norfolk using the projected rates applicable to water use beginning with the first day of the applicable Fiscal Year and for the remainder of the two Fiscal Years. Such projections of rates, however, may be revised at any time, upon 60 days' advance notice, during the two Fiscal Years by Norfolk should unexpected significant increases or decreases in Virginia Beach's allocated portion of Norfolk's water system costs occur during the Fiscal Years; however, Norfolk may not adjust Virginia Beach's rates more than once during the two year period unless it also adjusts rates to its own retail customers.

Within six months after the end of the second Fiscal Year, Norfolk must complete and submit to Virginia Beach a true-up schedule of rates and annual billings applicable to the previous two Fiscal Years which reflects an allocation of costs of service based on actual cost and experience incurred by the Norfolk water system as shown in the audited books and records of Norfolk. The February, 2001, amendments to the amended and restated water

services contract clarified the contract's methodology as to cost of service and true-up adjustments. Any resulting credits or payments applicable to treated water service resulting from a true-up shall be divided into twelve equal payments or credits to be paid or applied during the second Fiscal Year.

Source and Priority of Payments.

Source of Payment. Virginia Beach must make payments of all charges for treated water service, as well as charges upon termination of the Water Services Contract (the "termination payments") and any other charges payable under the Water Services Contract, solely from revenues received by Virginia Beach from charges paid by users of its water and sewer system and available to it for such purposes for so long as Virginia Beach operates its water and sewer system on a combined basis; provided, however, if Virginia Beach chooses to operate its water system separate and apart from its sewer system, then such charges must be paid solely from revenues of its water system. The charges payable under the Water Services Contract are not deemed to create or constitute an indebtedness or a pledge of the faith and credit of the Commonwealth or of any county, city, town or other political subdivision thereof, including Virginia Beach, for purposes of any constitutional, statutory or charter limitations.

Characterization of Charges under the Water Services Contract. The demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments are deemed to be a part of the annual operating expense of the Virginia Beach water and sewer system, or the water system, as applicable.

Except as described in the following paragraph, the demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments must be paid prior to the debt service on any water and sewer revenue bonds or double barrel bonds of Virginia Beach.

The payment of the fixed capacity charge is on parity with the payment of debt service on certain bonds of Virginia Beach. The payment of the termination payments is subordinate to the payment of debt service on such bonds.

Other than as described above, Virginia Beach will not issue any water and sewer revenue bonds or double barrel bonds as long as the Water Services Contract is in full force and effect (including (i) certain refunding bonds and (ii) revenue or general obligation bonds, the proceeds of which finance the cost of termination payments), the debt service on which will be payable prior to or on parity with Virginia Beach's payment obligations under the Water Services Contract (*i.e.*, the demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments). Virginia Beach may not amend or supplement its Master Bond Resolution or enter into any successor indenture, trust agreement or resolution pledging the revenues of its water and sewer system, or its water system, as applicable, in such a way that will subordinate or adversely affect the pledge or the dignity thereof securing its payment obligations under the Water Services Contract (including the termination payments), without the written consent of Norfolk.

Issuance of Bonds. Virginia Beach retains the right under the Water Services Contract to issue either its revenue or general obligation bonds, the proceeds of which will finance the costs of making the termination payments. The determination as to whether to issue such bonds is within the complete control of Virginia Beach.

Rate Covenant. Virginia Beach must fix, charge and collect such rates, fees and other charges for the use of and for the services furnished by its water and sewer system, or its water system, as applicable, and must from time to time and as often as shall appear necessary, revise such rates, fees and other charges so that revenues received from its water and sewer or its water system, as appropriate, will be sufficient in each year to pay all amounts due under the Water Services Contract and all other operation and maintenance expenses of its water and sewer system, or its water system, as applicable.

Reduced Water Usage By Virginia Beach.

If Virginia Beach receives reduced quantities of treated water from Norfolk because Virginia Beach has developed or acquired additional treated water supplies, Virginia Beach must for the duration of the Water Services Contract pay the annual fixed capacity charge, and the commodity rate for the actual treated water delivered to

Virginia Beach. In addition, for a period of three years, Virginia Beach must pay the annual demand charge applied to the greater of its hourly demand for the year or the highest maximum hourly demand experienced during the five (5) years immediately preceding the reduction.

Curtailment.

The parties acknowledge in the Water Services Contract that supply or treatment problems may occur which prevent or limit Norfolk's ability to deliver treated water to Virginia Beach and/or Norfolk's other treated water customers. In the event that the conditions which prevent or limit Norfolk's ability to deliver treated water to Virginia Beach are applicable to other of Norfolk's customers, Norfolk must seek and, to the extent permitted by federal and state laws and regulations and national security constraints as declared by an official of the United States, enforce the imposition of treated water curtailment upon all affected customers, retail, wholesale or otherwise, in order that all such treated water customers will be similarly affected. If water supplies or services are curtailed in accordance with the procedures set forth above, Virginia Beach and Norfolk are obligated to cooperate by imposing conservation measures upon their respective customers. Neither Norfolk nor Virginia Beach are required to impose curtailments of water supply which would violate any requirements imposed by the State Water Control Board and other state and federal agencies and laws.

Force Majeure and Hold Harmless.

Norfolk is not liable to Virginia Beach for any act, omission, or circumstances occasioned by or in consequence of any act of God, strikes, lockouts, acts of the public enemy, wars, etc.

In case of breaks in the mains, or malfunction of pumping machinery, or other water works equipment, or the occurrence of any other event which makes it necessary temporarily to reduce pressure or cease delivery of water to Virginia Beach, Norfolk must, if practicable, give previous notice of one week. In no case may any claim for damage due to reduced water service or pressure be made by Virginia Beach, and Virginia Beach must hold Norfolk harmless from any third-party suit arising from, or related to, reduced water service or pressure on the Virginia Beach distribution system unless Norfolk's negligence was the cause of the reduced water service or pressure.

Virginia Beach must hold harmless and indemnify Norfolk against any claims or losses arising from receipt of Virginia Beach Water by Norfolk or delivery by Norfolk of treated water to Virginia Beach, unless Norfolk's negligence or failure to comply with its water quality obligations was the cause of the damage which gave rise to the claim or loss.

Stumpy Lake Contract Capacity Increase.

By reason of Virginia Beach's acquisition of Stumpy Lake, Virginia Beach may desire to request an increase of the Virginia Beach contract capacities provided for in the Water Services Contract, from an annual average day rate of 45 mgd to 46.8 mgd, a maximum day rate of 67.5 mgd to 70.2 mgd, and a maximum hour rate of 90 mgd to 93.6 mgd. Norfolk, in its sole opinion, shall determine whether existing uncommitted constructed capacity exists in Norfolk facilities capable of meeting any of such additional contract capacities. Upon affirmative notice by Norfolk of such existing uncommitted constructed capacity, the increased contract capacities shall become effective on July 1 of the following year.

Breaches Related to Treated Water Safe Yield.

If Virginia Beach's treated water average day demand (measured at the metering points) exceeds the lesser of 45 mgd or 99.0% of its treated water safe yield, Virginia Beach must reduce its treated water usage such that it does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. In such event, Virginia Beach must institute adequate measures to ensure that its demand does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. In addition, in such event, Norfolk may restrict the amount of treated water Virginia Beach may receive to ensure that the usage of Virginia Beach does not exceed the lesser of 45 mgd or 99.0% of its treated water

safe yield. If the Stumpy Lake contract capacity increase option is exercised, Virginia Beach's maximum permissible annual average day demand of 45 mgd shall be 46.8 mgd.

If the Virginia Beach average day demand (measured at the metering points) exceeds the lesser of 45 mgd or 99.0% of its treated water safe yield, for a Fiscal Year, then Virginia Beach must pay a supplemental charge for all usage above the lesser of 45 mgd or 99.0% of its treated water safe yield in addition to all other charges provided in the Water Services Contract. The supplemental charge is the rate of \$4.00 per 1,000 gallons multiplied by the sum of 1 plus .05 times the number of years since 1990. If the Stumpy Lake contract capacity increase option is exercised, Virginia Beach's maximum permissible annual average day demand of 45 mgd shall be 46.8 mgd.

If the combined treated water average day demand of Norfolk and all of its treated water customers (measured at the treatment plants), excluding Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats raw water (adjusted for losses), exceeds Norfolk's treated water safe yield, then Norfolk must reduce its usage and that of its treated water customers, other than Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats their raw water (adjusted for losses), such that their combined treated water usage does not exceed Norfolk's treated water safe yield. In addition, in such event, Norfolk must at the request of Virginia Beach, to the extent permitted by federal and state laws and regulations and national security constraints as declared by an official of the United States, restrict the amount of treated water that Norfolk and its customers may receive to ensure that the combined usage of Norfolk and its customers (excluding Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats their raw water (adjusted for losses)) does not exceed Norfolk's treated water safe yield.

If the combined treated water average day demand of Norfolk and its customers (excluding Virginia Beach, any other customers for which and to the extent that Norfolk wheels and treats raw water, adjusted for losses, and interruptible) at the treatment plants exceeds Norfolk's treated water safe yield for a Fiscal Year, then it must pay a supplemental charge to Virginia Beach for all use above Norfolk's treated water safe yield. The supplemental charge is equal to \$4.00 per 1,000 gallons multiplied by the sum of 1 plus .05 times the number of years since 1990.

Breaches Related to Contract Capacities.

If Virginia Beach's average day, maximum day or maximum hour demand exceeds the capacities contracted for and set forth in the Water Services Contract, then Virginia Beach must reduce its treated water demands to the average day, maximum day, and maximum hour capacities for which it has contracted in the Water Services Contract. To ensure that the necessary reductions do occur, Virginia Beach must institute adequate conservation measures. In addition, in such event, Norfolk may restrict the rate at which Virginia Beach may receive water to ensure that the demands of Virginia Beach do not exceed the average day, maximum day, or maximum hour capacities for which Virginia Beach has contracted.

Other Breaches.

If either party breaches any term of the Water Services Contract, the other party must give written notice of the breach, identifying the provision(s) of the Water Services Contract which are being breached. The breaching party has six months from the date of the notice within which to cure the breach. In the event the breach remains uncured for six months, then the breaching party must pay to the other, for each 30 days or portion thereof the breach remains uncured, in addition to all other payments due under the Water Services Contract, an amount, beginning with the seventh month, equal to 10% of the total charge for water on a monthly basis due by the City of Virginia Beach to Norfolk. This 10% amount increases to 50% should the breach remain uncured for an uninterrupted period of twelve months. However, no payment is required so long as the party in breach makes a continuous, good faith effort to cure the breach. These provisions of the Water Services Contract do not apply to the conditions, breaches and circumstances with respect to rates and charges or breaches related to treated water safe yield.

Termination by Norfolk.

Norfolk may terminate the Water Services Contract if one of the following events occurs:

(a) The Gaston pipeline is not 50% complete by June 30, 1998, with (i) all permits and approvals still in force for the construction in progress and (ii) all permits and approvals necessary to withdraw water from Lake Gaston and have the pipeline fully operational.

(b) The Gaston pipeline is not 100% complete and fully operational by June 30, 2000, with all permits and approvals still in force.

(c) Virginia Beach does not give authorization for the construction of the Plant Hydraulic Improvements prior to January 1, 1997.

(d) Virginia Beach does not pay in full a statement within 120 days of receipt unless the unpaid portion of such statement has been submitted to the dispute resolution process set forth in the Water Services Contract.

(e) Virginia Beach has a total and permanent loss of ability to deliver Virginia Beach Water to Norfolk, including, but not limited to, equipment failure or destruction, or the loss of any required permit, approval, or authority. Such loss is deemed permanent if it continues for twenty-four consecutive months.

(f) Virginia Beach willfully and continuously breaches any term of the Water Services Contract which significantly affects the operation of the Water Services Contract.

Upon termination of the Water Services Contract by Norfolk after the Gaston Pipeline is fully operational, Virginia Beach may receive water from Norfolk (in amounts to be determined by Norfolk) for three years after the effective date of termination, if Norfolk has sufficient surplus water available, provided, however, if there is a then existing surplus water contract between Norfolk and Virginia Beach, then the terms of the surplus water contract govern. Virginia Beach must pay for all such surplus water at a rate equal to two times the sum of the charges which would be applicable under the Water Services Contract. Except as described in this paragraph, Virginia Beach is not entitled to receive any water under the terms of the Water Services Contract after the effective date of termination of the Water Services Contract.

If Virginia Beach receives water from Norfolk which is not provided for under the terms of the Water Services Contract or another written contract between the parties, Virginia Beach must pay for all such water received at a rate equal to three times the sum of the charges which would be applicable under the Water Services Contract.

In the event that the Water Services Contract was terminated by Norfolk prior to the date that Virginia Beach received services under the Water Services Contract and prior to the date Virginia Beach authorized the construction of the Plant Hydraulic Improvements, Virginia Beach was obligated to make certain payments to Norfolk as if Virginia Beach had terminated the Water Services Contract. In the event that the Water Services Contract was terminated by Norfolk prior to the date that Virginia Beach received services under the Water Services Contract and after the date Virginia Beach authorized the construction of the Plant Hydraulic Improvements, Virginia Beach was obligated to make certain other payments to Norfolk as if Virginia Beach had terminated the Water Services Contract. In the event that the Water Services Contract was terminated by Norfolk, after the date that Virginia Beach received services under the Water Services Contract, or by Virginia Beach, Virginia Beach was obligated to pay to Norfolk an amount equal to the rate base allocated to Virginia Beach under the most recent cost of service study, provided such facilities are not necessary for Norfolk to provide service to Norfolk or customers of Norfolk with contracts for the sale of water, including Virginia Beach.

Termination by Virginia Beach.

Virginia Beach had the option to terminate the Water Services Contract at any time prior to authorizing construction of the Plant Hydraulic Improvements by providing written notice. Virginia Beach also had the option to terminate the Water Services Contract at any time after notifying Norfolk to proceed with the Plant Hydraulic Improvements and prior to receiving services pursuant to the Water Services Contract, if Virginia Beach believes that the Gaston pipeline will not become fully operational.

The preceding termination rights have expired due to the commencement of construction of the Plant Hydraulic Improvements and the completion of the Gaston pipeline. Except as otherwise provided in the preceding paragraph, Virginia Beach may terminate the Water Services Contract if one of the following events occurs:

(a) Norfolk has a permanent and total loss of ability to wheel and treat Gaston water for 24 consecutive months.

(b) Norfolk willfully and continuously breaches any term of the Water Services Contract which significantly affects the operation of the Water Services Contract.

(c) Virginia Beach has a total and permanent loss of ability to deliver Gaston water to Norfolk, including, but not limited, equipment failure or destruction, or the loss of any required permit, approval or authority. Such loss is deemed permanent if it continues for 24 consecutive months.

Upon the effective date of termination by Virginia Beach other than for events specified in subparagraph (c) above, Virginia Beach has no further obligations or responsibilities to Norfolk under the Water Services Contract except to pay any outstanding amounts due for service provided under the Water Services Contract.

UNITED STATES DEPARTMENT OF THE NAVY

Since 1995, the City's contract with the Navy, originally entered into in 1981, provides for a 30-day term, which may be cancelled by either party upon 15 days' notice prior to the expiration of any term. Sales to the Navy averaged 4.31 mgd for Fiscal Year 2014, which represents approximately 7.8% of the total metered water consumption of the Water System.

Rates and Charges.

By City ordinance, the City provides water to military users (like the Navy) at a rate equal to the City's retail rate plus 10%, which currently is \$4.90/Ccf. The ordinance provides that the rates charged to military users increase by 3.5% each year, just as retail rates do. The Navy paid rates ranging from \$3.04/Ccf to \$4.90/Ccf Fiscal Years 2004 through 2015 for treated water delivered to the point of delivery as contained in the Water Services Specifications (as defined in the contract) during the term of the contract.

The rates set forth above are the amended rates applied to the actual amount of water delivered to the points of delivery. Because the payment for services is now based on the established retail rate, there will be no future adjustments to the rate based on a true-up cost of service study.

Previously, the contract required a biennial true-up of rates. The Defense Contract Audit Agency ("DCAA") completed the Fiscal Year 2002/Fiscal Year 2003 True-Up in March 2006. The water charge for the Fiscal Year 2002/Fiscal Year 2003 True-Up period was \$3.9 million. In May 2007, the City of Norfolk offered a settlement amount of \$1.9 million. The Navy had requested that the City apply the 2004 fixed rates and had claimed that \$3,500,000 be rebated as a result of the application of the 2004 rates. The City reviewed the claim of the Navy and believed that the claim was without merit. On March 12, 2008, an agreement was reached and the Navy accepted the City's \$1.9 million settlement.

Disputes Clause.

The contract is subject to the Contract Disputes Act of 1978 (the "Disputes Act"). Except as provided in the Disputes Act, all disputes arising out of the contract shall be resolved as specified in the contract. The Contracting Officer's decision will be final unless appealed by the City or a suit is filed by the City as provided in the Disputes Act.

In the event of a disagreement, the City shall continue to provide water service and the Navy shall continue to pay the City at the then existing rate. After a determination of the final rates, the Navy shall promptly pay from that point forward such rates that are determined to be just and reasonable.

CITY OF PORTSMOUTH, VIRGINIA

In October 2002, the City entered into a contract with Portsmouth for sale of emergency raw water. The Contract was amended in September 2007 and again in November 2008, in each case to increase the rates paid by Portsmouth under the Contract. Portsmouth has constructed and tested the necessary improvements to convey raw water to its reservoirs.

Delivery Point, Plan, Construction and Operation.

Portsmouth financed, designed, constructed and operates the Raw Water Delivery System pursuant to the Contract. In September 2004, the City provided Portsmouth written approval and acceptance of the Raw Water Delivery System after assurance was received that the improvements provide proper and safe integration with the City's Water System. According to the contract, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of temporary surplus raw water.

Delivery and Sale of Temporary Surplus Raw Water.

Following the Portsmouth Start-up Date, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of Temporary Surplus Raw Water. Temporary Surplus Raw Water means the difference between the Safe Yield of the City's Water System after adjusting for losses, and the total of (i) the amount of raw water required to supply the persons and entities in the City with treated water, (ii) the amount of raw water required to supply raw and treated water to the City's United States government customers and (iii) the amount of raw water required to supply raw and treated water to the City's other existing and future customers under fixed term contracts.

Water Rates and Charges.

The rate of the Temporary Surplus Raw Water sold pursuant to the contract in Fiscal Year 2015 is \$1.25 per thousand gallons of Temporary Surplus Raw Water delivered to the Delivery Point, subject on July 1 of each year to an adjustment based on the CPI Adjustment Factor; provided, however, in no event shall the rate decrease from the previous Fiscal Year.

Term of Contract.

The contract shall continue to be in effect until either party, on 10 days' written notice, terminates the contract.

CITY OF CHESAPEAKE, VIRGINIA

In December 2002, the City entered in to a raw water sales contract with Chesapeake for the sale of surplus raw water. The contract specifies the terms and conditions of the sale of raw water, rates, termination provisions and dispute resolution. Raw water sales to Chesapeake averaged 7.11 mgd in Fiscal Year 2014 which represents approximately 11.4% of the Water System's total metered water consumption.

Term of Contract.

The contract is for a term beginning January 1, 2003, and ending December 31, 2042. Pursuant to the contract, the City began service to Chesapeake as of July 1, 2006 (the "Chesapeake Start-up Date").

Delivery and Sale of Surplus Raw Water.

Upon and following the Chesapeake Start-up Date, the City agrees to sell and deliver to Chesapeake and Chesapeake agrees to accept the Target Amount transmitted to the extent practical at a uniform flow rate. The initial Target Amount shall be seven mgd.

In the event that the metered amount of Surplus Raw Water delivered in a Billing Month is less than the Target Amount multiplied by the number of days in the Billing Month (the difference being a "Shortfall"), Chesapeake may request, in addition to the Target Amount, that an amount up to such Shortfall be delivered in subsequent Billing Months.

Chesapeake may request to temporarily or permanently increase the Target Amount. If the City determines that it can satisfy such request, the City at its sole discretion, may agree to increase the Target Amount accordingly. Chesapeake may request to temporarily decrease the Target Amount and, upon agreement by the City, the Target Amount shall be decreased.

Water Rates and Charges.

The initial Water Rate was ninety-five cents (\$0.95) per thousand gallons of Surplus Raw Water sold, which rate was effective through June 30, 2003. Beginning on July 1, 2003, and upon each July 1 thereafter, the Water Rate is adjusted by multiplying the Water Rate by the greater of (i) the CPI Adjustment Factor or (ii) 100%. In no event shall the Water Rate decrease.

