NEW ISSUE – BOOK-ENTRY ONLY

RATINGS: Standard & Poor's: AA+
Moody's: Aa2
Fitch: AA
See "Ratings" herein

In the opinion of Co-Bond Counsel, under existing law (i) assuming continuing compliance with certain covenants and the accuracy of certain representations, interest on the Series 2019A/B Bonds is excluded from gross income for federal income tax purposes, and is not an item of tax preference for purposes of the federal alternative minimum tax, and (ii) the Series 2019A/B/D Bonds and the interest thereon are exempt from District taxation, except estate, inheritance and gift taxes. Interest on the Series 2019A/B Bonds may be subject to certain federal taxes imposed only on certain corporations. INTEREST ON THE SERIES 2019D BONDS IS NOT EXCLUDED FROM GROSS INCOME FOR FEDERAL INCOME TAX PURPOSES. For a more complete discussion of the tax aspects, see "TAX MATTERS" herein.

dc water is life

$104,010,000	$58,320,000	$343,160,000
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY	**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**	**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**
Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds)	**Public Utility Subordinate Lien Revenue Bonds, Series 2019B**	**Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable)**

Dated: Date of Delivery **Due: As shown on inside cover**

Authority for Issuance. The Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds) (the "Series 2019A Bonds"), the Public Utility Subordinate Lien Revenue Bonds, Series 2019B (the "Series 2019B Bonds") and the Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable) (the "Series 2019D Bonds" and, together with the Series 2019A Bonds, and the Series 2019B Bonds, the "Series 2019A/B/D Bonds") are being issued by the District of Columbia Water and Sewer Authority (the "Authority," also commonly referred to as "DC Water") pursuant to a Master Indenture of Trust, dated as of April 1, 1998 (the "Master Indenture"), by and between the Authority and Wells Fargo Bank, N.A., as trustee (the "Trustee"), as amended and supplemented from time to time, including as amended and supplemented by the Twenty-Fourth Supplemental Indenture of Trust, by and between the Authority and the Trustee, dated the date of issuance and delivery of the Series 2019A Bonds and the Series 2019B Bonds (the "Series 2019A/B Bonds") (the "Twenty-Fourth Supplemental Indenture"), and the Twenty-Sixth Supplemental Indenture of Trust, by and between the Authority and the Trustee, dated the date of issuance and delivery of the Series 2019D Bonds (the "Twenty-Sixth Supplemental Indenture" and, together with the Twenty-Fourth Supplemental Indenture and the Master Indenture, as previously amended and supplemented, the "Indenture").

Use of Proceeds. The proceeds of the Series 2019A Bonds will be used to pay (i) a portion of the costs of the Authority's DC Clean Rivers Project (as defined herein (the "Series 2019A Project"), and (ii) the costs of issuing the Series 2019A Bonds. The proceeds of the Series 2019B Bonds will be used to (i) pay a portion of the costs of certain capital improvements to the System (the "Series 2019B Project"), and (ii) pay the costs of issuing the Series 2019B Bonds. The proceeds of the Series 2019D Bonds will be used to (i) refund all or a portion of the Authority's outstanding Public Utility Subordinate Lien Revenue Bonds, Series 2013A (the "Series 2013A Bonds") and (ii) pay the costs of issuing the Series 2019D Bonds.

Denominations and Interest. The Series 2019A/B/D Bonds will be issued initially in denominations of $5,000 or any integral multiple thereof and will mature in the years and amounts and accrue interest from their date of delivery at the rates set forth on the inside cover page of this Official Statement. Interest on the Series 2019A/B/D Bonds will be calculated on the basis of a 360-day year of twelve 30-day months, payable semi-annually on each April 1 and October 1, commencing April 1, 2020.