Chesapeake shall make monthly payments for the metered amount of Surplus Raw Water delivered. Chesapeake's monthly payment shall equal the Target Amount, which is seven mgd, multiplied by the number of days in the Billing Month unless, (i) Chesapeake and Norfolk have agreed to decrease the Target Amount, in which case such decreased Target Amount shall be used in such calculation; (ii) the average daily flow for a billing month exceeds 0.75 mgd over the sum of the Target Amount plus the average daily volume of Shortfall, in which case Chesapeake's monthly payment for such month shall equal the sum of the Target Amount, plus the average daily volume of Shortfall delivered, plus 0.75 mgd multiplied by the number of days in that Billing Month; and (iii) the amount of Shortfall delivered in any Billing Month shall be included in the total volume of Surplus Raw Water delivered for the calculation of that Billing Month's monthly payment; provided, however, that the Water Rate charged for any amount of delivered Shortfall shall be the Water Rate in effect for the Billing Month during which such Shortfall was initially determined.

Reductions and Curtailments.

The City may reduce the Target Amount of Surplus Raw Water delivered to Chesapeake only if one or more of the following conditions occur:

- (i) decrease in Surplus Water Supply;
- (ii) facility or equipment failure;
- (iii) drought;
- (iv) contamination; and
- (v) force majeure.

Termination by the City.

The City may terminate the contract if one or more of the following events of default occurs: (i) Chesapeake does not pay in full within 60 days from the date of receipt of an invoice, (ii) Chesapeake has willfully breached the terms of the contract which significantly affects the operation of the contract, or (iii) construction of the Raw Water Delivery System is not fully complete within five years of the established Start-up date of July 1, 2006.

Termination by Chesapeake.

Chesapeake may terminate the contract if: (i) the City has willfully breached any term of the contract which significantly affects the operation of the contract or (ii) the City delivers less than the difference of the Target Amount minus 0.75 mgd for more than six consecutive Billing Months.

Pre-existing Surplus Treated Water Purchase Arrangement.

Chesapeake has been purchasing surplus treated water from the City for over 30 years. No term of the raw water contract shall reduce or waive either party's rights or obligations regarding the City's sale to Chesapeake of surplus treated water. As part of the raw water contract, the City agrees to continue selling and Chesapeake agrees to continue purchasing no less than two mgd of surplus treated water as long as the raw water sales contract is effective.

WESTERN TIDEWATER WATER AUTHORITY

In September 2009, the City entered into a raw water sales contract with the Western Tidewater Water Authority ("WTWA") and Suffolk and Isle of Wight, the members of WTWA, for the sale of available surplus raw water supply to WTWA. The contract specifies the terms and conditions of the sale of raw water, rates, termination provisions and dispute resolution.

The contract is a "take or pay" contract, requiring the City to make available the Contract Amounts, which are the Average Day Amounts, the Maximum Month Amounts and the Maximum Day Amounts specified in the contract, and WTWA to pay for those Contract Amounts, regardless of actual consumption.

Term of Contract.

The contract is for a term beginning September 29, 2009, and ending June 30, 2048. Pursuant to the contract, the City made service available to WTWA in the spring of 2014 (the "WTWA Start-up Date").

Delivery and Sale of Surplus Raw Water.

The City agrees to sell and deliver to WTWA and WTWA agrees to purchase water in accordance with the Contract Amounts set forth in the contract. WTWA shall not be obligated to take delivery of the entire Contract Amounts.

Should WTWA request delivery of water in excess of the Maximum Day, Maximum Month and/or Average Day Amounts, other than water for a WTWA Emergency, at the City's sole discretion, the Contract Amounts may be adjusted to meet the request. At the end of any Fiscal Year during which Contract Amounts have been adjusted, the City may, in its sole discretion, determine that the Contract Amounts will remain at such increased amounts for the following Fiscal Year or revert to the Contract Amounts set forth in the contract. In no event shall the Contract Amounts exceed the highest Contract Amount set forth in the contract.

WTWA may request permanent acceleration of the Contract Amounts. The City is required to comply with such request unless (i) water is unavailable due to a temporary water sales contract in effect, (ii) the facilities and/or water resources necessary to provide additional water cannot be made available, or (iii) the Contract Amounts have been reduced due to reduction in the City's Safe Yield under the contract.

WTWA may request raw water to meet a bona fide WTWA Emergency. If the City determines that additional water is available, taking into consideration the City's other existing demands, the City may, in its sole discretion, deliver the water to WTWA. The supply of water to meet a WTWA Emergency shall not be used to determine whether Contract Amounts have been exceeded or to reduce the Reservation Amount or Reservation Fee set forth in the contract.

Water Rates and Charges.

Water Rates. The initial Water Rate was one dollar and eleven cents (\$1.11) per thousand gallons, which rate was effective through July 1, 2009. Beginning on July 1, 2009, and upon each July 1 thereafter, the Water Rate is adjusted by multiplying the Water Rate by the CPI Adjustment Factor. In no event shall the Water Rate decrease from the previous Fiscal Year.

For the period from July 1, 2008 until the WTWA Start-Up Date, WTWA shall pay the City the Monthly Water Payment Amount without regard to whether water is available to be delivered. On and after the WTWA Start-Up Date, WTWA shall pay Norfolk the Monthly Water Payment Amount, subject to certain adjustments provided for in the contract.

Reservation Fee. Pursuant to the contract, WTWA shall pay a Monthly Reservation Fee. The Monthly Reservation Fee shall be calculated by multiplying the Reservation Amount set forth in the contract by the percentages specified in the contract. For the period from January 1, 2011 through the WTWA Start-Up Date, the percentage used to calculate the Monthly Reservation Fee is 20% and thereafter it is 25%.

Plan, Construction and Operations.

The Raw Water Delivery System is broken into the WTWA Portion of Plan and the Norfolk Portion of Plan. Both WTWA and the City are responsible for the planning, bidding, construction and testing of their respective portions of the Raw Water Delivery System in accordance with the construction protocol set forth in the contract.

The City shall be under no obligation to deliver water to WTWA by the WTWA Start-Up Date and WTWA shall be under no obligation to pay any amounts that would be required after the WTWA Start-Up Date if the Raw Water Delivery System cannot be completed by such date due to the failure of the other party to timely (i) design, bid and/or construct its respective Portion of the Plan, (ii) review the design, bids and/or contracts for the other party's Portion of the Plan, (iii) test the Raw Water Delivery System, (iv) make modifications for failure of the Raw Water Delivery System to conform to the Plan or necessitated by adverse impacts to the Water System shown after testing. Additionally, the City shall be under no obligation to deliver water to WTWA by the WTWA Start-Up Date if WTWA fails to reimburse the City for the City's Capital Costs as provided in the contract.

Following construction of the Raw Water Delivery System, each party is solely responsible for the operation and maintenance of its respective Portion of Plan.

Reductions and Curtailments.

The City's obligation to provide the full Contract Amounts shall be excused, either partially or wholly, only if one or more of the following conditions occur:

- (i) decrease in the amount of Surplus Raw Water available;
- (ii) facility or equipment failure;
- (iii) drought; and
- (iv) force majeure.

Upon WTWA's request, the City may in its sole discretion make up the delivery shortfall (or a portion thereof) by delivering additional water. If the City does not deliver additional water, WTWA shall be entitled to a credit for such delivery shortfall at the end of the applicable Fiscal Year.

Termination by the City.

The City may terminate the contract if: (i) WTWA does not pay in full within 60 days from the date of a receipt of an invoice, or (ii) WTWA, Suffolk or Isle of Wight has breached any other term of the contract.

Termination by WTWA.

WTWA may terminate the contract if: (i) the City does not deliver water in the amounts requested and when requested by WTWA as provided in the contract except as excused under the contract and in the event of a minor variance managed in accordance with the contract, or (ii) the City has breached any other term of the contract.

Guarantee by Suffolk and Isle of Wight.

In consideration of the City agreeing to the terms of the contract, Suffolk and Isle of Wight guarantee the payment obligations of WTWA under the contract, to the extent permitted by law provided that such guarantee is not deemed to be debt pursuant to the Constitution of Virginia. The guarantee is initially apportioned 75% to Suffolk and 25% to Isle of Wight. The apportionment may be adjusted by Suffolk and Isle of Wight upon joint notice to the City of such reapportionment.

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APPENDIX F

FORM OF CONTINUING DISCLOSURE AGREEMENT

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CONTINUING DISCLOSURE AGREEMENT

This Continuing Disclosure Agreement (the "Disclosure Agreement") is executed and delivered as of April 16, 2015 (the "Closing Date"), by the City of Norfolk, Virginia (the "City"), in connection with the issuance by the City of its \$29,660,000 Water Revenue Bonds, Series 2015A and its \$54,020,000 Water Revenue Refunding Bonds, Series 2015B (collectively, the "2015 Bonds") pursuant to Ordinance No. 45,693 and Ordinance No. 45,871 enacted by the City Council of the City on September 9, 2014, and March 10, 2015, respectively (collectively, the "Ordinance"), and pursuant to a Master Indenture of Trust dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between the City and U.S. Bank National Association as successor trustee (the "Trustee"), and as further supplemented by a Eleventh Supplemental Indenture of Trust dated as of April 1, 2015, between the City and the Trustee (collectively, the "Indenture").

The proceeds of the 2015 Bonds are being used by the City, together with other available funds, (i) to finance certain costs of acquiring, constructing and equipping capital improvements to the City's water system, (ii) to refund certain outstanding water revenue bonds of the City and (iii) to pay certain costs of issuance of the 2015 Bonds. Pursuant to the Ordinance, the City approved the offering and sale of the 2015 Bonds to the public pursuant to an Official Statement relating to the 2015 Bonds, dated April 1, 2015 (the "Official Statement"). The City has determined that it constitutes an "obligated person" within the meaning of the Rule, as hereinafter defined, with respect to the 2015 Bonds and, accordingly, hereby represents, covenants and agrees as follows:

Section 1. Purpose of the Disclosure Agreement; Representation. This Disclosure Agreement is being executed and delivered by the City for the benefit of the Holders, as hereinafter defined, and in order to assist the Participating Underwriters, as hereinafter defined, in complying with the Rule. The City acknowledges that it is undertaking primary responsibility for any reports, notices or disclosures that may be required under this Disclosure Agreement.

Section 2. Definitions. In addition to the definitions set forth elsewhere in this Disclosure Agreement, the following capitalized terms shall have the following meanings:

"Annual Financial Information" with respect to any Fiscal Year of the City means the following:

- (i) the financial statements (consisting of at least a statement of net assets, a statement of cash flows and a statement of revenues, expenses and changes in fund net assets and thereafter a statement of net assets, a statement of cash flows and a statement of revenues, expenses and changes in fund net assets) of the City's Water Utility Fund, which (A) are prepared annually in accordance with generally accepted accounting principles in effect from time to time consistently applied (provided that nothing in this Disclosure Agreement will prohibit the City after the date of the Official Statement from changing such principles so as to comply with generally accepted accounting principles as then in effect or to comply with a change in applicable Virginia law); and (B) are audited by an independent certified public accountant or firm of such accountants

in accordance with generally accepted auditing standards as in effect from time to time; and

(ii) updates of the operating data contained in the following sections and subsections of the Official Statement entitled: (a) "THE SYSTEM" -- "Customer Base" (but only with respect to Table 1, Average Daily Metered Consumption); and (b) "FINANCIAL MANAGEMENT" -- "Water Rates" (but only with respect to Table 10, Retail Customers' Average Annual Costs Norfolk Retail, Table 11, Wholesale Customers' Average Annual Costs Virginia Beach, Table 12, Wholesale Customers' Average Annual Costs U.S. Navy, including Norfolk and Virginia Beach Facilities and Table 13, Wholesale Customers' Average Annual Costs Chesapeake) and "Budget Process" (but only with respect to Table 16, Water Utility Fund Annual Budget for the two most recent Fiscal Years). All of the operating data to be provided pursuant to this subparagraph may be presented in the form of tables.

"Dissemination Agent" shall mean the City, acting in its capacity as Dissemination Agent hereunder, or any successor Dissemination Agent designated in writing by the City and which has filed with the City a written acceptance of such designation.

"Fiscal Year" shall mean the twelve-month period, at the end of which the financial position of the City and the results of its operations for such period are determined. Currently, the City's Fiscal Year begins July 1 and continues through June 30 of the next year.

"Holder" shall mean, for purposes of this Disclosure Agreement, any person who is a record owner or beneficial owner of a 2015 Bond.

"Make Public" or "Made Public" has the meaning set forth in Section 4 of this Disclosure Agreement.

"MSRB" shall mean the Municipal Securities Rulemaking Board.

"Participating Underwriter" shall mean any of the original underwriters of the 2015 Bonds required to comply with the Rule in connection with the offering of such 2015 Bonds.

"Rule" shall mean Rule 15c2-12 under the Securities Exchange Act of 1934 and any similar rules of the SEC relating to disclosure requirements in the offering and sale of municipal securities, all as in effect from time to time.

"SEC" shall mean the U.S. Securities and Exchange Commission.

Section 3. Obligations of the City. (a) The City shall Make Public or cause to be Made Public by the Dissemination Agent (if other than the City) the Annual Financial Information with respect to any Fiscal Year of the City not later than March 31 after the end of such Fiscal Year.

(b) The City shall Make Public or cause to be Made Public by the Dissemination Agent (if other than the City), in a timely manner not in excess of ten business

days after the occurrence of the event, notice of the occurrence of any of the following events with respect to the 2015 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 any credit enhancement maintained with respect to the 2015 Bonds 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 2015 Bonds, or other material events affecting the tax status of the 2015 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 2015 Bonds, if material;
- (xi) rating changes;
- (xii) bankruptcy, insolvency, receivership or similar event of the City;
- (xiii) the consummation of a merger, consolidation, or acquisition involving the City or the sale of all or substantially all of the assets of the City, 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; and
- (xiv) appointment of a successor or additional trustee or the change of name of a trustee, if material.

Provided that nothing in this subsection (c) shall require the City to maintain any debt service reserve, credit enhancement or credit or liquidity providers with respect to the 2015 Bonds or to pledge any property as security for repayment of the 2015 Bonds.

(c) The City shall Make Public or cause to be Made Public by the Dissemination Agent (if other than the City), in a timely manner, notice of a failure of the City to provide the Annual Financial Information, on or before the date specified in this Disclosure Agreement.

(d) The City shall notify the MSRB of any change in its Fiscal Year not later than the date on which it first provides any information to the MSRB in the current Fiscal Year.

Section 4. Information Made Public. Information shall be deemed to have been "Made Public" for purposes of this Disclosure Agreement if transmitted the MSRB in an electronic format as prescribed by the MSRB. Should the SEC approve any additional or subsequent filing system for satisfying the continuing disclosure filing requirements of the Rule, any filings required under this Disclosure Agreement may be made by transmitting such filing to such system, as described in the applicable SEC regulation or release approving such filing system.

Section 5. Incorporation by Reference. Any or all of the Annual Financial Information may be incorporated by specific reference from other documents, including official statements containing information with respect to the City, which are available to the public on the internet website of the MSRB or filed with the SEC. The City shall clearly identify each such other document so incorporated by reference.

Section 6. Termination of Reporting Obligation. The obligations of the City under this Disclosure Agreement with respect to any 2015 Bond shall terminate upon the earlier to occur of the legal defeasance or final retirement of such 2015 Bond.

Section 7. Dissemination Agent. The City may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement and may discharge any such Agent, with or without appointing a successor Dissemination Agent. If at any time there is not any other designated Dissemination Agent, the City shall be the Dissemination Agent.

Section 8. Identifying Information. All documents provided to the MSRB hereunder shall be accompanied by identifying information as prescribed by the MSRB.

Section 9. Amendment. Notwithstanding any other provision of this Disclosure Agreement, the City may amend this Disclosure Agreement, if upon such amendment this Disclosure Agreement satisfies the requirements of the Rule at the time of amendment. The City shall provide a copy of each amendment to the MSRB in a timely manner, not in excess of ten business days, from the effective date of the amendment.

Section 10. Additional Information. Nothing in this Disclosure Agreement shall be deemed to prevent the City from disseminating any other information using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Financial Information or notice of occurrence of an event listed in Section 3(c), in addition to that which is required by this Disclosure Agreement. If the City chooses to report any information in any Annual Financial Information or include any information in a notice of occurrence of an event listed in Section 3(c), 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 Financial Information or notice of occurrence of such an event.

Section 11. Default. Any Holder, whether acting jointly or severally, may take such action as may be permitted by law against the appropriate public official to secure compliance with the obligations of the City under this Disclosure Agreement. In addition, any Holder, whether acting jointly or severally, may take such action as may be permitted by law to challenge the adequacy of any information provided pursuant to this Disclosure Agreement, or to enforce any other obligation of the City hereunder. A default under this Disclosure Agreement shall not be deemed an event of default under the Ordinance or any other debt authorization of the City, the Indenture or any 2015 Bond and the sole remedy under this Disclosure Agreement in the event of any failure of the City to comply herewith shall be an action to compel performance. Nothing in this provision shall be deemed to restrict the rights or remedies of any Holder pursuant to the Securities Exchange Act of 1934, the rules and regulations promulgated thereunder, or other applicable laws.

Section 12. Beneficiaries. This Disclosure Agreement shall inure solely to the benefit of the City, the Participating Underwriters and the Holders and shall create no rights in any other person or entity.

Section 13. Counterparts. This Disclosure Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned have executed this Continuing Disclosure Agreement on behalf of the City of Norfolk, Virginia, as of the Closing Date.

CITY OF NORFOLK, VIRGINIA

By: _____
Marcus D. Jones, City Manager

By: _____
Alice M. Kelly, Director of Finance

Approved as to Form and Correctness:

Office of the City Attorney
City of Norfolk, Virginia

[Signature Page to Continuing Disclosure Agreement]

FEASIBILITY STUDY OF CONSULTING ENGINEER

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SERIES 2015 WATER REVENUE AND REFUNDING BOND FEASIBILITY REPORT

B&V PROJECT NO. 167772

PREPARED FOR

City of Norfolk, Virginia

24 MARCH 2015



March 24, 2015

City Council
City of Norfolk
City Hall Building
810 Union Street
Norfolk, Virginia 23510

Subject: Series 2015 Water Revenue and Refunding Bond Feasibility Report

Honorable Council Members:

We are pleased to submit our Series 2015 Water Revenue and Refunding Bond Feasibility Report (the "Report") prepared in support of \$30,115,000¹ City of Norfolk, Water Revenue Bonds, Series 2015A (the "2015A Bonds") and \$54,295,000² City of Norfolk, Water Revenue Refunding Bonds, Series 2015B (the "2015B Bonds" and together with the 2015A Bonds, the "2015 Bonds"). This Report presents the findings of engineering and financial studies performed by Black & Veatch.

In preparation of this Report, we have conducted on-site inspections of the Water System, reviewed the records and reports of the Water Utility Fund, reviewed the City's Master Indenture and conducted financial analyses for the purpose of addressing the feasibility of the 2015 Bonds.

Based on our engineering and financial studies, the following findings are presented:

1. Given current usage and trends, the City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations for the FY 2015 through FY 2019 Study Period (the "Study Period"). The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.
2. The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; continuation of these practices, combined with the regular maintenance and completion of the proposed Water System Capital Improvement Program ("CIP"), suggest that the System should be capable of providing safe and reliable drinking water to its customers through the Study Period.
3. Norfolk's Water System is in overall good condition and appears capable of revenue generation for the term of the 2015 Bonds with continued regular maintenance and scheduled System improvements.

¹ Preliminary, subject to change.

² Preliminary, subject to change.

4. The CIP for FY 2015 through FY 2019 adequately addresses known requirements for Water System facility renovations and upgrades. The program has sufficiently addressed current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that appear to impact the improvements planned in the CIP.
5. Throughout the Study Period, the net revenues of the Water System are projected to be sufficient (including projected revenue increases indicated in this Report resulting from automatic rate increases approved by City Council, subject to further City Council action) to comply with the annual Revenue Covenant requirement in the Master Indenture, taking into account the Outstanding Senior Debt and the 2015 Bonds.
6. Assuming the sufficiency of current engineering estimates and project budgets, the funds available from the 2015 Bonds, together with other funds available, will be sufficient to complete the design and/or construction of the proposed CIP.
7. Given the assumptions and the data utilized in the analysis, the System is projected to be able to generate adequate reserves during the Study Period.
8. Based on the City's audited financial results for FY 2014, the City is projected to be able to meet the Revenue Covenant requirements of the Master Indenture regarding issuance of additional bonds, taking into account (i) the maximum principal and interest payments on the Senior Outstanding Debt and the 2015 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the City Council at the time of the delivery of the 2015 Bonds.
9. The sale of the 2015 Bonds, in the amount of approximately \$84,410,000³ meets the requirements of and the revenue tests in the Master Indenture under the assumptions and projections contained in this Report.