Book-Entry Only. The Series 2019A/B/D Bonds will be issued in fully registered form in the name of Cede & Co., as nominee of The Depository Trust Company ("DTC") under the book-entry only system maintained by DTC or its nominee. So long as Cede & Co. is the registered owner of the Series 2019A/B/D Bonds, the principal of and premium, if any, and interest on the Series 2019A/B/D Bonds will be payable by the Trustee to DTC, which will in turn remit such payments to its participants for subsequent disbursement to beneficial owners of the Series 2019A/B/D Bonds, as more fully described herein. See Appendix E – "DTC Book-Entry System and Global Clearance Procedures."

Redemption. The Series 2019A/B/D Bonds are subject to redemption prior to maturity, as more fully described herein. See "THE Series 2019A/B/D Bonds – Redemption Provisions."

Security. The Series 2019A/B/D Bonds will be secured by a pledge of Net Revenues that will be subordinate to the pledge of Net Revenues that secures the Outstanding Senior Debt and any other Senior Debt the Authority may issue from time to time in the future, and on a parity with the pledge of Net Revenues that secures the Outstanding Subordinate Debt and any other Subordinate Debt the Authority may issue from time to time in the future, without preference, priority or distinction of any Subordinate Debt over any other Subordinate Debt, all as further described and defined herein. The Series 2019A/B/D Bonds will not be secured by a Debt Service Reserve Fund. See "SECURITY FOR THE Series 2019A/B/D Bonds."

Limited Obligation. The Series 2019A/B/D Bonds shall be special, limited obligations of the Authority payable solely from the Net Revenues of the Authority. The Series 2019A/B/D Bonds shall be without recourse to the District of Columbia (the "District"). The Series 2019A/B/D Bonds shall not be general obligations of the District or of the Authority. The Series 2019A/B/D Bonds shall not be a pledge of or involve the faith and credit or the taxing power of the District, shall not constitute a debt of the District, the United States of America or any User Jurisdiction (as defined herein) or any agency or instrumentality of any User Jurisdiction, and neither the District, the United States, any User Jurisdiction nor any agency or instrumentality of any User Jurisdiction shall be liable thereon. The Series 2019A/B/D Bonds also shall not constitute the lending of the public credit for private undertakings as prohibited by the Home Rule Act (as defined herein). The Authority has no taxing power.

Green Bonds. The Series 2019A Project consists of a portion of the DC Clean Rivers Project. Based upon independent assessment of the DC Clean Rivers Project and of the Authority conducted by Vigeo Eiris applying environmental, social and governance criteria, the Authority has designated the Series 2019A Project as a "Green Project" and has designated the Series 2019A Bonds as "Green Bonds." See "INTRODUCTION – Use of the Series 2019A/B/D Bond Proceeds," "PLAN OF FINANCE" and APPENDIX G – "Opinion of Independent Sustainability Consultant."

The Series 2019A/B/D Bonds are offered when, as and if issued by the Authority and received by the Underwriters (as defined herein). Certain legal matters with respect to the issuance of the Series 2019A/B/D Bonds are subject to the approval of Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP, Co-Bond Counsel to the Authority. Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP also serve as Co-Disclosure Counsel to the Authority in connection with the preparation of this Official Statement. Certain legal matters will be passed upon for the Authority by its General Counsel and for the Underwriters by Orrick, Herrington & Sutcliffe LLP and McKenzie & Associates, Co-Underwriters' Counsel. It is expected that the Series 2019A/B/D Bonds will be available for delivery through the facilities of DTC in New York, New York on or about November 6, 2019.

SIEBERT CISNEROS SHANK & CO., L.L.C.
Senior Manager Series 2019A/B Bonds
Co-Senior Manager Series 2019D Bonds

J.P. MORGAN
Co-Senior Manager Series 2019D Bonds

FTN Financial Capital Markets **Jefferies LLC** **Morgan Stanley** **Raymond James** **Stern Brothers & Co.**

This cover page, including the inside cover page, contains certain information for quick reference only. It is not a summary of this Official Statement. Prospective purchasers must read the entire Official Statement to obtain the information essential to the making of an informed investment decision.

Dated: October 8, 2019

MATURITY SCHEDULE

$104,010,000
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Public Utility Subordinate Lien Revenue Bonds
Series 2019A
(Green Bonds)

Serial Bonds

Maturity (Oct. 1)	Principal Amount	Interest Rate	Yield	CUSIP No.†
2037	$2,290,000	5.00%	1.870%*	254845QB9
2038	6,455,000	5.00	1.910*	254845QC7
2039	6,775,000	5.00	1.950*	254845QD5

Term Bonds

$39,310,000 5.00% Term Bonds, due October 1, 2044, Yield 2.060%* CUSIP 254845QE3†

$49,180,000 4.00% Term Bonds, due October 1, 2049, Yield 2.360%* CUSIP 254845QF0†

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* Yield calculated to first optional redemption date of October 1, 2029.

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$58,320,000
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Public Utility Subordinate Lien Revenue Bonds
Series 2019B

Serial Bonds

Maturity (Oct. 1)	Principal Amount	Interest Rate	Yield	CUSIP No.†
2025	$3,420,000	5.00%	1.140%	254845QG8
2026	3,595,000	5.00	1.200	254845QH6
2027	3,775,000	5.00	1.300	254845QJ2
2028	3,960,000	5.00	1.370	254845QK9
2029	4,160,000	5.00	1.440	254845QL7
2030	4,365,000	5.00	1.510*	254845QM5
2031	4,585,000	5.00	1.590*	254845QN3
2032	4,815,000	5.00	1.650*	254845QP8
2033	5,055,000	5.00	1.710*	254845QQ6
2034	5,310,000	5.00	1.750*	254845QR4
2035	5,575,000	5.00	1.790*	254845QS2
2036	5,850,000	5.00	1.830*	254845QT0
2037	3,855,000	5.00	1.870*	254845QU7

* Yield calculated to first optional redemption date of October 1, 2029.

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$343,160,000
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Public Utility Subordinate Lien Revenue Refunding Bonds,
Series 2019D
(Federally Taxable)

Serial Bonds

Maturity (Oct. 1)	Principal Amount	Interest Rate	Yield	CUSIP No.†	ISIN†	Common Code±
2020	$1,650,000	1.713%	1.713%	254845QV5	US254845QV56	206673222
2021	1,625,000	1.763	1.763	254845QW3	US254845QW30	206673257
2022	1,650,000	1.779	1.779	254845QX1	US254845QX13	206673265
2023	1,680,000	1.784	1.784	254845QY9	US254845QY95	206673273
2024	1,710,000	1.884	1.884	254845QZ6	US254845QZ60	206673281
2025	1,745,000	2.016	2.016	254845RA0	US254845RA01	206673290
2026	1,780,000	2.116	2.116	254845RB8	US254845RB83	206673303
2027	1,815,000	2.197	2.197	254845RC6	US254845RC66	206673311
2028	1,855,000	2.247	2.247	254845RD4	US254845RD40	206673338
2029	1,895,000	2.297	2.297	254845RE2	US254845RE23	206673346
2030	1,940,000	2.397	2.397	254845RF9	US254845RF97	206673354
2031	1,985,000	2.497	2.497	254845RG7	US254845RG70	206673362
2032	2,035,000	2.567	2.567	254845RH5	US254845RH53	206673389
2033	2,090,000	2.647	2.647	254845RJ1	US254845RJ10	206673397
2034	2,145,000	2.697	2.697	254845RK8	US254845RK82	206673419

Term Bonds

$11,705,000 3.067% Term Bonds, due October 1, 2039, Yield 3.067% CUSIP 254845RL6† ISIN US254845RL65† Common Code 206673427±

$303,855,000 3.207% Term Bonds, due October 1, 2048, Yield 3.207% CUSIP 254845RM4† ISIN US254845RM49† Common Code 206673435±

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± The Common Code is provided herein by Euroclear Bank S.A./N.V. Common Codes are provided for convenience of reference only. Neither the Authority nor the Underwriters are responsible for the selection or use of this Common Code and no representation is made as to their correctness on the Series 2019A/B/D Bonds or as included herein.