Subject to the limitations set forth herein, this Report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this Report, Black & Veatch has made certain assumptions with respect to conditions, events and circumstances which may occur in the future. The methodology utilized by Black & Veatch in performing the analyses follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected,

³ Preliminary, subject to change.

as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute this complete Report to third parties, including the above statements and not parts thereof. The City's duty to distribute only the complete Report, including the above statements, shall not apply to internal City documents derived from the Report that come within the scope of applicable records, sunshine or freedom of information laws and are requested under such laws by interested citizens. Black & Veatch authorizes the City to include the complete Report in the Official Statement for the 2015 Bonds.

Black & Veatch appreciates the opportunity to present the findings of our studies.

Very truly yours,
BLACK & VEATCH CORPORATION

A handwritten signature in cursive script that reads "Les K. Lampe".

Les K. Lampe
Vice President

Enclosure

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1.0 Introduction

1.1 PURPOSE AND LIMITATIONS

The purpose of this Report is to summarize findings of engineering and financial studies performed by Black & Veatch Corporation (“Black & Veatch”) in connection with the proposed issuance of City of Norfolk, Virginia (the “City” or “Norfolk”), Water Revenue Bonds, Series 2015A (the “2015A Bonds”) and Water Revenue Refunding Bonds, Series 2015B (the “2015B Bonds” and together with the 2015A Bonds, the “2015 Bonds”) in the aggregate principal amount of approximately \$84,410,000⁴. Norfolk plans to use a portion of the proceeds from the 2015 Bonds to fund certain Water Utility capital projects included in the City’s Capital Improvement Program (as more particularly defined below, the “CIP”), and to pay associated issuance costs. The remaining portion of the proceeds will be used to refund a portion of the outstanding Water Revenue Bonds, Series 2005 (“2005 Bonds”) and a portion of the outstanding Water Revenue Bonds, Series 2008 (“2008 Bonds”). The 2015 Bonds will be issued under the Master Indenture of Trust as previously amended and supplemented (the “Master Indenture”) and as further supplemented by the Eleventh Supplemental Indenture of Trust. The Master Indenture and the Eleventh Supplemental Indenture are referred to collectively as the “Indenture”. Outstanding under the Master Indenture are the City’s Series 2005⁵, 2008⁶, 2010 and 2013 Water Revenue Bonds and Series 2012 Water Revenue Refunding Bonds (collectively, the “Outstanding Senior Debt”).

The terminology used in this Report is consistent with the terms and definitions as presented in the Master Indenture and Appendix A of the Official Statement.

Subject to the limitations set forth herein, this Report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this Report, Black & Veatch has made certain assumptions with respect to conditions, events and circumstances which may occur in the future. The methodology utilized by Black & Veatch in performing the analyses follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute this complete Report to third parties, including the above statements and not parts thereof. The City’s duty to distribute only this complete Report, including the above statements, shall not apply to internal City documents derived from this Report that come within the scope of applicable records, sunshine or freedom of information laws and are requested under

⁴ Preliminary, subject to change.

⁵ A portion of the Series 2005 bonds are proposed to be refunded by the 2015 Bonds.

⁶ A portion of the Series 2008 bonds are proposed to be refunded by the 2015 Bonds.

such laws by interested citizens. Black & Veatch authorizes the City to include this complete Report in the Official Statement for the 2015 Bonds.

1.2 SCOPE

The results of the engineering studies are based on site visits and review of relevant documents and records. Our findings address the adequacy of the physical condition of the City's water supply, treatment, storage and distribution facilities (the "Water System"), Water System capacity, operation and maintenance practices, staffing levels, and the proposed CIP to meet current and future requirements.

The financial analysis is based on a review of the City's Department of Utilities' Water Utility ("Water Utility") records plus the Revenue Covenant requirements of the Master Indenture and other relevant provisions of the Master Indenture. The analysis includes the projection of revenues and revenue requirements for the City's fiscal years ("FY") ending June 30, 2015 through 2019 (the "Study Period"), an evaluation of anticipated annual debt service coverage on the Outstanding Senior Debt⁷, the 2015 Bonds, and a demonstration of the adequacy of projected revenues to maintain bond reserves while meeting projected costs of Water System operation.

In this Report, where standards or requirements are indicated as being applicable, being fulfilled, or to be attained, such standards or requirements are those promulgated by the United States Environmental Protection Agency (the "EPA"), the Virginia Department of Environmental Quality (the "DEQ") and the Virginia Department of Health (the "VDH") in accordance with the provisions of Federal laws and the laws of the Commonwealth of Virginia governing the provision of drinking water services.

The ratings assigned in this Report are the result of physical inspections of the described Water System facilities that were conducted in February 2015. The general physical condition of the Water System's facilities has been evaluated using three rating categories — good, adequate and poor as described below:

- *Good:* The facility is in condition to provide reliable operation in accordance with design parameters and requires only routine maintenance.
- *Adequate:* The facility is operating at or near design levels; however, non-routine renovation, upgrading and repairs are needed to ensure continued reliable operation. Significant expenditures for these improvements may be required.
- *Poor:* The facility is not being operated within design parameters. Major renovations are required to restore the facility and assure reliable operation. Major expenditures for these improvements may be required.

The evaluation of the City's Water System requires an assessment of each of the Water System's major components. The overall evaluation described in this Report is based on observations and estimates of the degree of improvement that has been and will be provided by the projects in the CIP, and their impact in meeting service requirements.

⁷ Less amounts refunded by the 2015 Bonds.

1.3 BLACK & VEATCH QUALIFICATIONS

Black & Veatch is one of the largest and most experienced engineering, construction and consulting firms in the United States specializing in utility engineering and finance. Our experience includes the planning, design, construction, and operations analyses of water, wastewater, and energy generation and transmission utility systems. In addition, the firm has extensive experience in assisting utilities with management, financing and rate aspects of their operations. The firm has been engaged in projects for clients worldwide, including utilities owned by municipalities ranging in size from small villages to large metropolitan regions; investor-owned utilities; industrial and commercial businesses; plus United States and international governmental agencies.

The physical evaluation of the Water System has been performed by experienced personnel of the firm's Water Sector Business which provides study, design, and construction services in all facets of the water and wastewater fields. Water system engineering experience of this business unit includes the design of a broad variety of facilities such as source of supply, pumping stations, treatment plants, and transmission and distribution systems. The Water Sector Business also has extensive experience in operator training, plant management studies, and preparation of operation and maintenance manuals for water systems.

This financial feasibility study has been performed by professionals from Black & Veatch's Management Consulting Division. This business unit provides services in such areas as utility economic and financial feasibility analyses, rate studies, property valuation, depreciation rate studies, strategic financial planning, non-audit accounting, management and operations analysis, benchmarking and the preparation of consulting engineering reports for official statements.

Having performed numerous financial and rate services for the City of Norfolk's Department of Utilities over the last 40 years, personnel from the Black & Veatch are quite familiar with the Department's operations and financial matters.

2.0 Engineering Analysis

2.1 SERVICE AREA AND CUSTOMER BASE

The City of Norfolk (the “City” or “Norfolk”), through its Department of Utilities, owns and operates the Water System, which provides potable water to approximately 65,000 Retail Service customers (i.e. accounts) and Wholesale Service to the U.S. Navy, the City of Virginia Beach (“Virginia Beach”), the City of Chesapeake (“Chesapeake”), and the Western Tidewater Water Authority (the “WTWA”) (which includes the City of Suffolk and Isle of Wight County). According to the University of Virginia Weldon Cooper Center for Public Service (the “Weldon Center”), the 2014 population in the area served by the Water System totals approximately 1,156,300 people.

The City of Norfolk covers an area of 66 square miles, approximately one-fourth of which is occupied by U.S. Navy facilities. Norfolk’s Retail Service area and the Wholesale Service areas, with distribution systems owned by Wholesale customers, are shown in Figure 1.

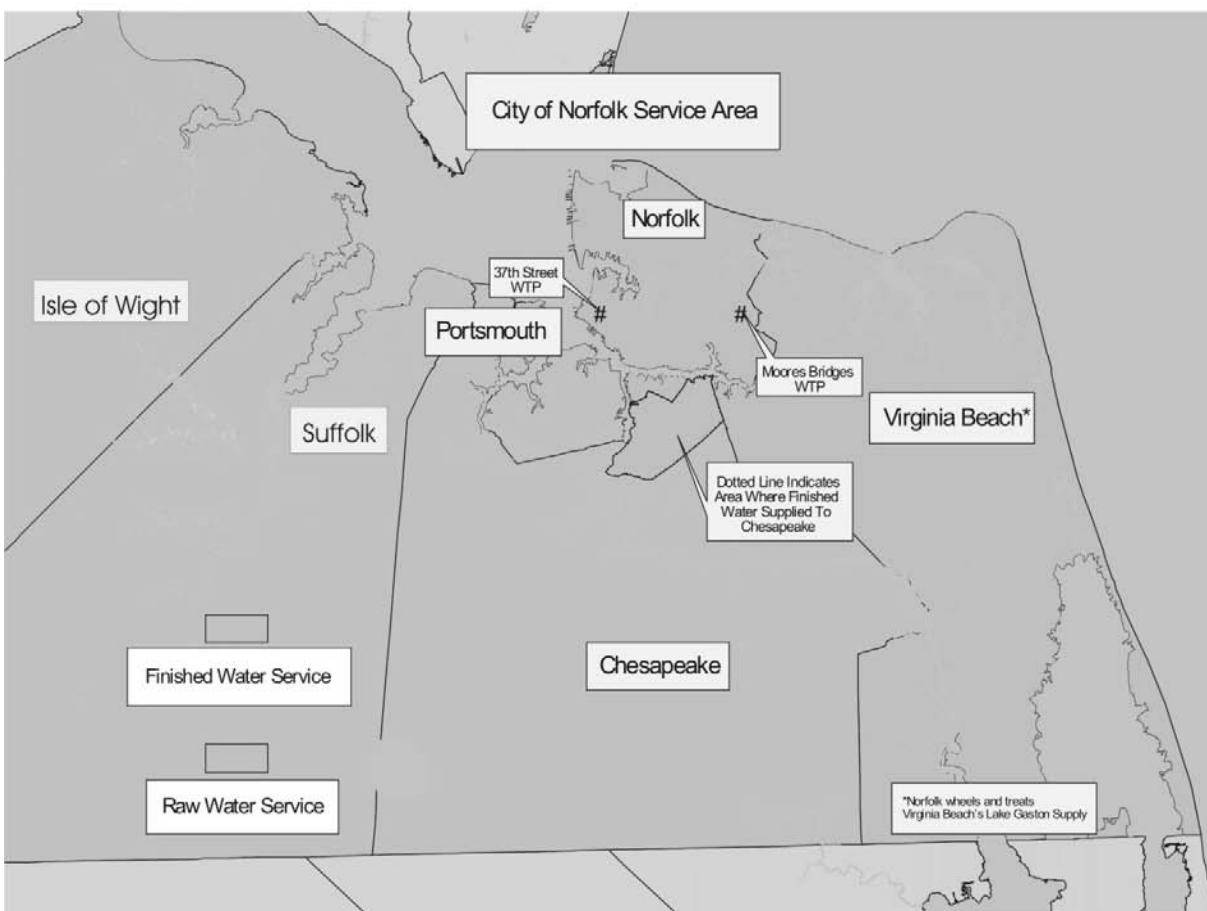


Figure 1 Service Area Map

According to the Weldon Center, the City’s population has increased from approximately 242,800 to 246,400 in 2014, or approximately 1.48%, since the 2010 Census (source: Weldon Center, January 2015). Norfolk Retail Service accounted for approximately 45.3% of total raw and treated water

sales revenue during FY 2014. According to this same source, the population of the Norfolk-Virginia Beach Metropolitan area, which relies in large part on the Water System, has increased approximately 2.5% since the 2010 Census and approximately 5.8% since the year 2000. Water sales to Virginia Beach and other wholesale customers accounted for approximately 54.7% of total treated water sales revenue during FY 2014.

In FY 2014, the City provided about 31.8 million gallons per day (“mgd”) of treated water to Virginia Beach under the 1993 Water Services Contract, as amended February 14, 2001. Virginia Beach is the largest Wholesale customer of the City, accounting for 57.7% of total water volume delivered during FY 2014 (excluding raw water).

Rapid growth since 1950 combined with early 1980s water shortages in the region, led Virginia Beach to investigate and locate a source of water supply to supplement existing regional supplies and to meet their long-term demands. Virginia Beach’s “Lake Gaston Project” consists of a 60.0 mgd intake and pump station plus a 76-mile, 60-inch diameter pipeline from the Pea Hill Creek Tributary of Lake Gaston in Brunswick County, Virginia, to the City of Norfolk’s Western Reservoir System in Isle of Wight County.

The Virginia Beach Water Services Contract covers Lake Gaston water being pumped to the City’s Western Reservoir System for transportation and treatment to treated water quality by the City for Wholesale Service delivery to Virginia Beach. As an additional provision of the Water Services Contract, the City agreed to wheel up to 10.0 mgd of Lake Gaston raw water for Chesapeake to the Red Top area, which is located within the City limits of Suffolk and near the City’s Western Branch Pump Station. It should be noted that Chesapeake’s 10.0 mgd comes out of the total 60.0 mgd Lake Gaston allotment for Virginia Beach. The gross withdrawal limit remains at 60.0 mgd and will be offset with a net decrease in Virginia Beach’s allotment.

An additional interconnection along Norfolk’s raw water transmission system from the Western Branch Reservoir to the 37th Street Water Treatment Plant (Lines 1 and 2) was constructed to allow raw water to be purchased by Chesapeake from Norfolk directly. This raw water is not part of the 10.0 mgd allocation of Lake Gaston water supply discussed in the previous paragraph and is a simple purchase of Norfolk’s surplus capacity. The Chesapeake raw water contract is a “take or pay” supply of 7.0 mgd and will remain in force through December 31, 2042. Chesapeake pays for all of the raw water it uses, but if Chesapeake uses less than 7.0 mgd it pays as if it used 7.0 mgd. Norfolk also sells 2.0 mgd “take or pay” of treated water directly to Chesapeake under an amendment to this agreement. This simple sale agreement is completely independent of the Lake Gaston source development agreement between Chesapeake and Virginia Beach.

It should be noted that the City of Chesapeake is just starting the improvements necessary at the Western Branch Pump Station as well as a dedicated pipeline to its Lake Gaston Water Treatment Plant, and should begin receiving Lake Gaston water within the next ten years. In addition to providing water to Chesapeake, the Western Branch Pump Station also provides 3.0 mgd to the WTW. Starting in FY 2016, the Contract requires an increase by 1 mgd every two years, until it reaches 15 mgd in FY 2038.

2.2 SAFE DRINKING WATER REGULATORY COMPLIANCE

A primary goal of any municipal water system is to provide drinking water that is in full compliance with the Safe Drinking Water Act (SDWA), which is administered by the EPA. To this end, the Department of Utilities Division of Water Quality oversees the City's compliance with the SDWA under 40 CFR Part 141, administered by the Virginia Department of Health, Office of Water Programs (VDH OWP), under Code of Virginia Chapter 40, sections 10-370.

The SDWA compliance elements for which the Department of Utilities is responsible fall under the following rules:

- **Total Coliform Rule (TCR):** Sampling for microbial contaminants is based upon population. Norfolk collects 150 samples per month from 75 locations distributed throughout the City. There are two bacteriological tests and up to six chemical tests associated with each sample.
- **Stage 2 Disinfectant / Disinfection By-Products Rule (Stage 2 D/DBPR):** Sampling for disinfectant residual occurs in conjunction with compliance sampling for the TCR. Sampling for Disinfection By-Products (DBP) contaminants occurs quarterly at eight sites distributed throughout the City. There are three bench analyses associated with each sample, and there are two DBP analyses with a total of eleven potential contaminants under regulation.
- **Phase I, II, IIb, and V Contaminant Rules (P II/V):** Most regulated Primary Contaminants fall under this rule, with a variety of regulatory schedules. Norfolk performs a Phase II/V analysis every quarter, with a total of over 200 potential contaminants tested at the entry points of both water treatment facilities.
- **Lead & Copper Rule (LCR):** Norfolk is on a reduced-monitoring basis for the LCR. A minimum of fifty households are tested on a triennial basis for lead, copper, and a set of relevant water quality parameters.
- **Radionuclide Rule (RNR):** Five radiological parameters are regulated on a 9-year cycle, with 3-year subcycles. Norfolk tests for all regulated radiologicals annually.
- **National Secondary Drinking Water Regulations:** There are 15 measures of water quality that have recommended, but not regulated, limits. Most are discrete contaminants and some are water characteristics. A few are tested several times per day, some on a monthly basis, and others with the quarterly Phase II/V sampling.
- **Unregulated Contaminant Rule (UCMR):** This is a recurring effort to collect occurrence data on emerging contaminants. Some of these contaminants of interest may be regulated in the future, and most end up on the "unregulated but monitored" list, which is covered in the City's quarterly Phase II/V collection.
- **Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR):** This rule is intended to reduce the risk posed by waterborne microbial contaminants. Periodic sampling for Cryptosporidium and Giardia, as well as "benchmarking" calculations performed by the division on a daily basis assure the performance efficacy of each treatment facility.
- **Consumer Confidence Rule (CCR):** This rule is intended to deliver concise water quality data to the consumer in an uncluttered and comprehensible format. It is prepared for the previous calendar year's analyses, and must be delivered to households by July 1 of the following year.

Norfolk typically delivers its Consumer Confidence Report in early May, just ahead of National Water Week.

As noted in the Department's 2014 Water Quality Report, the City's treated water was below the regulatory limits for both primary and secondary regulated constituents. As such, the City maintains the Water System well within regulatory guidelines and regularly updates its treatment processes and operations to ensure compliance within all federal and state regulations and guidelines.

2.3 PRESENT WATER SYSTEM

This section describes Norfolk's Water System as it now exists, including projects currently under construction to improve or augment existing facilities. Black & Veatch inspected facilities in February 2015 to assess the operating condition of the Water System. Generally speaking, Norfolk maintains the physical facilities of the Water System in an overall good operating condition. Based on the observations during the Black & Veatch inspections, operation and maintenance performance for treatment, pumping, transmission and distribution facilities is good; and staffing levels are adequate. Overall, current Water System capacity is adequate to handle Norfolk's current Retail and Wholesale Service demands.

2.3.1 Raw Water Supply Facilities

The raw water supply facilities in the Water System consist of two river intake/pump stations, three raw water reservoirs in western Suffolk and eastern Isle of Wight County known collectively as the "Western Reservoir System," five reservoirs in or near Norfolk called the "In-Town Reservoirs," and four groundwater supply wells that discharge into Lake Prince and Lake Burnt Mills (components of the Western Reservoir System). As mentioned previously, the raw water supply also includes raw water delivered from Lake Gaston via the City of Virginia Beach's Lake Gaston Raw Water Pump Station and pipeline. In addition, Virginia Beach owns and operates the Stumpy Lake Reservoir and Pump Station, which can supplement the City's In-Town Reservoirs as needed.

It should be noted that the Virginia Beach Water Services Contract assigns Norfolk the responsibility to effectively manage the use of Virginia Beach's Lake Gaston Pump Station. Specifically, the interest is minimizing water loss that occurs in the Western Reservoir System from the Western Branch Reservoir spillway overflows due to excessive pumping of the Lake Gaston raw water.

A map of the raw water transmission system is shown in Figure 2.