District of Columbia Water and Sewer Authority
1385 Canal Street, S.E.
Washington, D.C. 20003
(202) 787-2714

www.dcwater.com

Principal Board Members	Jurisdiction
Tommy Wells, Chairman	*District of Columbia*
Randy Bartlett	*Fairfax County*
Ellen O. Boardman	*District of Columbia*
Krystal J. Brumfield	*District of Columbia*
Rachna Bhatt	*District of Columbia*
David Franco	*District of Columbia*
Floyd Holt	*Prince George's County*
Fariba Kassiri	*Montgomery County*
Adam Ortiz	*Montgomery County*
Major F. Riddick, Jr.	*Prince George's County*
Emile Thompson	*District of Columbia*

Alternate Board Members	Jurisdiction
Lavinia Baxter	*Prince George's County*
Kendrick Curry	*District of Columbia*
Ivan Frishberg	*District of Columbia*
Anthony Giancola	*District of Columbia*
Howard Gibbs	*District of Columbia*
Joseph Gill	*Prince George's County*
Adriana Hochber	*Montgomery County*
Sarah Motsch	*Fairfax County*
Jed Ross	*District of Columbia*
Steven Shofar	*Montgomery County*
Vacant	*District of Columbia*

Authority Management

CEO and General Manager	David Gadis
Chief Financial Officer and Executive Vice President, Finance and Procurement	Matthew T. Brown
Executive Vice President, Operations and Engineering	Biju George
Chief of Staff	Mustaafa Dozier
Interim Executive Vice President, Legal Affairs	Gregory Hope
Senior Vice President CIP Project Delivery	Leonard R. Benson
Director of DC Clean Rivers Project	Carlton Ray
Vice President, Wastewater Operations and Engineering	Aklile Tesfaye
Executive Vice President, Administration	Maureen Holman

Authority Consultants and Counsel

Co-Bond Counsel	Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP
Co-Disclosure Counsel	Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP
Financial Feasibility Consultant	Amawalk Consulting Group LLC
Engineering Feasibility Consultant	Johnson, Mirmiran, & Thompson, Inc.
Financial Advisor	PFM Financial Advisors LLC
Sustainability Consultant	Vigeo Eiris

IMPORTANT NOTICES

No Offering May be Made Except by this Official Statement. No dealer, broker, salesperson or other person has been authorized by the Authority or the Underwriters to give any information or to make any representations with respect to this offering, other than as 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 Authority or the Underwriters.

No Unlawful Offer, Solicitation or Sale. 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 Series 2019A/B/D Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale.

Use of this Official Statement. This Official Statement is provided in connection with the sale of the Series 2019A/B/D Bonds referred to herein and may not be reproduced or be used, in whole or in part, for any other purpose. This Official Statement is not to be construed as a contract or agreement among the Authority, the Underwriters and the purchasers or owners of any offered Series 2019A/B/D Bonds. This Official Statement is being provided to prospective purchasers either in bound printed form ("original bound format") or in electronic format on the following website: www.munios.com. This Official Statement may be relied upon only if it is in its original bound format or if it is printed in its entirety directly from such website.

Preparation of this Official Statement. The information contained in this Official Statement has been derived from information provided by the Authority and other sources which are believed to be reliable. Additional information, including financial information, concerning the Authority is available from the Authority's website. Any such information that is inconsistent with the information set forth in this Official Statement should be disregarded. The information and expressions of opinions herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Authority since the date hereof. Such information and expressions of opinion are made for the purpose of providing information to prospective investors and are not to be used for any other purpose or relied on by any other party. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

No Registration or Approval. The Series 2019A/B/D Bonds have not been registered with the U.S. Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended, in reliance upon exceptions contained in the Act. Neither the SEC nor any other federal or state securities commission or regulatory authority has approved or disapproved of the Series 2019A/B/D Bonds or passed upon the accuracy or adequacy of this Official Statement. Any representation to the contrary is a criminal offense.