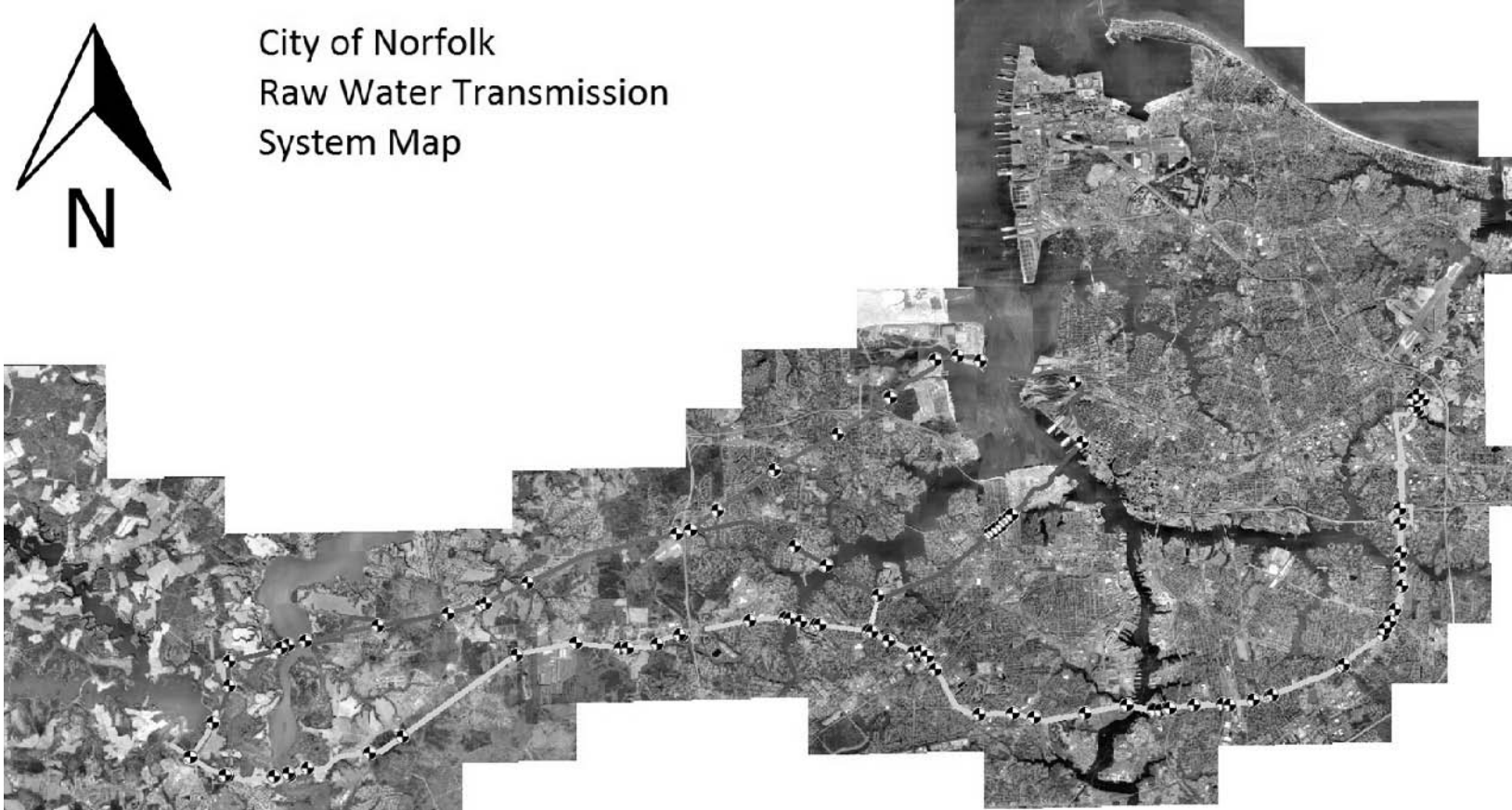


Figure 2 Raw Water Transmission System Map

The Western Reservoir System consists of the Lake Prince, Lake Burnt Mills and Western Branch Reservoirs, which have capacities of approximately 3.7, 3.4 and 6.0 billion gallons, respectively. Water from Lake Prince and Lake Burnt Mills is directed into the Western Branch Reservoir either over the respective spillways or via a controlled release through an intake system below the spillway elevation. Any overflow from the Western Branch Reservoir enters the Nansemond River and flows to the James River and eventually empties into the Chesapeake Bay.

The dams for these reservoirs are monitored and inspected regularly as per Federal and Virginia Dam Safety regulations. However, to comply with new Federal and Virginia Dam Safety regulations, each Class I dam owned by the City must be modified with parapet walls on top of earthen dams to safely control a probable maximum flood event. No modifications are required to the Lake Prince Dam as it is not a Class I dam. Modifications were completed for the Lake Burnt Mills Dam a few years ago and are about to commence for the Western Branch Dam.

The similar improvements for the Western Branch Dam and spillway have recently begun with an anticipated cost of \$22 million. This includes required improvements to existing concrete structures and a new, 600-foot long emergency spillway. This is being conducted primarily under a previous Capital Improvement Plan ("CIP") authorization; however, according to City staff, some of the current \$5.2 million CIP allocation for "Rehabilitate Reservoirs System Wide" is being utilized for this project. While there are ongoing improvements to the Western Branch Reservoir system for watershed protection ("Rehabilitate Reservoirs System Wide" Project), the improvements to the Western Branch Reservoir spillway are necessary to maintain the integrity of the Dam.

Reservoir aeration systems are located within both the Lake Prince and Western Branch Reservoirs. They are used to improve raw water quality by maintaining adequate dissolved oxygen levels in the hypolimnetic zone, thereby controlling iron and manganese release from the sediments by maintaining an oxidizing environment. This reduces the need for additional treatment chemicals (and the subsequent costs) at the treatment plants and improves treated water quality by reducing manganese and disinfection by-product levels. Compressor buildings are located adjacent to the Western Branch and Lake Prince Pump Stations and supply air to aerators that are located in both the Western Branch and Lake Prince Reservoirs. The compressor buildings and associated equipment appear to be in good working condition. The routine replacement/rehabilitation of the Western Branch aerators was recently completed, and the installation of new Lake Prince aerators are expected to begin in spring of 2015 at an approximate cost of \$500,000.

In addition to the surface water supply facilities, Norfolk owns and maintains four deep groundwater supply wells, which have a total capacity 16.0 mgd. The wells are approximately 800 to 1,200 feet deep and are typically only used during drought conditions. When operating, three wells (No. 1, No. 2 and No. 4) discharge directly into Lake Prince and one well (No. 3) discharges into Lake Burnt Mills. Well No. 2 was observed to be in good condition and staff indicated that the others are also in good condition. A past project at Wells No. 2 and 3 included an acid delivery system at both wells to reduce elevated hardness in the ground water prior to mixing with the surface water supplies that has improved general well operation.

The Norfolk-owned river intakes/pump stations are on the Nottoway and Blackwater Rivers and discharge into pipelines terminating at the head waters of Lake Prince in the Western Reservoir System. The river pump stations are used to transport raw river water to the Lake Prince and

Western Branch Reservoirs depending on need. Raw water is conveyed via a dedicated 42-inch raw water pipeline from each river pump station via a 20-mile pipeline for the Nottoway River supply and 10-mile pipeline for the Blackwater River supply. These pipelines have interconnects to allow flow from one pump station to be conveyed by either pipeline (or both pipelines concurrently). According to City staff, these pipelines are in adequate condition. No significant improvements to these pipelines are scheduled or anticipated during the Study Period.

The Blackwater Pump Station has a nominal capacity (via four pumps) of 23.5 mgd through the Blackwater pipeline and 24.5 mgd with the interconnect open. The Nottoway Pump Station has a nominal capacity (via four pumps) of 24.0 mgd through the Nottoway pipeline and 31.0 mgd with the interconnect open. Both pump stations are in adequate condition with no apparent structural issues. Additionally, while the pumps are 50 to 70 years old, they were observed to be operating adequately. Seals and bearings were replaced on the pumps at the Blackwater Pump Station in 1998 and on the pumps at the Nottoway Pump Station within the last few years.

The Nottoway and Blackwater Pump Stations, however, are vulnerable to flooding that can put the pumps out of service during significant rainfall events. As such, the City underwent a comprehensive engineering review to develop improvements to both stations that will minimize the impacts of flooding. Phase I consisted of rehabilitating the bulkhead system, providing emergency generators and adding temporary flood controls. These improvements were completed in FY 2012 at a cost of \$2.2 million and have been effective in reducing flooding events in the stations. These improvements provide additional protection against flooding until the long-term solutions proposed for Phase II can be implemented. Phase II includes additional flood protection, including raising the switchgear, and new vertical turbine or submersible pumps at both facilities at a cost of \$6.8 million (the amount remaining from previous CIP authorization for bulkhead and structural improvements). Because of the success of the Phase I improvements, Phase II will be initiated after the improvements at the Lake Prince Pump Station noted below are complete.

The Lake Prince Pump Station transfers water directly to the Moores Bridges Water Treatment Plant (the "Moores Bridges WTP"). It also has a dedicated pump and transmission main for providing raw water to the City of Portsmouth ("Portsmouth") during emergency situations. Four 10.0 mgd vertical turbine pumps are located at the Lake Prince Pump Station, and the actual pumps are in adequate condition; however, as discussed in the following paragraph, the motor controls and switchgear do require replacement. It should be noted that two of the four pumps were installed in 2005 and 2007. The other two pumps are 1989 vintage and in good working condition. The Lake Prince Pump Station has a nominal capacity of 30.0 mgd with one pump out of service and the Western Branch and Simonsdale No. 1 Pump Stations off-line.

The intake screens showed some corrosion, but appear to be working as expected, and staff indicated that there have been no major maintenance issues. However, similar to the Nottoway and Blackwater Pump Stations, the Lake Prince Pump Station is susceptible to flooding. As such, \$1.0 million, approved in a previous CIP, will be utilized to replace and raise the motor controls and switchgear for the pumps to prevent damage from future flooding events. An additional \$1.5 million to replace pumps, repair the pump station, upgrade electrical service, and improve SCADA have been added to the CIP program, and will be included as one project. This project is anticipated to start construction in the coming months and was approved in prior CIP authorizations.

The Western Branch Pump Station, having a 152.0 mgd hydraulic design capacity, currently has the installed pump capacity of 112.0 mgd. The Western Branch Pump Station was constructed in 2000 and is in good working order based on inspections and conversations with City staff. Improvements to the Western Branch Pump Station to supply the WTWA with 3.0 mgd of raw water initially, and 15.0 mgd ultimately, have been completed and have been in service since summer of 2014. The City budgeted \$3.0 million for these improvements under a previously approved CIP; however, while the City initially funded these improvements, the City has been reimbursed directly by the WTWA under the terms of the City's contract with the WTWA.

Other significant upcoming improvements to the Western Branch Pump Station include the pump and piping improvements to deliver Chesapeake's portion of the Lake Gaston water supply to the Red Top area when requested by Chesapeake. These improvements are under design and will be funded directly by Virginia Beach under the terms of their agreement and, as such, no funds were required from the City for this project.

The Western Branch Pump Station delivers 28.0 mgd of raw water to the 37th Street Water Treatment Plant (the "37th Street WTP") via dual 36-inch transmission mains (Raw Water Lines 1 and 2). These mains have been in need of repair and have undergone significant replacements in recent years. Pipeline segments in or along Reid's Ferry, Coast Guard Boulevard, Phase II of Coast Guard Boulevard, Craney Island, Driver, as well as a directional drill under the Eastern Branch of the Elizabeth River, and other segments of aging pipe have been replaced which has resulted in reduced leakage. For FY 2015 and 2016, a directional drill under the Western Branch of the Elizabeth River (\$3.5 million) is currently under design and planned for construction; and the supports for aerial pipeline crossings 7, 16 and 26 will be under design in fall of 2015. This work is either included in a previous CIP authorization for transmission and distribution projects or included in the City's CIP budget as part of the annually allocation for the replacement or rehabilitation of waterlines. With the completion of the directional drill under the Western Branch of the Elizabeth River and the aerial crossing supports outlined previously, Raw Water Lines 1 and 2 should be in significantly better shape as compared to only a few years ago.

The Moores Bridges WTP is primarily supplied at a maximum day rate via the Western Branch Pump Station, the Lake Prince Pump Station and the two Simonsdale Booster Pump Stations (Nos. 1 and 2). The raw water is conveyed via 30 miles of dual 48-inch transmission mains (Raw Water Lines 3 and 4). These dual pipelines have a capacity of 109.0 mgd when operated in parallel and both Simonsdale Booster Pump Stations are operating. These lines were constructed in the 1990's and are in good condition. Therefore, there are no scheduled or anticipated improvements for these pipelines during the Study Period.

The Simonsdale Pump Stations No. 1 and No. 2 are booster pump stations located on the Raw Water Lines 3 and 4, respectively. Simonsdale No. 1 has three pumps, each with a pumping capacity of 16,000 gallons per minute ("gpm") or 23.0 mgd, and Simonsdale No. 2 has five pumps, each with a capacity of 10,677 gpm (or 15.4 mgd). There is also an interconnect that allows the two pump stations to convey water from Raw Water Lines 3 and 4 to Raw Water Lines 1 and 2. Therefore, if Lines 1 and/or 2 fail upstream of the interconnect, the City can continue to supply the 37th Street WTP. Due to the stable raw water demands, the Simonsdale Pump Stations have not been utilized regularly in recent years. Both pump stations are in good condition as the Simonsdale Pump Station

No. 1 underwent improvements, including pump replacements and upgrades to the control and ventilation systems, within the last 10 years, and the Simonsdale Pump Station No. 2 is less than 15 years old. It should be noted that the Simonsdale Pump Station No. 1 was flooded recently and the motors are currently slated to be rewound and the switchgear components replaced.

As noted previously, the In-Town Reservoirs consist of five City-owned and operated water supply reservoirs: Lake Lawson, Lake Smith and Little Creek Reservoir in Virginia Beach; and Lake Whitehurst and Lake Wright in Norfolk. Water Utility personnel regularly inspect and maintain the In-Town Reservoirs. Trees were recently removed from the Lake Smith Dam to improve its operation. This project was completed with funds from previously approved CIP allocations.

Stumpy Lake is owned and operated by Virginia Beach, but provides additional raw water supply as directed by Norfolk via a 5.0 mgd pump station and pipeline that discharges directly to Lake Lawson. The Stumpy Lake source is rarely used. The total capacity of the five In-Town Reservoirs plus Stumpy Lake is approximately 2.3 billion gallons.

The five City-owned In-Town Reservoirs are connected by man-made canals and flow by gravity to the Moores Bridges WTP. In-Town Reservoir raw water is presently used in combination with the maximum month pumping of the Western Reservoir System raw water to meet the Moores Bridges WTP maximum day treatment requirements. Raw water from the In-Town Reservoir system is delivered to the Moores Bridges WTP via the Lake Wright Pump Station which is located on Lake Wright at the Moores Bridges WTP.

The Lake Wright Pump Station has been used infrequently due to recent demand trends but has an ultimate capacity of 58.0 mgd if the Western Branch and Lake Prince Pump Stations are off-line. The Lake Wright Pump Station had been susceptible to periodic flooding; however, operational changes (sluice gates and pumping operation) seem to have eliminated the flooding issue and the need for costly improvements to an infrequently used facility.

While not part of its In-Town Reservoir water supply, the City (through the Department of Public Works – Storm Water Management) also maintains Lake Taylor, which is located adjacent to the Moores Bridges WTP. Lake Taylor is extremely shallow (less than three feet at full pool) and does not provide any true raw water storage. As such, the City does not consider it part of the In-Town Reservoir facilities.

As a whole, the raw water supply facilities, including the reservoirs, dams, river intakes, wells and pump stations, are generally well-operated and maintained in good condition or, if currently in poor condition, are scheduled to be improved within the current CIP term. There are certain segments of the dual 36-inch pipelines supplying the 37th Street WTP (Raw Water Lines 1 and 2), which have been identified by the City and have been repaired/replaced or are on a planned replacement schedule. It appears any necessary and significant improvements have been considered and are incorporated into the City's CIP.

2.3.2 Water Treatment Facilities

The Department of Utilities owns and operates two major water treatment plants—the Moores Bridges WTP and the 37th Street WTP. The Moores Bridges WTP primarily provides treated water to Virginia Beach and to the eastern one-third of Norfolk. The 37th Street WTP provides treated

water primarily to the western two-thirds of Norfolk. Treated water from both plants also serves U.S. Navy facilities and Chesapeake.

2.3.2.1 Moores Bridges Water Treatment Plant

The initial treatment plant at Moores Bridges WTP was constructed in 1873. Additions and improvements have been made to the plant over the years resulting in a hydraulic capacity of 108.0 mgd as of the latest round of improvements in 1999. As mentioned previously, the plant receives water primarily from the Western Reservoir System through two 48-inch pipelines and secondarily from the In-Town Reservoirs through the Lake Wright Pump Station located at the plant site.

The Moores Bridges WTP is a conventional water treatment plant incorporating coagulation, flocculation, sedimentation, filtration and disinfection. Recent completed improvements to the treatment process include the replacement of five pumps, HVAC improvements, laboratory improvements, improvements to some gravity filters and the addition of a sixth pump for redundancy at the low-lift pumping station, which pumps chlorinated filtered water from the gravity filters to the on-site clearwells/storage tanks. Eight gravity filters are also scheduled to be rehabilitated in the next few years.

There are four ground storage tanks that store 24 million gallons of finished water for delivery to the Water System through the high service pump stations, primarily the High Pressure Pump Station No. 2, which includes four 40.0 mgd pumps. In addition, the High Pressure Pump Station No. 1 is used exclusively at night due to the low flow evening demands and in conjunction with the High Pressure Pump Station No. 2 during the day and during high demand periods. Improvements to the ventilation system in the pump station to minimize the heat build-up from the variable frequency drives in the High Pressure Pump Stations were completed as part of a previous CIP, and, as such, these stations are in good condition. Furthermore, repairs to the maintenance coating of the interior and exterior of the treated water storage tanks were also scheduled in a previous CIP as well as the current CIP. These repairs include sandblasting and epoxy coating of the interior of the tanks at approximately \$750,000 to \$1 million per tank. According to Moores Bridges WTP staff, plans include completing one tank per year over the next four years.

In case of an emergency, the Moores Bridges WTP has five 1,750 kilowatt ("kW") standby generators that are capable of supplying enough power to operate the entire plant. These generators were installed in the mid-2000's and are in good condition.

As mentioned in Section 2.2, based on a review of the water quality records, the Moores Bridges WTP produces water that is in compliance with all Safe Drinking Water Act standards. Accordingly, while some recent equipment upgrades to the laboratory provide the City with the means to conduct all of the necessary testing to maintain compliance with these standards, the City has budgeted \$1 million for laboratory equipment and laboratory improvements in FY 2020 to ensure that the laboratory and the analytical equipment are maintained in top condition.

In addition to the liquid stream processes, the plant also has solids handling facilities that consist of chemical conditioning, gravity thickening and the use of centrifuges for solids dewatering. Dewatered cake solids are transported to the Southeastern Public Service Authority (the "SPSA") regional landfill and Waste Management facilities (WM) in Hampton Virginia. The City has an agreement with the SPSA specifying that at least 50% of the City's solid waste, including the Water

Utility's dewatered cake solids, be delivered to the SPSA's landfills. According to the City, the current contract extends to 2018. Norfolk has also negotiated a reduced disposal charge in a separate contract with Wolf Contracting. The dewatered cake solids are transported to Waste Management landfill facilities in Hampton. This contract also extends to 2018. According to City staff, they feel confident that they will rely on the Waste Management Hampton facilities more in the future as tipping fees are lowered.

While it does show its age in some areas, the Moores Bridges WTP has been well maintained and is in good operating condition. As mentioned previously, Norfolk's treated water meets current water quality standards and is constantly tested at the plant's laboratory. All equipment and structures are regularly inspected and maintained, and records are well kept. With that said, the City is initiating improvements in some areas of the facility and other improvements are scheduled during the Study Period. These projects have been authorized either under a previously approved CIP or are included in the current planned CIP for the Study Period.

- *Sedimentation Basins 7 and 8 Upgrades* – This project is complete. Norfolk has replaced the drive motors for the flocculators for the two basins. Additional plans for this project included replacing the flocculators and baffles, as well as replacement of the sludge removal mechanisms in each basin. Furthermore, structural repairs were completed to improve the integrity of the basin walls. This project was completed at an estimated contract amount of \$3.7 million.
- *Sedimentation Basins 2 through 6 Upgrades* – These upgrades will provide for new sludge removal systems for all five trains. An estimated budget of \$3.0 million has been approved in a previous CIP. The project is currently under design.
- *Filter Upgrades* – These upgrades will provide for the replacement of support gravel with new media retention caps and new media in all filters. This project also includes regrouting of the underdrains, where necessary. An estimated budget of \$2.0 million has been approved in a previous CIP, and this project is currently ongoing.
- *Centrifuge* – The previous system used plate presses to dewater sludge from the various treatment processes. These presses were old and worn and had become inefficient. Therefore, Norfolk has recently replaced both of the plate presses with centrifuges as well as rehabilitating their three thickeners.
- *Lime Feeder Improvements* – The WTP utilizes four lime feeders. Two have been replaced and the other two require replacement as well. Replacement of the lime feeders will provide better control of lime feed which is expected to improve finished water quality as well as daily operation and maintenance. An estimated \$250,000 is part of a previous CIP allocation for the Moores Bridges Water Treatment Plant Upgrade.
- *Miscellaneous Roof Repairs* – As part of the City's ongoing maintenance program, roof repairs are required on five buildings at the WTP. This project is ongoing and is included in the \$1.5 million allocated in the City's previously approved CIP.
- *Rotodip Alum Feeders Replacement* – The outdated rotodip alum feeders will be eliminated and replaced with feed pumps and smaller feed lines at approximately \$525,000.

2.3.2.2 37th Street Water Treatment Plant

The 37th Street WTP was initially placed in service in 1922 and extensively renovated and expanded in 1942. The plant has a rated treatment capacity of 28.0 mgd. Raw water is supplied to the plant by two 36-inch pipelines from the Western Reservoir System. The plant is operated at a relatively constant production rate (approximately 14 mgd), and, according to the available water quality data, the facility produces drinking water well within all regulatory requirements.

The 37th Street WTP has a conventional treatment process consisting of coagulation, flocculation, sedimentation, filtration and disinfection. Recent renovations to the flocculation and sedimentation basins include concrete repairs and new flocculation and sludge collection equipment, as well as a new chemical feed facility and administration facilities (Phase I of the 37th Street WTP Upgrade Project). As part of these improvements, a sodium hypochlorite storage and feed system was installed for purposes of disinfection and reduction of potential safety hazards associated with handling chlorine gas in residential areas. Also, a sulfuric acid feed system was installed for raw water alkalinity adjustments. It should be noted that the previous shotcrete/resurfacing of the sedimentation basins and installation of the solids collection equipment (Trac-Vac™) and solids thickening equipment occurred in 1991.

The equipment to handle the water treatment waste solids is relatively new as it was installed within the last ten years. This facility consists of sludge receiving basin wet wells and process transfer pumps, a polymer conditioning system, three rotary drum sludge thickeners and a post-filtrate treatment system. The thickened solids are pumped through dedicated pipelines to the Virginia Initiative Plant, a nearby wastewater treatment facility owned by the Hampton Roads Sanitation District ("HRSD"), for incineration. The filtrate is re-treated by flocculation and sedimentation processes prior to being discharged to the HRSD sanitary sewer system.

Phase II of the of these improvements were recently completed and included significant structural repair of the concrete sedimentation basins, installation of new ferric coagulant storage and feed equipment, replacement of the solids collection system, lead paint abatement, installation of an additional backup emergency generator and construction of a surge control system for the raw water pipelines.

One of the original design features of the 37th Street WTP has the treated water clearwells located directly below the sedimentation basins. Minor contamination of the treated water could occur if the sedimentation basins should leak, and the current configuration would likely not meet with Virginia Department of Health approval for new plant construction today. As part of the City's Phased Planning Approach, the clearwells are scheduled to be converted to post-settling storage prior to filtration during Phase III of the plant upgrades, which are described below.

Phase III, which is currently under construction and is estimated to be complete in fall of 2016, includes new deep-bed gravity filters with granular activated carbon, an intermediate pump station and conversion of existing clearwells to post-sedimentation storage, replacement of the rapid mix facilities, a new ultraviolet ("UV") disinfection system to reduce chlorine contact time and subsequent disinfection by-product formation and miscellaneous upgrades to other treatment facilities. A budget of \$25.0 million was allocated in a previous CIP for the Phase III Improvements which includes \$5 million for the UV addition that was added in the current design.

Upon completion of the Phase III improvements, the primary 37th Street WTP treatment process should be in new or, at a minimum, good condition. Based on a visual inspection of the plant, these improvements are needed and appropriate considering the condition of the facilities they are replacing. With respect to solids handling and dewatering, based on current disposal costs of thickened sludge to HRSD, the City may consider new dewatering centrifuges in the future (similar to the Moores Bridges WTP) should the life-cycle economics justify those improvements.

2.3.3 Water Distribution and Storage Facilities

During the past ten years, the largest peak usage of the Water System occurred in FY 2007 which recorded maximum day, Water System-wide usage of 86.5 mgd and average day usage of 66.0 mgd. In 2014, peak day water usage was 74.9 mgd, and average day was approximately 57.9 mgd.

To effectively distribute the treated water to its customers, Norfolk's Retail Service area distribution system includes two ground level storage tanks with pump stations, two elevated water storage tanks, and, according to City records, there are approximately 950 miles of water pipelines ranging in size from 2 to 60 inches, 17,800 water valves and 4,800 hydrants in the distribution system. The Retail Service distribution system's storage tanks and pump stations were observed to be in generally good condition. Most recently, the City made improvements to the foundation of the Little Creek Tank to reduce leakage from the tank. In addition, the pumps at both of the City's booster pumping stations have been recently rehabilitated and are in good condition. Finally, the Ocean View and Berkley elevated storage tanks and the Chesterfield Heights and East Little Creek ground storage tanks have been recently painted, and in 2010, a project was completed to install pumps at the Ocean View and Berkley elevated storage tanks. Recently, one of the Chesterfield Heights pumps was rebuilt and the other two will follow in the coming fiscal years.

However, the generator at the Little Creek Pump Station is not operational and will need to be replaced if the City chooses to provide back-up power at this facility. Although this project is included in the CIP, at this time treated water can be delivered in this area without the Little Creek Pump Station and, as such, the City has no immediate plans to replace this generator.

The City operates a centralized Water Distribution Maintenance Facility located at Ballentine Boulevard. This facility contains administrative offices and records storage; a parts and materials storehouse; a pipe, valve and hydrant storage yard; a meter and hydrant repair shop; and equipment storage facilities for work crews.

Generally, the City's distribution system repair and replacement program includes both planned and emergency repairs. The City maintains an appropriate budget for emergency repairs that arise through the year, but the majority of the distribution system improvements are associated with the Long-Term Control Plan developed for the sewer system. Initiated in 2004, as part of a Consent Order, the City began a 15- to 20-year program to repair, rehabilitate, and/or replace much of its critical sewer system infrastructure. As improvements to the sewer system are implemented throughout the City, the water lines in the same service area are also replaced. As a result, the majority of the Retail water line replacement work is proactive as it coincides with sewer improvements that are part of the City's Long-Term Control Plan.

As a result, the Retail distribution network (i.e., pipes smaller than 12 inches in diameter) is either in good or adequate condition, or the pipes are scheduled for replacement as part of the Consent

Order work on the sewer system as noted above. As such, Norfolk's capital program contains distribution system projects to help address identified deficiencies. Furthermore, as the Long-Term Control Plan is implemented for the sewer system, the Retail distribution system will likely become much more reliable.

Based on maintenance records, Norfolk's treated water transmission mains (i.e., pipes 12 inches and larger) are considered to be in good to adequate operating condition. As noted previously, a portion of the budget allocated annually for transmission and distribution improvements in the CIP will be utilized on the Retail Service component of the Water System. However, much of this work will be prioritized by the City based on the activities under the Long-Term Control Plan. Figure 3 below shows the area of the City where the sewershed improvements have already been completed, are planned in the relatively near future or are still pending further study as part of the Long-Term Control Plan.

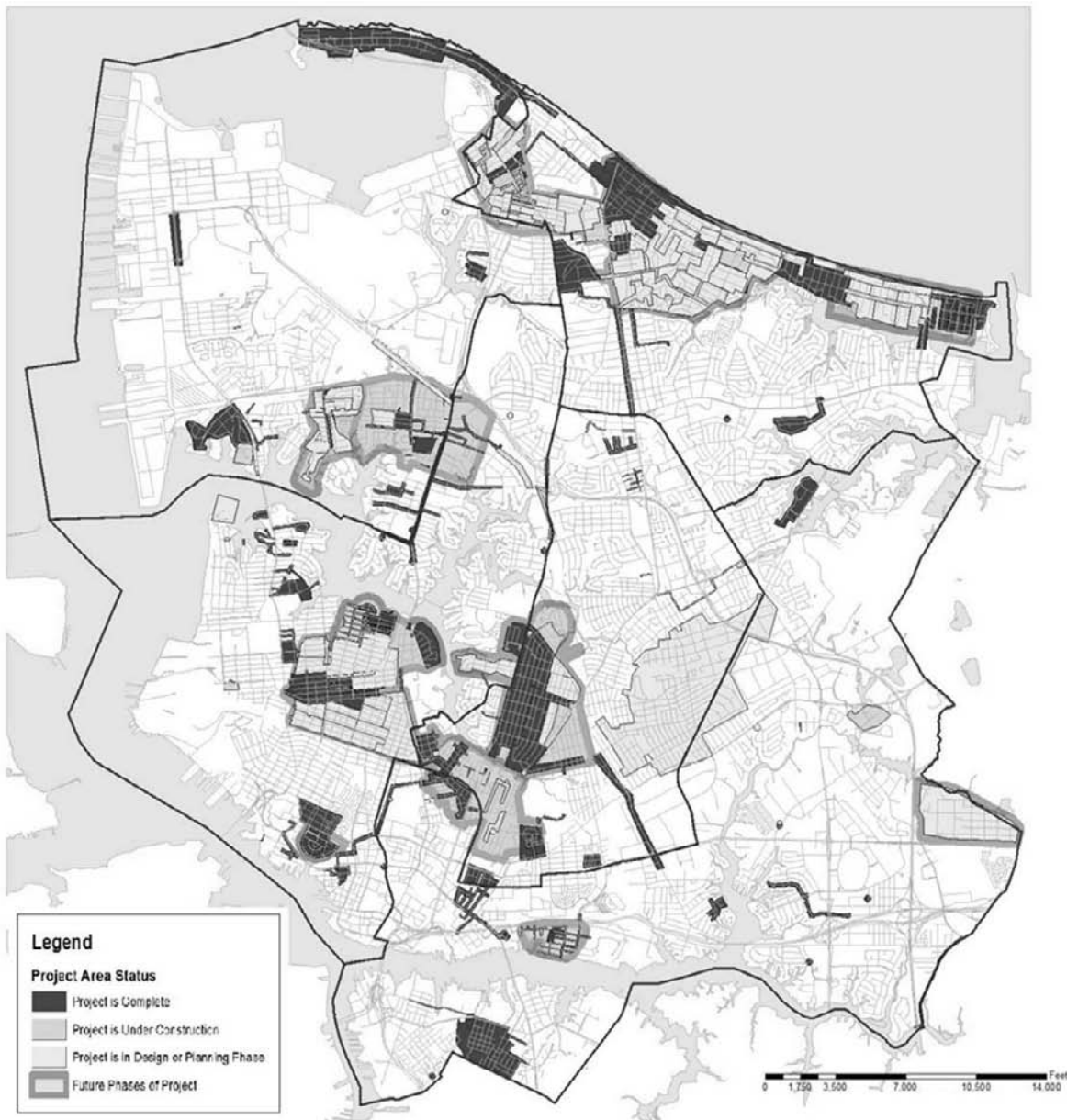


Figure 3 City Capital Improvement project map, including both water distribution and sewer collection projects, with highlighted neighborhood improvement areas

In addition, CIP projects for instituting an Automated Meter Reading system and the associated meter change out are initiated in the City's CIP as updating the billing system. Automated meter reading is becoming a standard operating practice for most water utilities and with an updated billing system will likely pay for itself within a few years. Further, the City has instituted a program of replacing master meters over the next few years. Since most meters read low as they age, the replacement of the master meters should improve the City's revenue stream.

2.4 FY 2015 THROUGH FY 2019 PLANNED IMPROVEMENTS

This section summarizes planned improvements identified in Norfolk's FY 2015 through FY 2019 CIP, and totals over \$80 million as shown in Table 1, Line 12. The CIP represents the amount approved or planned for each new or ongoing project, all of which appear to be appropriate and needed. The capital expenditure estimates provided by Norfolk contain reasonable allowances for construction, legal, and administrative costs for the identified projects.

Table 1
Capital Improvement Program
Fiscal Year Ending June 30,

Line No.	Description	Approved	Planned				Total
		2015 ⁽¹⁾	2016	2017	2018	2019	2015 - 2019
		\$	\$	\$	\$	\$	\$
Water Projects							
1	Comply with Safe Drinking Water Act Amendments	185,000	-	100,000	-	1,000,000	1,285,000
2	Implement Meter Change-Out Program	150,000	150,000	150,000	150,000	150,000	750,000
3	Improve Water Pipeline Infrastructure	7,625,000	12,700,000	12,000,000	11,000,000	11,040,000	54,365,000
4	Install Aerator - Lake Prince	500,000	-	-	-	-	500,000
5	Install New Aerators - Western Branch	-	800,000	-	-	-	800,000
6	Rehabilitate Nottoway River Pump Station	-	-	-	5,000,000	-	5,000,000
7	Rehabilitate Reservoirs System Wide	5,250,000	-	-	-	-	5,250,000
8	Replace Combined Operations Building HVAC	190,000	-	-	-	-	190,000
9	Replace Master Meters	120,000	120,000	120,000	120,000	120,000	600,000
10	Upgrade Moores Bridges Water Treatment Plant	5,200,000	1,500,000	3,000,000	2,000,000	-	11,700,000
11	Upgrade Northstar Billing System	-	50,000	-	50,000	-	100,000
12	Total Approved Capital Program	19,220,000	15,320,000	15,370,000	18,320,000	12,310,000	80,540,000

⁽¹⁾ 2015 Projects authorized by City Council as part of the FY 2015 CIP budget process.

2.5 SUMMARY

Norfolk's Water System, as it exists, can be expected to provide adequate capacity to meet demand throughout the Study Period. Norfolk's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations. The Department of Utilities is actively planning and implementing improvements to Norfolk's water treatment facilities to meet current regulations and proposed amendments to the 1986 Safe Drinking Water Act. The City has initiated projects to upgrade dated facilities, provide redundancy and for the handling and disposal of residuals from the water treatment plants in an environmentally sound manner. The CIP expenditure estimates contained in this Report reflect allowances to reasonably recognize costs of meeting the current and anticipated near-term regulatory agency rules and regulations.

The Department's management strategies relating to facilities maintenance, with emphasis on preventive and predictive maintenance practices, continues to grow; and computer-based maintenance management systems have been or are being implemented. Current staffing levels appear to be adequate to maintain and operate the facilities. Operator training appears to be sufficient at all levels.

The CIP for FY 2015 through FY 2019, with project costs totaling an estimated \$80,540,000, appears to adequately address necessary Water System facility renovations and upgrades. The program sufficiently addresses current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential

contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that appear to impact the improvements planned in the CIP.

Overall, Norfolk's Water System is well-managed; is in good operating condition with areas of deficiency being addressed in the proposed CIP and, coupled with the CIP, is capable of providing safe and reliable drinking water to its customers for the foreseeable future. The primary challenge into the future will be the condition of the retail distribution system, which is being addressed as the planned, system-wide sewershed improvements are being conducted.

3.0 Financial Requirements

3.1 REVENUES AND OPERATING EXPENSES

Observations regarding historical trends and projections are based upon analysis of five years of history (FY 2010 through FY 2014) in conjunction with interviews and review of Water Utility operational data and judgment based on experience working with similar water utilities.

3.1.1 Metered Accounts

Norfolk provides treated water service to customer groups or classes, including service on a retail basis within the City limits and on a wholesale basis to the U.S. Navy, Virginia Beach and Chesapeake. Retail Service is provided through metered connections to the transmission and distribution system within Norfolk's City limits. Wholesale Service is provided through master metered connections to the transmission system.

Norfolk also provides metered raw water service on a wholesale basis to the U.S. Navy, Chesapeake and WTW. The City also provides emergency raw water to Portsmouth and to Navy-Craney Island. Raw water service is provided through master metered connections to the raw water transmission system.

3.1.1.1 Retail

Metered accounts for Norfolk Retail Service have decreased from 66,140 accounts in FY 2010 to 64,002 accounts in FY 2014. The number of Norfolk metered accounts increased slightly between FY 2013 and FY 2014 but has decreased over the historical period with an annual average decline of 0.25% per year. Norfolk is a mature city which is essentially fully developed. Retail metered accounts are projected to remain constant at the FY 2014 level of 64,002 accounts through FY 2019.

Norfolk's fire protection accounts have increased from 793 in FY 2010 to 854 in FY 2014, or approximately 2.8% per year. Fire protection accounts are projected to remain constant at the FY 2014 level of 854 accounts through FY 2019.

3.1.1.2 Virginia Beach

Historical records indicate Virginia Beach accounts have decreased from 31 metered accounts in FY 2010 to 28 metered accounts in FY 2014. Virginia Beach's metered accounts are projected to remain at 28 accounts through FY 2019.

The City treats Virginia Beach's water under a Water Services Contract which expires on June 30, 2030. Under this Contract, the City treats, stores, pumps and transports treated water to the metered points of delivery for the Virginia Beach distribution system. See Appendix E to the Official Statement for further details on the Contract with Virginia Beach.

3.1.1.3 U.S. Navy

The Norfolk area has the largest concentration of naval installations in the world, with headquarters for the Atlantic Fleet, the Norfolk Naval Base, and other major naval commands. The naval presence in the Norfolk area has a significant impact on the local economy and consequently on the revenues and expenditures of local government. Historically, the net effect of the naval

presence, attributable to the large local naval payroll and substantial expenditures for goods and services, has been to stabilize the economy in the Norfolk area.

The U.S. Navy metered accounts increased from 62 accounts in FY 2010 to 66 accounts in FY 2014. The Navy's metered accounts are projected to remain constant at 66 accounts through FY 2019.

The City has provided treated water to the U.S. Navy on a wholesale basis since 1981. The contract was modified effective July 1, 2003, to establish treated water rates applicable to the Naval facilities located in Norfolk and Virginia Beach. The current rate, which is Norfolk's retail rate plus 10%, is \$4.90/Ccf. Effective July 1, 2013, a City ordinance was adopted that charges all military users (including the U.S. Navy) a water rate that is equivalent to the Norfolk retail rate plus 10%.

3.1.1.4 Chesapeake

Norfolk provides both treated water and raw water services to Chesapeake.

Chesapeake treated water metered accounts remained relatively stable at 31 accounts from FY 2010 through FY 2014. Chesapeake's treated water metered accounts are anticipated to remain constant at 31 accounts through FY 2019. Treated water sold to Chesapeake is not subject to a separate contract.

Chesapeake raw water service is currently provided through one master meter site. No additional meter sites are anticipated for the raw water service during the Study Period.

The City entered into a Raw Water Sales Contract with Chesapeake in December 2002 which expires on December 31, 2042. The City began providing raw water to Chesapeake on July 1, 2006. The City agreed to provide a target amount of 7.0 mgd of raw water to Chesapeake which is the take or pay minimum. The target amount can be adjusted based on the request of Chesapeake and agreed upon by the City. The City may reduce the target amount if one of the following conditions occurs:

- Decrease Surplus Water Supply;
- Facility or Equipment Failure;
- Drought;
- Contamination; or,
- Force Majeure.

The City may also terminate the Contract if Chesapeake does not pay in full within 60 days from the date of a receipt for payment; or Chesapeake willfully breaches the Contract which significantly impacts the operation of the Contract. Chesapeake may terminate the Contract if the City willfully breaches any term of the Contract or the City delivers less than the difference of the target amount less 0.75 mgd for more than 6 consecutive billing periods.

Under the terms of this Contract, the City also agrees to continue selling no less than 2.0 mgd of treated water for the length of the Raw Water Sales Contract.

3.1.1.5 Western Tidewater Water Authority

During FY 2009, Norfolk entered into a Raw Water Sales Contract to provide raw water services to WTWA, which includes the City of Suffolk and Isle of Wight County. The Contract is a "take or pay"

Table 2
Historical and Projected Water Metered Accounts By Customer Class
Fiscal Year Ending June 30,

Line No.	Description	Historical					Projected				
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Water											
1	Norfolk Retail	66,140	65,840	65,917	63,825	64,002	64,002	64,002	64,002	64,002	64,002
2	Norfolk Fire Protection	793	804	813	834	854	854	854	854	854	854
3	Virginia Beach	31	31	31	31	28	28	28	28	28	28
4	U.S. Navy	62	59	59	62	66	66	66	66	66	66
5	Chesapeake - Treated Water	31	33	34	31	31	31	31	31	31	31
6	Chesapeake - Raw Water	1	1	1	1	1	1	1	1	1	1
7	Western Tidewater Water Authority	1	1	1	1	1	1	1	1	1	1
8	Raw Water ⁽¹⁾	2	2	2	1	1	1	1	1	1	1
9	Total	67,061	66,771	66,858	64,786	64,984	64,984	64,984	64,984	64,984	64,984

⁽¹⁾ Includes Portsmouth emergency raw water and Navy-Craney Island raw water.

agreement with WTTA, with an increasing required minimum volume purchase until it reaches 15 mgd in FY 2038, and expires June 30, 2048. Raw water sales to WTTA from the Western Branch Pump Station were made available in May of 2014. No additional raw water service sites are anticipated during the Study Period.