Public Offering Prices. In connection with this offering, the Underwriters may over allot or effect transactions which stabilize or maintain the market price of the Series 2019A/B/D Bonds at a level above that which might otherwise prevail in the open market; such stabilizing, if commenced, may be discontinued at any time.

Forecasts and Forward-Looking Statements. Statements contained in this Official Statement that do not reflect historical facts are forward-looking statements. Forward-looking statements can be identified by words such as "estimate," "project," "anticipate," "expect," "intend," "believe," "plan," "budget," "predict," "may," "should," and similar expressions. Projections, forecasts, assumptions, expressions of opinions, estimates and other forward-looking statements are not to be construed as representations of fact and are qualified in their entirety by the cautionary statements set forth in this Official Statement. The forward-looking statements are based on various assumptions and estimates and are inherently subject to risks and uncertainties, including, but not limited to, risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in various important factors. Accordingly, actual results may vary from the projections, forecasts and estimates contained in this Official Statement and such variations may be material, which could affect the ability to fulfill some or all of the obligations under the Series 2019A/B/D Bonds. All forward-looking statements included in this Official Statement are based on information available on the date of this Official Statement, and the Authority assumes no obligation to update any such forward-looking statements.

INFORMATION CONCERNING OFFERING RESTRICTIONS IN CERTAIN JURISDICTIONS OUTSIDE THE UNITED STATES

MINIMUM UNIT SALES

THE SERIES 2019D BONDS WILL TRADE AND SETTLE ON A UNIT BASIS (ONE UNIT EQUALING ONE BOND OF $5,000 PRINCIPAL AMOUNT). FOR ANY SALES MADE OUTSIDE THE UNITED STATES, THE MINIMUM PURCHASE AND TRADING AMOUNT IS 30 UNITS (BEING 30 BONDS IN AN AGGREGATE PRINCIPAL AMOUNT OF $150,000).

NOTICE TO PROSPECTIVE INVESTORS IN THE EUROPEAN ECONOMIC AREA ("EEA")

THE SERIES 2019D BONDS ARE NOT INTENDED TO BE OFFERED, SOLD OR OTHERWISE MADE AVAILABLE TO AND SHOULD NOT BE OFFERED, SOLD OR OTHERWISE MADE AVAILABLE TO ANY RETAIL INVESTOR IN THE EUROPEAN ECONOMIC AREA ("EEA"). FOR THESE PURPOSES, A RETAIL INVESTOR MEANS A PERSON WHO IS ONE (OR MORE) OF: (I) A RETAIL CLIENT AS DEFINED IN POINT (11) OF ARTICLE 4(1) OF DIRECTIVE 2014/65/EU (AS AMENDED,"MIFID II"); OR (II) A CUSTOMER WITHIN THE MEANING OF DIRECTIVE (EU) 2016/97 (THE "INSURANCE DISTRIBUTION DIRECTIVE"), WHERE THAT CUSTOMER WOULD NOT QUALIFY AS A PROFESSIONAL CLIENT AS DEFINED IN POINT (10) OF ARTICLE 4(1) OF MIFID II; OR (III) NOT A QUALIFIED INVESTOR AS DEFINED IN REGULATION (EU) 2017/1129 (THE "PROSPECTUS REGULATION"). CONSEQUENTLY, NO KEY INFORMATION DOCUMENT REQUIRED BY REGULATION (EU) NO 1286/2014 (AS AMENDED, THE "PRIIPS REGULATION") FOR OFFERING OR SELLING THE SERIES 2019D BONDS OR OTHERWISE MAKING THEM AVAILABLE TO RETAIL INVESTORS IN THE EEA HAS BEEN PREPARED AND THEREFORE OFFERING OR SELLING THE SERIES 2019D BONDS OR OTHERWISE MAKING THEM AVAILABLE TO ANY RETAIL INVESTOR IN THE EEA MAY BE UNLAWFUL UNDER THE PRIIPS REGULATION.