3.1.1.6 Raw Water Accounts

The City provides emergency raw water to Portsmouth and to Navy-Craney Island, each with one master meter. No additional accounts are forecasted during the Study Period.

In 2002, the City entered into an emergency Raw Water Service Contract with Portsmouth. The “Start-up Date” for this Contract was September 11, 2007.

3.1.1.7 Historical and Projected Accounts

Table 2 presents the historical and projected water metered accounts by each customer class. As noted on Line 9, total metered water accounts are projected to remain stable during the Study Period.

3.1.2 Water Sales Volumes

3.1.2.1 Retail

Water sales for Norfolk Retail Service declined from approximately 8.6 million hundred cubic feet (“Ccf”) in FY 2010 to approximately 8.1 million Ccf in FY 2014, or about 1.7% per year. Customers’ overall usage is anticipated to remain constant at FY 2014 levels throughout the Study Period.

3.1.2.2 Virginia Beach

Water sales to Virginia Beach have declined from approximately 16.3 million Ccf in FY 2010 to approximately 15.5 million Ccf in FY 2014, a decline of about 1.2% per year. Between FY 2011 and FY 2012 water sales to Virginia Beach declined by 658,000 Ccf, a decline of approximately 4.0%. Much of the decline in demand from Virginia Beach can be attributed to economic conditions. Reports, including the Virginia Beach Economic Outlook by Moody’s, indicate the recession in Virginia Beach is milder than average, consistent with the state of Virginia. However, recovery has lagged both the nation and state. This lag can be attributed to federal cuts and reduction in defense spending. While there is potential for further development in the region, particularly in the Courthouse/Sandbridge area and the Kempsville and Holland areas, no growth in Virginia Beach’s usage is projected over the Study Period.

3.1.2.3 U.S. Navy

Although the U.S. Navy has historically been pursuing water conservation efforts, water sales to the Navy increased from 2 million Ccf in FY 2010 to 2.1 million Ccf in FY 2014. It is expected that the U.S. Navy’s usage will remain constant at FY 2014 levels throughout the Study Period.

3.1.2.4 Chesapeake

Norfolk provides both treated water and raw water services to Chesapeake.

Treated water sales to Chesapeake decreased from 1.6 million Ccf in FY 2010 to 1.1 million in FY 2014. Chesapeake’s treated water usage is anticipated to remain stable at 1.1 million Ccf through FY 2019.

Raw water sales to Chesapeake have remained stable at nearly 3.5 million Ccf, just over the 7.0 mgd minimum (about 3.4 million Ccf) requirement of the Raw Water Sales Contract. Chesapeake's raw water usage is anticipated to be 3.4 million Ccf (approximately 7.0 mgd) over the Study Period, consistent with the contractual minimum "take or pay" amount of 7.0 mgd.

3.1.2.5 Western Tidewater Water Authority

The ability to deliver raw water to WTWA from the Western Branch Pump Station was made available in May of 2014. Initial quantities are expected to be about 1.46 million Ccf per year, based on contractual minimums of 3.0 mgd through FY 2015. Starting in FY 2016, the minimum level of service is projected to increase by 1.0 mgd every two years, reaching 15.0 mgd by FY 2038.

3.1.2.6 Raw Water Accounts

Historical raw water sales to the Navy-Craney Island and Portsmouth are related to emergency connections and are negligible over the historic period. For planning purposes the projected sales volumes exclude raw water sales to Navy-Craney Island and Portsmouth.

3.1.2.7 Historical and Projected Water Usage

Table 3 presents the historical and projected water usage by each customer class. Billed water use between FY 2010 and FY 2014 declined at a rate of approximately 1.3% per year. Projected water sales over the Study Period are anticipated to be relatively flat with exception of additional raw water flows associated with new sales to WTWA. Total water use, regardless of supply source, is projected to increase from 31.8 million Ccf in FY 2015 to 32.7 million Ccf in FY 2019 as a result of future raw water sales to the WTWA.

3.1.3 Water Revenue

3.1.3.1 Retail

Norfolk's Retail Rate structure consists of a monthly water service charge and a uniform commodity rate. Effective FY 2015, which began July 1, 2014, the monthly Water Account Service Charge is \$1.00 and the Water Rate is \$4.45 per Ccf.

Projected revenues under existing rates for Retail Service are based on the adopted rates for FY 2015, projected number of metered Retail water accounts and the projected annual usage.

Norfolk also charges for fire protection, with rates that vary by the size of connection. This revenue is approximately \$497,000 in FY 2014 and is projected to remain at this level through FY 2019.

3.1.3.2 U.S. Navy

Effective July 1, 2013, a City ordinance was adopted that charges all military users (including the US Navy) a water rate that is equivalent to the Norfolk retail rate plus 10%. Effective July 1, 2014, the U.S. Navy's FY 2015 water rate is \$4.90 per Ccf.

Table 3
Historical and Projected Usage By Customer Class
Fiscal Year Ending June 30,

Line No.	Description	Historical					Projected				
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
		Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf
Water											
1	Norfolk	8,599,532	8,505,305	8,336,214	8,206,914	8,144,860	8,145,000	8,145,000	8,145,000	8,145,000	8,145,000
2	Virginia Beach	16,295,615	16,454,006	15,795,733	15,694,008	15,526,662	15,527,000	15,527,000	15,527,000	15,527,000	15,527,000
3	U.S. Navy	1,977,195	2,088,552	1,943,757	1,929,948	2,100,847	2,101,000	2,101,000	2,101,000	2,101,000	2,101,000
4	Chesapeake - Treated Water	1,577,302	1,073,874	1,144,849	1,062,537	1,116,667	1,117,000	1,117,000	1,117,000	1,117,000	1,117,000
5	Chesapeake - Raw Water	3,476,738	3,471,417	3,525,883	3,528,008	3,467,246	3,416,000	3,416,000	3,416,000	3,416,000	3,416,000
6	Western Tidewater Water Authority ⁽¹⁾	N/A	N/A	N/A	N/A	N/A	1,464,000	1,952,000	1,952,000	2,440,000	2,440,000
7	Portsmouth - Raw Water	-	117,820	-	-	-	-	-	-	-	-
8	Total	31,926,382	31,710,974	30,746,436	30,421,415	30,356,282	31,770,000	32,258,000	32,258,000	32,746,000	32,746,000
9	% Change	-1.67%	-0.67%	-3.04%	-1.06%	-0.21%	4.66%	1.54%	0.00%	1.51%	0.00%
10	Usage per Metered Account	476.08	474.92	459.88	469.57	467.13	488.89	496.40	496.40	503.91	503.91

⁽¹⁾ Projected Western Tidewater Water Authority consumption is not anticipated to exceed the contractual minimums.

Projected revenues under existing rates for the U.S. Navy are based on the adopted rates for FY 2015, and the projected annual usage.

3.1.3.3 Virginia Beach

The water charges to Virginia Beach are based on the provisions of the Water Services Contract. The Water Services Contract (the “Contract”) established a three part charge consisting of:

- **Fixed Capacity Charge** to recover annual return on allocated rate base and a proportional share of annual depreciation expense. The annual total is to be paid to Norfolk in twelve equal monthly payments.
- **Demand Charge** to recover the allocated annual share of demand-related, relatively fixed operation and maintenance (“O&M”) expenses. The annual total is to be paid to Norfolk by Virginia Beach in twelve equal monthly payments.
- **Commodity Charge** to recover variable operating costs associated with the production and delivery of treated water. The charge is to be applied to monthly metered water usage.

Virginia Beach rate adjustments are formula driven under the Contract. For example, Norfolk projects Virginia Beach rates for two years based on projected costs and demands using the methodology established by the Contract. Before the end of the second year of each two-year rate period, Norfolk will project rates for the subsequent two-year period. Within six months of the close of the recently completed two-year rate period, Norfolk will recalculate annual rate revenues for that period using the Contract methodology, the Water System’s operations and audited costs. The cumulative differences in invoiced and actual annual rate revenues for the recently completed two-year period will be applied to the second year water service billing. During that second year of projected rates, one-twelfth of the total “true-up” results (either as an addition or subtraction) is applied to each monthly invoiced amount which has been computed using the then current projected rates in effect and actual Virginia Beach water usage. This cycle of biennial projection and “true-up” of Virginia Beach rates will continue for the life of the Contract.

3.1.3.4 Chesapeake

The Chesapeake treated water rate is established by City ordinance. Effective July 1, 2014, the FY 2015 Chesapeake treated water rate is \$4.55 per Ccf.

The Chesapeake raw water rate is established by the Raw Water Sales Contract initiated in FY 2003. Under the terms of the Contract, the water rate is adjusted annually based upon the greater of the current rate or the current rate modified to reflect the Consumer Price Index (“CPI”) adjustment factor. Effective July 1, 2014, the FY 2015 Chesapeake raw water rate is \$0.94 per Ccf.

Projected revenues under existing rates for Chesapeake are based on the adopted rates for FY 2015, and the projected annual treated water and raw water usage.

3.1.3.5 Western Tidewater Water Authority

The WTWA raw water rate is established by the Raw Water Sales Agreement. The charges under the Agreement executed in FY 2009 consist of a reservation charge and a commodity charge. Charges include both a monthly commodity charge, as well as a reservation charge that acknowledges the WTWA’s ability to obtain additional quantities of water in future periods. The

reservation charge is based on a schedule of quantities that generally declines over time as the minimum amount of purchased water increases. Volume rates under the Agreement are increased annually in accordance with CPI increases. Effective July 1, 2014, the FY 2015 raw water rate is \$0.94 per Ccf.

Projected revenues under existing rates for the WTWA are based on the adopted rates for FY 2015, the reserved raw water contract demands, and the projected raw water usage.

3.1.3.6 Raw Water Accounts

In FY 2011, the City received \$181,000 from Portsmouth for emergency raw water sales. Since raw water is provided on an emergency basis, no revenue is projected during the remainder of the Study Period. Historical revenue associated with the raw water sales to the Navy-Craney Island is negligible. For planning purposes no revenue from raw water sales to Navy-Craney Island is projected during the Study Period.

3.1.3.7 Historical and Projected Water Sales Revenues

Table 4 shows historical and projected water sales revenues under existing rates during the period FY 2010 through FY 2019. These revenue projections were determined by applying the projection of customer metered accounts from Table 2 and usage by customer class from Table 3 to the respective schedule of existing treated and raw water rates. The City completes a biennial rate review with Virginia Beach based on estimated costs. As shown on Line 16 of Table 4, some level of adjustment or “true-up” has resulted from these reviews. Projected revenues under existing rates for Virginia Beach are based on rates and terms of the Contract. Per the Contract formula, the Fixed Capacity Charge is determined using the City’s Embedded Interest Rate for the Water Fund. Accordingly, projections of Virginia Beach revenue take into account anticipated revenue changes and true-ups resulting from recent changes to the Water Fund’s Embedded Interest Rate, as well as the estimated reduction in FY 2015 Virginia Beach Fixed Capacity Charge Revenue due to the 2015 Refunding, as provided by the City’s Financial Advisor, Public Financial Management, Inc (PFM).

Historical and projected Water Utility Other Operating Revenues are shown in Table 5 for FY 2010 through FY 2019. Sources of Other Operating Revenue include Inspection Fees, Account Set-Up Fees, Meter Tests and Penalties, Finance Charges and Miscellaneous Fees. Other revenue has ranged from \$2.0 million to \$2.6 million between FY 2010 through FY 2014. Based on a review of historical levels and anticipated levels of development and growth, Other Operating Revenue is projected to remain stable at \$2.0 million per year during the Study Period.

Non-operating revenue consists of interest earnings on available operating and certain restricted funds. Interest Income projections are based on an interest rate of 0.025% in FY 2015 times the average of the beginning and ending year balances in the Operating Fund, Capital Projects Fund, Rate Stabilization Fund, General Reserve Fund and the Repair and Replacement Reserve Fund. Each year thereafter, the interest rate is projected to increase by 0.02%, achieving a projected interest rate of 0.1% in FY 2019. Study Period projections are included subsequently in Table 8 and Table 10.

Table 4
Historical and Projected Water Sales Revenue Under Existing Rates
Fiscal Year Ending June 30,

Line No.	Description	Historical					Projected				
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Fixed Charges											
1	Norfolk Retail	782,944	781,355	776,157	778,883	790,035	768,000	768,000	768,000	768,000	768,000
2	Norfolk Fire Protection	444,677	463,578	470,730	482,999	496,683	497,000	497,000	497,000	497,000	497,000
3	Total Fixed Charges	1,227,621	1,244,933	1,246,887	1,261,882	1,286,718	1,265,000	1,265,000	1,265,000	1,265,000	1,265,000
Usage Charges											
4	Norfolk Retail	32,173,283	33,247,420	33,536,662	33,812,717	34,920,362	36,245,000	36,245,000	36,245,000	36,245,000	36,245,000
5	U.S. Navy	8,107,730	8,836,936	8,534,182	8,767,765	9,927,016	10,295,000	10,295,000	10,295,000	10,295,000	10,295,000
6	Chesapeake - Treated Water	6,048,208	4,298,981	4,691,118	5,098,740	4,911,697	5,082,000	5,082,000	5,082,000	5,082,000	5,082,000
7	Chesapeake - Raw Water	2,992,142	2,989,952	3,090,236	3,202,788	3,191,564	3,211,000	3,211,000	3,211,000	3,211,000	3,211,000
8	Western Tidewater Water Authority ⁽¹⁾	2,474,700	1,348,568	1,281,150	1,324,950	1,346,850	1,376,000	1,835,000	1,835,000	2,293,000	2,293,000
9	WTWA - Reservation Fee ⁽²⁾	N/A	504,000	1,024,920	1,059,960	1,189,718	1,376,000	1,261,000	1,261,000	1,147,000	1,147,000
10	Portsmouth - Raw Water ⁽³⁾	-	181,140	-	-	-	-	-	-	-	-
11	Total Usage Charges	51,796,063	51,406,997	52,158,268	53,266,920	55,487,207	57,585,000	57,929,000	57,929,000	58,273,000	58,273,000
Virginia Beach Revenue											
Annual Charges											
12	Fixed Capacity Charge Revenue ⁽⁴⁾	14,907,000	14,697,960	14,172,000	14,364,000	11,438,040	11,576,000	11,576,000	11,576,000	11,576,000	11,576,000
13	Demand Charge Revenue	5,760,240	6,135,960	6,531,960	6,483,960	7,884,960	8,122,000	8,122,000	8,122,000	8,122,000	8,122,000
14	Commodity Charge Revenue	4,283,244	4,507,030	4,649,274	4,820,066	3,865,120	4,037,000	4,037,000	4,037,000	4,037,000	4,037,000
15	Revenue Before True-up	24,950,484	25,340,950	25,353,234	25,668,026	23,188,120	23,735,000	23,735,000	23,735,000	23,735,000	23,735,000
16	True-up ⁽⁵⁾	1,791,766	3,361,943	165,780	(3,256,967)	-	-	-	-	-	-
17	Estimated Revenue After True-up	26,742,250	28,702,893	25,519,014	22,411,059	23,188,120	23,735,000	23,735,000	23,735,000	23,735,000	23,735,000
18	Total Water Sales Revenue	79,765,934	81,354,823	78,924,169	76,939,861	79,962,045	82,585,000	82,929,000	82,929,000	83,273,000	83,273,000
19	% Change	N/A	1.99%	-2.99%	-2.51%	3.93%	3.28%	0.42%	0.00%	0.41%	0.00%

⁽¹⁾ 2010 Western Tidewater Water Authority includes billing for 2010 and retroactive charges for 2009 in the amount of \$1,215,037.

⁽²⁾ Reflects additional reservation fee for 12 mgd beginning in FY 2011, declining to 11 mgd in FY 2016 and 10 mgd in FY 2018.

⁽³⁾ FY 2011 revenue results from use of emergency interconnect.

⁽⁴⁾ FY 2015 includes adjustments that would be captured via the Virginia Beach True-up for FY 2015 and the estimated reduction in the FY 2015 Virginia Beach Fixed Capacity Charge Revenue due to the 2015 refunding.

⁽⁵⁾ Virginia Beach True-up; FY 2011 results from FY 2008 - FY 2009 adjustments; FY 2012 results from FY 2010 - FY 2011 adjustments; FY 2013 results from FY 2012 - FY 2013 adjustments.

Table 5
Historical and Projected Water Utility Other Operating Revenue
Fiscal Year Ending June 30,

Line No.	Description	Historical					Projected				
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	Other Revenue										
1	Fees-Cross Connection Inspection	16,050	15,175	17,100	11,975	13,075	29,400	29,400	29,400	29,400	29,400
2	Sale of Materials & Supplies-Store	(4,146)	1,329	410	5	(40,047)	17,000	17,000	17,000	17,000	17,000
3	Revenue-Other Miscellaneous	10,437	7,852	34,905	240,342	16,243	5,000	5,000	5,000	5,000	5,000
4	Bad Debt Recovery	366,423	66,060	57,547	219,565	N/A	N/A	N/A	N/A	N/A	N/A
5	Fees-Account Set-Up	264,409	273,980	278,440	282,500	301,220	276,000	276,000	276,000	276,000	276,000
6	Fees-Miscellaneous	7,882	3,524	2,647	4,198	3,277	3,100	3,100	3,100	3,100	3,100
7	Meter Test & Penalties	122,595	120,887	145,899	123,439	131,435	141,000	141,000	141,000	141,000	141,000
8	Recovery Cost-Utilities	1,479,835	1,509,531	1,593,575	1,751,975	1,489,955	1,338,000	1,338,000	1,338,000	1,338,000	1,338,000
9	Finance Charges-Water Bills	-	64,079	76,007	84,229	102,382	85,600	85,600	85,600	85,600	85,600
10	Fees-Boat	24,247	54,547	36,904	21,499	25,236	28,000	28,000	28,000	28,000	28,000
11	Fees-Tap	90,421	37,819	32,869	45,556	39,212	20,000	20,000	20,000	20,000	20,000
12	Total Other Revenue	2,378,153	2,154,783	2,276,303	2,785,283	2,081,988	1,943,100	1,943,100	1,943,100	1,943,100	1,943,100
13	% Change	N/A	-9.39%	5.64%	22.36%	-25.25%	-6.67%	0.00%	0.00%	0.00%	0.00%

3.1.4 Operating Expenses

The Water Utility is responsible for the overall administration, engineering, construction, operation and maintenance of the Norfolk Water and Sewer Systems. Funding of the direct and indirect costs is provided through the City's Water Utility Enterprise Fund (the "Water Fund").

For the purposes of this Report, O&M expenses exclude payment in lieu of taxes ("PILOT"), and payment to the City's General Fund for the City's Return on Investment ("ROI").

Organizationally, the Water Utility is divided into the following seven Divisions:

- **Director's Office** provides the administration and management of the Water and Sewer Systems;
- **Accounting and Budget** provides the accounting, budgeting, and financial recordkeeping and reporting for the Water Fund;
- **Water Accounts** provides the Water and Sewer System customer billing, collections and customer service;
- **Water Quality** provides the Moores Bridges and 37th Street WTPs laboratory testing and regulatory agency reporting requirements;
- **Water Production** provides the operation and maintenance of the raw water pumping and transmission, water treatment and treated water storage and pumping facilities;
- **Engineering** provides for the planning, design and engineering management of the Water and Sewer Systems capital improvements; and
- **Water Distribution** provides for the operation and maintenance of the water transmission and distribution system facilities.

The Water Fund historical and projected O&M expenses are shown in Table 6 for FY 2010 through FY 2019. Historical O&M expenses are summarized from the Water Fund's documents supporting the City's audited financial statements.

As shown, the City has controlled operation and maintenance expenditures at approximately the same level for the past three fiscal years. While it is not expected that the City will be able to continue to hold costs constant over the Study Period, the City has stated that it anticipates continuing to improve efficiencies where possible in order to minimize the impact of inflation. As such, the following escalation rate estimates apply to all projections for FY 2016 through FY 2019.

Salaries and Wages costs for FY 2015, shown on Line 1 of Table 6, are indicative of a salary increase from FY 2014. An annual escalation rate of 2.0% is assumed in FY 2015 through FY 2019, allowing for anticipated annual wage adjustments.

Health and Benefits costs for FY 2015 are shown on Line 2 of Table 6, estimated to be 6.4% higher than such costs in FY 2014, and reflect a 4.0% escalation rate each year thereafter.

Table 6
Historical and Projected Water Operation and Maintenance Expenditures
Fiscal Year Ending June 30,

Line No.	Description	Historical					Projected				
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Salaries & Wages	12,803,765	13,138,810	12,294,377	12,672,917	13,044,446	13,631,717	13,904,000	14,182,000	14,466,000	14,755,000
2	Health & Benefits	1,481,117	1,564,517	1,488,671	1,691,899	1,799,849	1,858,072	1,932,000	2,009,000	2,089,000	2,173,000
3	Plant Operations	5,896,843	6,493,701	6,589,857	6,489,193	6,650,541	6,407,657	6,536,000	6,667,000	6,800,000	6,936,000
4	Chemicals	3,761,744	3,524,658	2,967,518	3,110,828	3,173,508	3,171,151	3,266,000	3,364,000	3,465,000	3,569,000
5	Provision for Bad Debts ⁽¹⁾	301,294	429,970	230,670	236,310	-	-	-	-	-	-
6	Retirement Contribution	2,170,730	2,770,254	2,629,548	2,427,534	2,268,623	2,268,623	2,314,000	2,360,000	2,407,000	2,455,000
7	Other Post Employment Benefits	364,437	369,128	327,453	108,317	172,356	168,000	171,000	174,000	177,000	181,000
8	Administrative Expenses ⁽²⁾	1,563,029	2,263,435	1,852,927	1,663,129	1,376,142	1,160,321	1,172,000	1,184,000	1,196,000	1,208,000
9	Other ⁽³⁾	6,244,782	6,514,280	6,286,503	6,410,575	5,981,412	6,487,500	6,552,000	6,618,000	6,684,000	6,751,000
10	Total O&M	34,587,741	37,068,753	34,667,524	34,810,702	34,466,877	35,153,041	35,847,000	36,558,000	37,284,000	38,028,000
11	% Change	N/A	7.2%	-6.5%	0.4%	-1.0%	2.0%	2.0%	2.0%	2.0%	2.0%

⁽¹⁾ Based on GASB 33:16 and 18; GASB 34:100, Note 41: Q&A 7.4.0.3, provision for bad debt is netted to revenue beginning in 2014.

⁽²⁾ Allocation for shared services.

⁽³⁾ Includes contractual services, legal fees, billing system costs, meter reading and design costs.

Plant operations costs are shown on Line 3 of Table 6, and are estimated for FY 2015 to decrease by about 3.6% from FY 2014 levels, from \$6.6 million to \$6.4 million. An escalation rate of 2.0% is assumed for each year thereafter.

Historical and projected Chemical costs are shown in Table 6, Line 4. The cost of chemicals has fluctuated historically based on commodity prices and volume of water treated. In FY 2014, chemical costs were approximately 2% higher than in FY 2013. FY 2015 chemical costs are projected to be \$3.1 million which is consistent with FY 2014 costs. For FY 2016 through FY 2019 chemical costs are estimated to escalate at 3.0% annually.

Retirement Contribution costs are estimated to be \$2.3 million in FY 2015, and are expected to increase 2.0% annually thereafter as shown on Line 6 of Table 6.

Other Post Employee Benefits are estimated to amount to \$168,000 in FY 2015, and are expected to increase 2.0% annually thereafter, as shown on Line 7 of Table 6.

General allocation of administrative expenses to offset charges for specific internal services provided by other City Departments, such as Human Resources, Finance and Legal Support, are budgeted within applicable Water Utility Cost Centers. Such costs are shown on Line 8 of Table 6 and are projected to increase annually at a rate of 1.0%.

Other costs, including contractual services, legal fees, billing system costs, meter reading, and design costs, are projected to increase 1.0% annually as shown in Line 9 of Table 6.

The Director's Office, the Accounting and Budget, the Engineering, and the Water Accounts Divisions also provide administrative and engineering support for the City's Sewer System. The total Water Fund Operating Budget for these expenses is included in total O&M in Table 6. The Sewer System's share of these administrative and engineering costs is recovered by an interdepartmental transfer, which is included as Other Operating Revenue on Line 8 of Table 5.

The Water Fund Operating Budget includes a transfer payment to Norfolk's General Fund as Return on Investment (ROI). This transfer recognizes a return to the City for its continued investment in the Water Fund. ROI is not typically recorded in utility chart of accounts as an operation or maintenance expense. Consistent with the chart of accounts and the Master Indenture, the transfer to the General Fund has not been included with the Water Fund's O&M expenses shown in Table 6. The payment to the General Fund for ROI is subsequently accounted for in Table 9.

Budgeted operating expenses also include a PILOT paid to the City's General Fund. PILOT represents a payment to the City in lieu of property taxes that might otherwise be paid by a private utility on above ground property within the City limits, and represents a transfer of revenues to the City. Although included in the Water Fund Operating Budget, PILOT and ROI are excluded from the definition of O&M in the Master Indenture. Therefore, in Table 6, PILOT is not included, but has been accounted for subsequently in Table 9 for evaluating revenue adequacy.

The FY 2014 operating expenses, excluding about \$11.3 million for PILOT and ROI, results in a net O&M expenditure of \$34.5 million. The total Water Fund O&M expense is projected to increase from the FY 2015 projected levels of \$35.2 million to approximately \$38.0 million in FY 2019. The annual inflationary increase during this time is approximately 2.0% per year.

3.2 CAPITAL IMPROVEMENT PROGRAM CASH FLOW EXPENDITURES

When financing its capital improvements, the City estimates annual project expenditure requirements of the ongoing CIP. To the extent actual project bids are less than authorized amounts, the City evaluates project priorities and may add projects as allowed within authorized levels each budget year. The most recent results of this process are shown in Table 7 for the Study Period. Specific projects include regulatory driven 37th Street WTP upgrades, Western Branch Dam improvements and distribution main upgrades in Norfolk's Retail Service neighborhoods.

Cash flow projections for capital projects during the Study Period are assumed to include an allowance for inflation. Annual capital improvement program cash flow expenditures, varying in size from nearly \$21.5 million in FY 2015 to \$18.8 million in FY 2017, total an estimated \$100.8 million for FY 2015 to FY 2019.

Table 7 includes cash flow for some previously authorized CIP (FY 2015 and prior), and some cash flow for future planned CIP (FY 2016 and future). Many of the projects included in the Capital Improvement Program Spending Plan were authorized under previous budgets. All significant projects listed above are discussed in Section 2.0 in detail.

3.3 PROJECTED FINANCIAL OPERATIONS

The projected cash flow of operations and capital program funding is discussed in this Section, and is based on estimated levels of revenues, operating expenses and capital program expenditures developed in Tables 2 through 7. Funding requirements for various reserve funds are also discussed. Tests for compliance with the Revenue Covenant of the Master Indenture and Conditions for Issuing Additional Bonds are made to check revenue adequacy.

To provide for the continued operation of the Water Utility on a sound financial basis, utility revenues must be adequate to meet the following criteria:

- Fund annual utility revenue requirements on a revenue priority basis. The Master Indenture stipulates that the City will make transfers from the Revenue Fund in the following order of priority:
 - Operating Fund, to maintain a balance of one-sixth of each year's budgeted operating expenses excluding debt service, capitalized operation and maintenance expense, and payments to the General Fund. This equates to payment of O&M expenses as they are incurred, and maintaining approximately sixty days of budgeted O&M expenses as a working capital reserve.
 - Bond Fund, to meet principal and interest payments on revenue bond debt.
 - Parity Debt Service Fund, to make payments on any Parity Indebtedness when due.
 - Debt Service Reserve Fund, held by the Trustee as additional security for the Bondholders, to build any deficiencies in the Debt Service Reserve Fund back to the Debt Service Reserve Requirement level.
 - Subordinate Debt Service Fund, to make payments on any Subordinate Debt when due.
 - Repair and Replacement Reserve Fund, such amounts as may be determined by the City to establish, sustain or increase the reserve level from the initial \$1,000,000 balance.

Table 7
Projected Capital Improvement Program Spending Plan
Fiscal Year Ending June 30,

Line No.	Project Description	Projected					Total
		2015 ⁽¹⁾	2016	2017	2018	2019	2015 - 2019
		\$	\$	\$	\$	\$	\$
1	MB WTP - Basins 2-3-4-5-6 Improvements	880,000	-	-	-	-	880,000
2	MB WTP Filter Under Drain and Labor (3 Filters - TBD)	166,000	-	-	-	-	166,000
3	MB WTP - Basins 2-4-5-6 Concrete Repairs	605,000	-	-	-	-	605,000
4	MB WTP - Sludge Collection Systems in Basin 2-6; Basin 5 & 6 Overflow and Expansion Joints	2,227,500	-	-	-	-	2,227,500
5	MW WTP - Paint tank 2 inside	343,750	-	-	-	-	343,750
6	MB WTP - Miscellaneous Roof Replacement	125,000	240,000	-	-	-	365,000
7	MB WTP - Paint Tank 1 Inside	412,500	825,000	-	-	-	1,237,500
8	MB WTP Filter Under Drain and Labor (3 Filters - TBD)	200,000	-	400,000	-	-	600,000
9	MB WTP - Paint Tank 4 Inside	-	-	605,000	-	-	605,000
10	MB WTP - Ventilation Systems Upgrades	196,750	-	250,000	-	-	446,750
11	37th St Plant Upgrades, Phase 3	6,600,000	5,000,000	5,000,000	-	-	16,600,000
12	Western Branch Dam Safety Improvements	4,330,000	4,400,000	4,400,000	-	-	13,130,000
13	Lake Prince Pump Station Flood Protection	700,000	2,800,000	-	-	-	3,500,000
14	Western Branch Aeration	-	700,000	-	-	-	700,000
15	Western Branch Elizabeth River HDD	275,000	75,000	-	-	-	350,000
16	Nansemond River Western Shore Undergrounding	125,000	150,000	-	-	-	275,000
17	Aerial Pipeline Painting: Lamberts Pt, Military Hwy & Quaker Neck Creek	200,000	-	-	-	-	200,000
18	Aerial Crossing Pipe Support & Repair Crossing 7, 16 & 26	275,000	-	-	-	-	275,000
19	I-564 Construction of Replacement 20" Water Main	-	225,000	450,000	-	-	675,000
20	Tidewater Drive 16" Water Main Replacement - Thole Philipotts Road	1,192,000	-	-	-	-	1,192,000
21	Annual Emergency Projects - FY15	1,832,000	1,474,000	1,474,000	3,807,500	-	8,587,500
22	Bayview/ Cottage Line - PS 17, Ph 7, Water and Sewer Upgrade	142,000	100,000	100,000	158,000	-	500,000
23	Barraud Park - PS 8, Ph 10, Water and Sewer Upgrade	142,000	100,000	100,000	158,000	-	500,000
24	Brace's Park - PS 8, Ph 8, Water and Sewer Upgrade	126,025	62,500	62,500	98,975	-	350,000
25	East Ocean View - PS 88, Ph 3 Water and Sewer Upgrade	104,000	100,000	100,000	158,000	-	462,000
26	Trustown - PS 34, Ph 4, Water and Sewer Upgrade	42,000	100,000	100,000	158,000	-	400,000
27	West Ocean View/ Northside - PS 15, Ph 3, Water and Sewer Upgrade	42,000	100,000	100,000	158,000	-	400,000
28	Bayview/ Cottage Line - PS 23, Ph 3, Water and Sewer Replacement	42,000	100,000	100,000	158,000	-	400,000
29	Faimount Park - PS 18, Ph 13, Water and Sewer Upgrade	25,000	100,000	100,000	175,000	-	400,000
30	Kensington/ Park Place - PS 10, Ph 10, Water and Sewer Upgrade	25,000	100,000	100,000	175,000	-	400,000
31	Wards Corner - PS 150 (aka PS 27), Ph 4, Water and Sewer Replacement	25,000	100,000	100,000	175,000	-	400,000
32	24" Finished Water Main - Hampton Blvd.	125,000	500,000	500,000	875,000	-	2,000,000
33	16" Water Main Replacement Virginia Drive	-	500,000	500,000	1,000,000	-	2,000,000
34	36" Raw Water Main Elizabeth River Western Branch Crossing	-	500,000	500,000	1,000,000	-	2,000,000
35	Moore's Bridges WTP (VARIOUS)	-	250,000	250,000	500,000	-	1,000,000
36	37th Street WTP (VARIOUS)	-	250,000	250,000	500,000	-	1,000,000
37	Annual Emergency Projects - FY14	-	496,250	992,500	992,500	1,488,750	3,970,000
38	Brace's Park - PS 8, Ph 11, Water and Sewer Upgrade	-	50,000	100,000	100,000	150,000	400,000
39	East Ocean View - PS 88, Ph 4	-	50,000	100,000	100,000	150,000	400,000
40	Faimount Park - PS 18, Ph 14, Water and Sewer Upgrade	-	50,000	100,000	100,000	150,000	400,000
41	Kensington/ Park Place - PS 10, Ph 11, Water and Sewer Upgrade	-	50,000	100,000	100,000	150,000	400,000
42	Sherwood Heights - PS 57, Ph 2, Water and Sewer Upgrade	-	50,000	100,000	100,000	150,000	400,000
43	Trustown - PS 34, Ph 5, Water and Sewer Upgrade	-	25,000	100,000	100,000	175,000	400,000
44	Wards Corner - PS 150, Ph 5, Water and Sewer Replacement	-	25,000	100,000	100,000	175,000	400,000
45	West Ocean View/ Northside - PS 15, Ph 4, Water and Sewer Upgrade	-	25,000	100,000	100,000	175,000	400,000
46	Colonial Place - PS 12, Ph 4 Water and Sewer Upgrade	-	-	100,000	100,000	200,000	400,000
47	Chesterfield Heights PS 149, Ph 4	-	-	80,000	80,000	160,000	320,000
48	Mowbray Arch Improvements - PS 151, Ph 3 (water and sewer)	-	-	80,000	80,000	160,000	320,000
49	Larchmont, Phase 1	-	-	60,000	80,000	180,000	320,000
50	Estabrook - PS 57, Ph 1 (PS 45 FM Reroute)	-	-	60,000	80,000	180,000	320,000
51	Winona / Lafayette, Phase 1	-	-	60,000	80,000	180,000	320,000
52	36" Raw Water Main Crossing - Baines Creek	-	-	125,000	250,000	625,000	1,000,000
53	36" Raw Water Main Crossing - Nansemond River	-	-	250,000	500,000	1,250,000	2,000,000
54	24" Finished Water Main - Hampton Blvd.	-	-	250,000	500,000	1,250,000	2,000,000
55	Overhead Pipe Painting at three locations	-	-	40,625	162,500	446,875	650,000
56	Raw Water Main - pipeline support at three locations	-	-	31,250	125,000	343,750	500,000
57	Improve Water Pipeline Infrastructure	-	-	240,000	4,000,000	4,000,000	8,240,000
58	Upgrade Moore's Bridges Water Treatment Plant	-	-	80,000	1,000,000	1,000,000	2,080,000
59	Rehabilitate Reservoirs Systemwide	-	-	9,000	117,000	117,000	243,000
60	Implement Meter Change-Out Program	-	-	6,000	50,000	50,000	106,000
61	Replace Master Meters	-	-	6,000	40,000	40,000	86,000
62	Repair Fishing Facilities and Boat Ramps	-	-	6,000	34,000	34,000	74,000
63	Comply with Safe Drinking Water Act	-	-	6,000	34,000	34,000	74,000
64	Design and Construct 37th Street WTP	-	-	6,000	34,000	34,000	74,000
65	Improve Water Pipeline Infrastructure	-	-	-	1,834,000	3,667,000	5,501,000
66	Rehabilitate Reservoirs System Wide	-	-	-	875,000	1,750,000	2,625,000
67	Upgrade Moore's Bridges Water Treatment Plant	-	-	-	334,000	667,000	1,001,000
68	Implement Meter Change-Out Program	-	-	-	25,000	50,000	75,000
69	Replace Master Meters	-	-	-	20,000	40,000	60,000
70	Upgrade Northstar Billing System	-	-	-	9,000	17,000	26,000
71	Total Capital Program Spending Plan	21,526,000	19,673,000	18,830,000	21,490,000	19,239,000	100,758,000

⁽¹⁾ \$15,600,000 of the amount shown for FY 2015 has been funded from prior bond proceeds.

- Rate Stabilization Fund, such amounts as may be necessary to accumulate the Rate Stabilization Requirement for use in mitigating impacts of projected future rate increases, and anticipated true-ups of wholesale customer revenues.
 - General Reserve Fund, to use first to cure any deficit which may exist in the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Repair and Replacement Fund and the Rate Stabilization Fund, and then for any lawful purpose.
- Revenue Covenants and Conditions for Issuing Additional Bonds.

3.3.1 Projected Financial Operating Results

The projected financial ability of Norfolk's Water Fund revenue to meet annual revenue requirements and maintain adequate fund balances for the Study Period is summarized in Table 8 through Table 10. These tables indicate the Fund's ability to meet the Revenue Covenant of the Master Indenture while meeting the need for periodic issuance of revenue bonds to cover the estimated cash flow needs of the capital program.

Projections of annual water sales revenue from existing rates, estimated additional revenues from planned automatic rate increases, other operating revenue and interest income, which result in total available revenue, are shown in Lines 1 through 8 of Table 8. The City has historically reviewed and adjusted water rates annually, as necessary, to recover all costs of providing water service. An adopted City ordinance provides for an automatic increase of 3.5% annually in the Norfolk Retail rates through FY 2019. Line 3 of Table 8 shows revenue adjustments, which; (1) recognize rate making provisions in existing contracts between Norfolk and its wholesale customers; and, (2) reflect continued approval of Utilities' Retail rate increases of 3.5% for FY 2016 through FY 2019 as allowed by City ordinance. Line 3 also reflects projected changes in Virginia Beach's Fixed Capacity Charge revenue in FY 2016 - FY 2019 due to the refunding associated with the 2015 Bonds. All rates are assumed to be implemented by Norfolk on July 1 of the fiscal years shown.

As shown in Line 8 on Table 8, total annual revenue ranges from \$85 million in FY 2015 to \$95 million in FY 2019. The Virginia Beach Water Services Contract provides for true-up adjustments of biennially projected rates. The biennial true-up for FY 2014 and FY 2015 has not yet been completed, therefore there is no true-up included in FY 2014. For the FY 2015 through FY 2019 periods it is assumed that the revenue projection adequately represents the cost of services provided to Virginia Beach in accordance with contractual terms and conditions, thus no true-ups are projected.

Projected transfers to or from the Rate Stabilization Fund are presented on Line 5 of Table 8. No transfers to or from the Rate Stabilization Fund are anticipated during the Study Period. The Rate Stabilization Fund does not have a required minimum balance and is currently funded at \$2.0 million. As presented on Line 13 of Table 9, the Rate Stabilization Fund balance is projected to remain at \$2.0 million throughout the Study Period.

Projections of Other Operating Revenue on Line 6 of Table 8 are those previously presented in Table 5, including the reimbursement to the Water Fund for administrative and engineering costs associated with the Wastewater System. Interest Income projections are based on an interest rate

Table 8
Projected Operating Results
Fiscal Year Ending June 30,

Line No.	Description	2014	Projected				
			2015	2016	2017	2018	2019
		\$	\$	\$	\$	\$	\$
Projected Operating Results							
1	Revenue from Rates:						
2	Revenue from Existing Rates	79,962,000	82,585,000	82,929,000	82,929,000	83,273,000	83,273,000
3	Revenue from Increases ⁽¹⁾	-	-	2,508,000	4,698,000	7,115,000	9,655,000
4	Gross Water Sales Revenue	79,962,000	82,585,000	85,437,000	87,627,000	90,388,000	92,928,000
5	Rate Stabilization Fund Transfers (to)/from	-	-	-	-	-	-
6	Other Operating Revenue	2,082,000	1,943,000	1,943,000	1,943,000	1,943,000	1,943,000
7	Interest Income	109,000	22,000	25,000	55,000	82,000	99,000
8	Provision for Bad Debts ⁽²⁾		(370,000)	(383,000)	(396,000)	(410,000)	(424,000)
9	Total Revenue	82,153,000	84,180,000	87,022,000	89,229,000	92,003,000	94,546,000
10	Operation and Maintenance Expenses	(34,467,000)	(35,153,000)	(35,847,000)	(36,558,000)	(37,284,000)	(38,028,000)
11	Net Revenue	47,686,000	49,027,000	51,175,000	52,671,000	54,719,000	56,518,000
12	Revenue Bond Debt Service						
13	Outstanding Bonds	(22,880,000)	(21,842,000)	(20,813,000)	(21,711,000)	(24,898,000)	(24,547,000)
14	2015 Bonds ⁽³⁾	-	-	(4,396,000)	(4,221,000)	(4,221,000)	(4,221,000)
15	Proposed Future Bonds	-	-	-	-	-	-
16	Total Revenue Bond Debt Service	(22,880,000)	(21,842,000)	(25,209,000)	(25,932,000)	(29,119,000)	(28,768,000)
17	Revenue Bond Debt Service Coverage	2.08	2.24	2.03	2.03	1.88	1.96
18	Existing General Obligation Debt Service ⁽⁴⁾	(592,000)	(561,000)	-	-	-	-
19	Total Debt Service	(23,472,000)	(22,403,000)	(25,209,000)	(25,932,000)	(29,119,000)	(28,768,000)
20	Total Debt Service Coverage	2.03	2.19	2.03	2.03	1.88	1.96
21	Net Available For Other Purposes	24,214,000	26,624,000	25,966,000	26,739,000	25,600,000	27,750,000

(1) City Ordinance provides for an increase of 3.5% annually in Norfolk Retail rates. Also includes projected increases in wholesale contracts, in accordance with individual contract terms, as well as the estimated reduction in FY 2015 Virginia Beach Fixed Capacity Charge Revenue due to the 2015 Refunding.