THIS OFFICIAL STATEMENT HAS BEEN PREPARED ON THE BASIS THAT ALL OFFERS OF THE SERIES 2019D BONDS TO ANY PERSON THAT IS LOCATED WITHIN A MEMBER STATE OF THE EEA WILL BE MADE PURSUANT TO AN EXEMPTION UNDER ARTICLE 1(4) OF THE PROSPECTUS REGULATION, AS IMPLEMENTED IN MEMBER STATES OF THE EEA, FROM THE REQUIREMENT TO PRODUCE A PROSPECTUS FOR OFFERS OF THE SERIES 2019D BONDS. ACCORDINGLY, ANY PERSON MAKING OR INTENDING TO MAKE ANY OFFER IN THE EEA OF THE SERIES 2019D BONDS SHOULD ONLY DO SO IN CIRCUMSTANCES IN WHICH NO OBLIGATION ARISES FOR THE AUTHORITY OR ANY OF THE UNDERWRITERS TO PROVIDE A PROSPECTUS FOR SUCH OFFER. NEITHER THE AUTHORITY NOR THE UNDERWRITERS HAVE AUTHORIZED, NOR DO THEY AUTHORIZE, THE MAKING OF ANY OFFER OF SERIES 2019D BONDS THROUGH ANY FINANCIAL INTERMEDIARY, OTHER THAN OFFERS MADE BY THE UNDERWRITERS, WHICH CONSTITUTE THE FINAL PLACEMENT OF THE SERIES 2019D BONDS CONTEMPLATED IN THIS OFFICIAL STATEMENT.

THE OFFER OF ANY SERIES 2019D BONDS WHICH IS THE SUBJECT OF THE OFFERING CONTEMPLATED BY THIS OFFICIAL STATEMENT IS NOT BEING MADE AND WILL NOT BE MADE TO THE PUBLIC IN THAT MEMBER STATE, OTHER THAN: (A) TO ANY LEGAL ENTITY WHICH IS A "QUALIFIED INVESTOR" AS SUCH TERM IS DEFINED IN THE PROSPECTUS REGULATION; (B) TO FEWER THAN 150 NATURAL OR LEGAL PERSONS (OTHER THAN "QUALIFIED INVESTORS" AS SUCH TERM IS DEFINED IN THE PROSPECTUS REGULATION), SUBJECT TO OBTAINING THE PRIOR CONSENT OF THE RELEVANT UNDERWRITER OR THE COORPORATION FOR ANY SUCH OFFER OR (C) IN ANY OTHER CIRCUMSTANCES FALLING WITHIN ARTICLE 1(4) OF THE PROSPECTUS REGULATION; PROVIDED THAT NO SUCH OFFER OF THE SERIES 2019D BONDS SHALL REQUIRE THE AUTHORITY OR ANY UNDERWRITER TO PUBLISH A PROSPECTUS PURSUANT TO ARTICLE 3 OF THE PROSPECTUS REGULATION OR A SUPPLEMENT TO A PROSPECTUS PURSUANT TO ARTICLE 23 OF THE PROSPECTUS REGULATION.

FOR THE PURPOSES OF THIS PROVISION, THE EXPRESSION AN "OFFER OF SECURITIES TO THE PUBLIC" IN RELATION TO THE SERIES 2019D BONDS IN ANY MEMBER STATE MEANS THE COMMUNICATION IN ANY FORM AND BY ANY MEANS OF SUFFICIENT INFORMATION ON THE TERMS OF THE OFFER AND THE SERIES 2019D BONDS TO BE OFFERED SO AS TO ENABLE AN INVESTOR TO DECIDE TO PURCHASE OR SUBSCRIBE FOR THE SERIES 2019D BONDS.