(2) Provision for Bad Debts projected as 1% of retail revenue.

(3) Assumes 2015 Bonds Par Amount of \$84M issued in FY 2015, which includes the refunding bonds.

(4) General Obligation debt service is not subordinate debt and is paid from the General Reserve Fund.

of 0.025% in FY 2015 times the average of the beginning and ending year balances in the Operating Fund, the Rate Stabilization Fund, the Operating Fund Reserve and the Repair and Replacement Reserve Fund. Each year thereafter, the interest rate is projected to increase by 0.025%, achieving a projected interest rate of 0.1% in FY 2019. These funds are discussed subsequently. Provision for Bad Debts is projected as 1.0% of retail revenue and is shown on Line 8.

Projections of O&M expenses on Line 10 of Table 8 are those previously presented in Table 6. Line 11 of Table 8 shows estimated Net Revenue remaining after deducting projected O&M expenses from total revenue.

Projected debt service requirements for Outstanding Senior Debt and the 2015 Bonds are shown on Lines 13 through 15 of Table 8. Total annual revenue bond debt service is shown on Line 16 of Table 8. Revenue bond debt service coverage is presented on Line 17 and determined by dividing net revenue (Line 11) by total revenue bond debt service (Line 16). Projected annual coverage is shown to be equal to or greater than 1.88 times throughout the Study Period, exceeding the minimum of 1.10 times required by the Master Indenture for Outstanding Senior Debt.

The debt service payments for existing General Obligation Bonds are shown on Line 18 of Table 8. Such bonds are not defined as Parity or Subordinated Lien Debt and are excluded from coverage calculations of the Master Indenture. The existing general obligation bonds were paid in full during FY 2015 and no balance is currently outstanding.

Total funds available to meet other obligations of the Water Fund are transferred to the General Reserve Fund and shown on Lines 21 of Table 8 and Line 2 of Table 9.

The beginning General Reserve balance of \$69 million in FY 2015, as shown on Line 1 of Table 9, reflects available liquid funds (current cash and short-term investments).

For the Water System to operate effectively as a utility enterprise, sound financing dictates that it is both prudent and appropriate to provide a General Reserve Fund to accommodate normal fluctuations in expenditures for utility operations and to provide a Repair and Replacement Reserve to permit immediate funding for unforeseeable capital emergency needs. These reserves are in addition to the normal flow of working capital funds. The requirements of the Master Indenture are consistent with this practice.

At the beginning of FY 2015 the City has a balance in the Operating Fund Reserve of \$7.1 million. As shown on Line 13 of Table 9, the Operating Fund Reserve balance is assumed to increase to \$7.7 million in FY 2019 due to the anticipated annual deposits shown on Line 4 of Table 9, which are calculated in proportion to each year's projected increase in O&M expenses.

The Repair and Replacement Reserve Fund was established with the issuance of the Series 1993 Water Revenue Bonds at the \$1 million minimum required by the Master Indenture. Subsequent additions to the Repair and Replacement Reserve have provided for the current beginning FY 2015 balance of \$2 million as shown on Line 14 of Table 9. During the Study Period, the Repair and

Table 9
Water Utility Fund Balance Projection
Fiscal Year Ending June 30,

Line No.	Description	Projected				
		2015	2016	2017	2018	2019
		\$	\$	\$	\$	\$
Sources of Funds						
1	General Reserve Fund Beginning Balance	68,963,000	83,186,000	92,693,000	102,914,000	91,935,000
2	Net Available for Other Purposes	26,624,000	25,966,000	26,739,000	25,600,000	27,750,000
3	Total Sources	95,587,000	109,152,000	119,432,000	128,514,000	119,685,000
Uses of Funds						
4	Deposits (to) / from Operating Fund Reserve	(136,000)	(139,000)	(142,000)	(145,000)	(151,000)
5	Deposits (to) / from Repair and Replacement Fund	-	-	-	-	-
6	Cash Financed Capital ⁽¹⁾	(1,000,000)	(5,000,000)	(5,000,000)	(25,000,000)	(25,000,000)
7	Payment in Lieu of Taxes (PILOT)	(2,765,000)	(2,820,000)	(2,876,000)	(2,934,000)	(2,993,000)
8	Payment to General Fund (ROI)	(8,500,000)	(8,500,000)	(8,500,000)	(8,500,000)	(8,500,000)
9	Total Uses	(12,401,000)	(16,459,000)	(16,518,000)	(36,579,000)	(36,644,000)
10	End of Year General Reserve Fund Balance	83,186,000	92,693,000	102,914,000	91,935,000	83,041,000
Unrestricted Assets						
11	General Reserve Fund	83,186,000	92,693,000	102,914,000	91,935,000	83,041,000
Restricted Assets						
12	Rate Stabilization Fund	2,002,000	2,002,000	2,002,000	2,002,000	2,002,000
13	Operating Fund Reserve	7,136,000	7,275,000	7,416,000	7,561,000	7,712,000
14	Repair and Replacement Fund	2,002,000	2,002,000	2,002,000	2,002,000	2,002,000
15	Debt Service Reserve Fund	3,663,000	3,663,000	3,663,000	3,663,000	3,663,000
16	Capital Project Fund / Revenue Bond Proceeds	29,724,000	15,057,000	1,231,000	4,743,000	10,512,000

⁽¹⁾ Planned use, subject to the Governing Body approval.

Replacement Reserve Fund balance is projected to remain at \$2 million as presented on Line 14 of Table 9, exceeding the minimum requirement.

The Debt Service Reserve Fund has been maintained as required by previous versions of the Master Indenture and is met with a combination of maintenance of reserve funds and debt service reserve fund surety policies. The beginning FY 2015 cash balance was \$6.6 million; however, as provided by PFM, approximately \$2.9 million will be released in FY 2015 due to the refunding of the 2005 Bond and 2008 Bonds and utilized as an equity contribution to the refunding. Following the issuance of the 2015 Bonds, the balance in the Debt Service Reserve Fund is anticipated to remain at \$3.7 million as shown on Line 15 of Table 9.

Other payments to the City including the Water Fund's payments to the City's General Fund for PILOT and ROI which are shown on Lines 7 and 8 of Table 9. PILOT is projected to increase 2.0% annually, while ROI is expected to remain constant over the Study Period.

The resulting End of Year General Reserve Fund Balances are shown on Lines 10 and 11 of Table 9 and are considered to be an unrestricted fund balance. The City may elect each year to use available balances from this Fund to finance a portion of future capital improvement projects and thereby reduce the size of future revenue bond issues, as shown on Line 6. Based on input from the City and subject to the Governing Body approval, it is anticipated that \$61 million will be used to fund future capital projects over the Study Period.

Table 10 shows the proposed financing of the Water Fund's CIP. Table 10 illustrates that all capital program funding needs are assumed to be met from available beginning capital funds balance; proceeds from future revenue bond issues; transfers from the General Reserve Fund, Debt Service Fund, and Debt Service Reserve Fund; and interest income on invested capital funds and bond proceeds in accordance with restrictions on tax-exempt bond issues.

A beginning fund balance of \$15.6 million is available in FY 2015 for the CIP, as shown on Line 1 of Table 10.

As indicated on Line 2 of Table 10, proceeds amounting to \$101,348,000 from the sale of the 2015 Bonds are anticipated to be available in FY 2015. This amount of bonds, which includes approximately \$16.9 million in anticipated premium, is intended to cover issuance costs and provide approximately \$35.0 million in proceeds for capital improvement expenditures. Subject to market conditions, the remaining proceeds are anticipated to be used to refund the callable portions of the 2005 Bonds and the 2008 Bonds. The 2015 Bonds are assumed to be issued in April 2015 with a term of 30 years, at an average annual interest rate of approximately 5.0% and a net interest cost of 4%.

Based on the preliminary debt service schedules provided by PFM, approximately \$1.2 million in the Debt Service Fund will be released following the issuance of the 2015 Bonds and utilized as an equity contribution to the refunding as shown on Line 4 of Table 10.

Table 10
Water Utility Fund Capital Improvement Financing Plan
Fiscal Year Ending June 30,

Line No.	Description	Projected				
		2015	2016	2017	2018	2019
		\$	\$	\$	\$	\$
Source of Funds						
1	Capital Project Fund Beginning of Year Balance	15,638,000	29,724,000	15,057,000	1,231,000	4,743,000
2	Bond Issuance ⁽¹⁾	101,348,000	-	-	-	-
3	Transfer from / (to) General Reserve	1,000,000	5,000,000	5,000,000	25,000,000	25,000,000
4	Transfer (to) / from Debt Service Fund	1,244,000	-	-	-	-
5	Transfer from Debt Service Reserve Fund ⁽²⁾	2,911,000	-	-	-	-
6	Interest Income	5,000	6,000	4,000	2,000	8,000
7	Total Source of Funds	122,146,000	34,730,000	20,061,000	26,233,000	29,751,000
Uses of Funds						
8	Major Capital Improvements	21,526,000	19,673,000	18,830,000	21,490,000	19,239,000
9	Bond Issuance Cost ⁽³⁾	534,000	-	-	-	-
10	Transfer to Debt Service Reserve Fund	-	-	-	-	-
11	Refunding Escrow Deposit	70,362,000	-	-	-	-
12	Total Uses of Funds	92,422,000	19,673,000	18,830,000	21,490,000	19,239,000
13	Capital Project Fund End of Year Balance	29,724,000	15,057,000	1,231,000	4,743,000	10,512,000

⁽¹⁾ Series 2015 reflects \$84,410,000 Par Amount and \$16,938,000 Premium.

⁽²⁾ Reflects Series 2005 and Series 2008 Debt Service Reserve Fund release.

⁽³⁾ Includes Cost of Issuance and Underwriter's Discount.

3.3.2 Revenue Covenant and Bond Issuance Covenant Tests

The Master Indenture, under which the revenue bonds will be issued, requires that sufficient coverage of debt service by Net Revenue be provided. The Master Indenture contains two covenants, one that must be satisfied prior to issuing additional bonds, the Bond Issuance Covenant, and one that must be satisfied on an ongoing basis, the Revenue Covenant. Both covenants measure the ability of revenues generated by the Fund to cover debt service and operating costs.

- **Revenue Covenant**, as set forth in Section 9.4 of the Master Indenture requires that the City establish rates such that:
 - Total annual revenues less O&M expenses are greater than 1.10 times the sum of annual principal and interest expense of projected Senior Debt Service and 1.00 times Subordinated Debt Service. and,
 - 1.00 times the funding requirements for the transfer from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund.

Conditions for Issuing Bonds (the “Additional Bonds Test”) requires that prior to issuing Additional Bonds for capital projects of the System, the City demonstrate that:

- Net Revenues, for any twelve consecutive months of the twenty-four months immediately preceding the issuance of the bonds and adjusted as specified under Section 5.3.(h)(3), satisfy the Revenue Covenant described above. We have performed tests to determine if the above-described Revenue Covenant and Conditions for Issuing Bonds will be satisfied over the Study Period using the assumptions contained in this Report. The results of the Revenue Covenant analysis are summarized in Table 8 and Table 11 which demonstrates the ability of Water Utility revenues to meet current and projected water revenue bond debt service coverage requirements.

Annual Coverage. The Revenue Covenant requires that Net Revenues not be less than the greater of (i) the sum of 1.10 times Senior Debt Service and 1.00 times the annual principal and interest payments on Subordinated Debt Service and (ii) 1.00 times the funding requirements for the transfer from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund. Line 17 of Table 8 shows annual coverage for the Prior Bonds and the 2015 Bonds exceeding the 1.1 requirement for senior lien debt. No Subordinate Debt is outstanding or is planned during the Study Period.

Additional Bonds Test. The Additional Bonds Test, as stipulated by the Master Indenture, requires that, prior to the issuance of Additional Bonds for capital projects of the System, the City must demonstrate that Net Revenues, for any twelve consecutive months of the twenty-four months immediately preceding the issuance of bonds (as adjusted for rate increases in effect on the date of issuance) satisfy the Revenue Covenant as stated above using the maximum debt service of all outstanding Bonds and projected Bonds in any year. As shown in Table 11, FY 2014 Adjusted Net Revenue was \$50.2 million, which is based upon FY 2014 audited results and adjusted for the adopted FY 2015 schedule of water rates. A comparison of this amount, with the combined maximum principal and interest expense for senior lien debt for existing and proposed 2015 Bonds of \$32,320,588 results in coverage of 1.66 times. The 2015 Bonds include the refunding of portions

of the outstanding 2005 Bonds and the 2008 Bonds. No Parity Indebtedness or Subordinate Debt is outstanding or projected in FY 2015 or is planned during the Study Period.

Table 11
Additional Bonds Test
Fiscal Year Ended June 30, 2014

Line No.	Description	2014
	2014 Net Revenue	
1	Total Revenue ⁽¹⁾	\$ 81,968,928
2	Operation and Maintenance Expense ⁽²⁾	(34,466,877)
3	Net Revenue Available for Debt Service	<u>\$ 47,502,051</u>
	Revenue Adjustments for:	
4	2015 Rate Increase	\$ 2,744,996
5	Utility Systems Acquisitions	-
6	New Water Service Contracts	-
7	System Additions, Extensions and Improvements	-
8	Total Adjustments	<u>\$ 2,744,996</u>
9	Adjusted Net Revenue Available for Debt Service	<u>\$ 50,247,047</u>
10	Projected Maximum Annual Senior Debt Service ⁽³⁾	\$ 30,320,588
11	Projected Debt Service Coverage	1.66

⁽¹⁾ Obtained from Water Utility Fund Financial and Compliance Report Year Ended June 30, 2014.

⁽²⁾ Obtained from Water Utility Fund Financial and Compliance Report Year Ended June 30, 2014.
Excludes Depreciation and Amortization Expense of \$12,917,853 and PILOT of \$2,836,443.

⁽³⁾ Maximum Annual Senior Debt Service occurs in FY 2024.

3.4 TYPICAL BILL COMPARISON

An analysis comparing a typical monthly bill for the City's residential customers at 6 Ccf (approximately 4,500 gallons) of usage to local water providers was completed and the results are shown in Table 12. Results for the local water providers reflect rates effective as of December 2014. The City's charges for water service are comparable with other water providers in the region and similarly sized systems in the Commonwealth.

Table 12
Typical Monthly Water Bill (6 CCF)



3.5 SUMMARY

Based on the engineering and financial feasibility analysis described above, Black & Veatch has provided the following opinions:

- Given current usage and trends, the City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations through the Study Period. The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.
- The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; the continuation of these practices, combined with regular maintenance and completion of the proposed CIP, suggest that the System should be capable of providing safe and reliable drinking water to its customers through the Study Period.
- Norfolk's Water System is in overall good condition and appears capable of adequate revenue generation for the term of the 2015 Bonds with continued regular maintenance and scheduled system improvements.
- The CIP adequately addresses known requirements for Water System facility renovations and upgrades. The program addresses current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.
- Throughout the Study Period, the City's net revenues are projected to be sufficient (including projected revenue increases indicated in this Report resulting from rate increases which have

been approved by City Council) to comply with the annual Revenue Covenant requirement in the Master Indenture, taking into account the actual or projected debt service on the Outstanding Senior Debt, the 2015 Bonds and planned additional Bonds to be issued during the Study Period.

- Assuming the sufficiency of the current estimates and project budgets, the funds available from the 2015 Bonds, together with other funds available to the City will be sufficient to complete the design and/or construction of the CIP.
- Given the assumption and data utilized in the analysis, the System is projected to be able to make the required transfers from the Revenue Fund to generate adequate utility reserves during the Study Period.
- Based on the City's audited financial results for FY 2014, the City is projected to be able to meet the Revenue Covenant requirements of the Master Indenture regarding the issuance of Additional Bonds, taking into account (i) the maximum principal and interest payments on the Outstanding Senior Debt and the 2015 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the City Council at the time of the delivery of the 2015 Bonds.
- The sale of the 2015 Bonds, in the amount of approximately \$84,410,000¹ is financially feasible under the assumptions and projections contained in this Report.

¹ Preliminary, subject to change.

APPENDIX H

BOOK-ENTRY-ONLY SYSTEM

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The description which follows of the procedures and recordkeeping with respect to beneficial ownership interests in the 2015 Bonds, payments of principal of and interest on the bonds to DTC, its nominee, Direct Participants, as hereinafter defined, or Beneficial Owners, as hereinafter defined, confirmation and transfer of beneficial ownership interests in the bonds and other bond-related transactions by and between DTC, the Direct Participants and Beneficial Owners is based solely on information furnished by DTC.

DTC will act as securities depository for the 2015 Bonds. The 2015 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 bond certificate will be issued for each maturity of the 2015 Bonds in the aggregate principal amount of such issue and will be deposited with DTC.

DTC, the world's largest securities depository, 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 over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) 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 (the "Indirect Participants"). DTC has Standard & Poor's rating of AA+. The DTC Rules applicable to its Direct Participants and Indirect Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of the 2015 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2015 Bonds on DTC's records. The ownership interest of each actual purchaser of the 2015 Bonds (the "Beneficial Owner") is in turn to be recorded on the records of Direct Participants and Indirect Participants, as applicable. 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 Participant or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2015 Bonds are to be accomplished by entries made on the books of Direct Participants and Indirect Participants acting on behalf of the Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the 2015 Bonds, except in the event that use of the book-entry system for the 2015 Bonds is discontinued.

To facilitate subsequent transfers, the 2015 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 2015 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 of the 2015 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts the 2015 Bonds are credited, which may or may not be the Beneficial Owners. The Direct Participants 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 the 2015 Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the 2015 Bonds, such as redemptions, tenders, defaults and proposed amendments to the security documents. For example, Beneficial Owners of the 2015 Bonds may wish to ascertain that the

nominee holding the 2015 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 registrar and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the 2015 Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the 2015 Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an omnibus proxy (the "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 the 2015 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption proceeds, distributions, and dividend payments on the 2015 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 bond registrar or paying agent on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Direct Participants and Indirect 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 Direct Participant or Indirect Participant and not of DTC (or its nominee), the City or the bond registrar and paying agent, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and dividend payments to Cede & Co (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the bond registrar and 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 Participants and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the 2015 Bonds at any time by giving reasonable notice to the City and the bond registrar and paying agent. Under such circumstances, in the event that a successor depository is not obtained, the 2015 Bonds are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, certificates for the 2015 Bonds will be printed and delivered to DTC.

Neither the City nor the bond registrar and paying agent has any responsibility or obligation to the Direct Participants or Indirect Participants or the Beneficial Owners with respect to (a) the accuracy of any records maintained by DTC or any Direct Participant or Indirect Participant; (b) the payment by any Direct Participant or Indirect Participant of any amount due to any Beneficial Owner in respect of the principal of and interest on the 2015 Bonds; (c) the delivery or timeliness of delivery by any Direct Participant or Indirect Participant of any notice to any Beneficial Owner that is required or permitted to be given to Holders; or (d) any other action taken by DTC, or its nominee, Cede & Co., as Holder, including the effectiveness of any action taken pursuant to an Omnibus Proxy.

So long as Cede & Co. is the registered owner of the 2015 Bonds, as nominee of DTC, references in this Official Statement to the Holders of the 2015 Bonds mean Cede & Co. and not the Beneficial Owners, and Cede & Co. will be treated as the only holders of the 2015 Bonds.

The City may enter into amendments to the agreement with DTC or successor agreements with a successor securities depository, relating to the book-entry system to be maintained with respect to the 2015 Bonds without the consent of Beneficial Owners or Holders.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the City believes to be reliable, but the City takes no responsibility for the accuracy thereof.

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