EACH SUBSCRIBER FOR OR PURCHASER OF THE SERIES 2019D BONDS IN THE OFFERING LOCATED WITHIN A MEMBER STATE WILL BE DEEMED TO HAVE REPRESENTED, ACKNOWLEDGED AND AGREED THAT IT IS A "QUALIFIED INVESTOR" AS DEFINED IN THE PROSPECTUS REGULATION.

THE AUTHORITY AND EACH UNDERWRITER AND OTHERS WILL RELY ON THE TRUTH AND ACCURACY OF THE FOREGOING REPRESENTATION, ACKNOWLEDGEMENT AND AGREEMENT.

NOTICE TO PROSPECTIVE INVESTORS IN THE UNITED KINGDOM

THIS OFFICIAL STATEMENT HAS NOT BEEN APPROVED FOR THE PURPOSES OF SECTION 21 OF THE FINANCIAL SERVICES AND MARKETS ACT 2000 ("FSMA") AND DOES NOT CONSTITUTE AN OFFER TO THE PUBLIC IN ACCORDANCE WITH THE PROVISIONS OF SECTION 85 OF THE FSMA. IT IS FOR DISTRIBUTION ONLY TO, AND IS DIRECTED SOLELY AT, PERSONS WHO (I) ARE OUTSIDE OF THE UNITED KINGDOM (II) ARE INVESTMENT PROFESSIONALS, AS SUCH TERM IS DEFINED IN ARTICLE 19(5) OF THE FINANCIAL SERVICES AND MARKETS ACT 2000 (FINANCIAL PROMOTION) ORDER 2005, AS AMENDED (THE "FINANCIAL PROMOTION ORDER"), (III) ARE PERSONS FALLING WITHIN ARTICLE 49(2)(A) TO (D) OF THE FINANCIAL PROMOTION ORDER OR (IV) ARE PERSONS TO WHOM AN INVITATION OR INDUCEMENT TO ENGAGE IN INVESTMENT ACTIVITY (WITHIN THE MEANING OF SECTION 21 OF THE FSMA) IN CONNECTION WITH THE ISSUE OR SALE OF ANY SERIES 2019D BONDS MAY OTHERWISE BE LAWFULLY COMMUNICATED OR CAUSED TO BE COMMUNICATED (ALL SUCH PERSONS TOGETHER BEING REFERRED TO AS "RELEVANT PERSONS"). THIS OFFICIAL STATEMENT IS DIRECTED ONLY AT RELEVANT PERSONS AND MUST NOT BE ACTED ON OR RELIED ON BY PERSONS WHO ARE NOT RELEVANT PERSONS. ANY INVESTMENT OR INVESTMENT ACTIVITY TO WHICH THIS OFFICIAL STATEMENT RELATES IS AVAILABLE ONLY TO RELEVANT PERSONS AND WILL BE ENGAGED IN ONLY WITH RELEVANT PERSONS. ANY PERSON WHO IS NOT A RELEVANT PERSON SHOULD NOT ACT OR RELY ON THIS OFFICIAL STATEMENT OR ANY OF ITS CONTENTS.

NOTICE TO PROSPECTIVE INVESTORS IN HONG KONG

THE CONTENTS OF THIS OFFICIAL STATEMENT HAVE NOT BEEN REVIEWED BY ANY REGULATORY AUTHORITY IN HONG KONG. YOU ARE ADVISED TO EXERCISE CAUTION IN RELATION TO THE OFFER OF THE SERIES 2019D BONDS. IF YOU ARE IN ANY DOUBT ABOUT ANY OF THE CONTENTS OF THIS OFFICIAL STATEMENT, YOU SHOULD OBTAIN INDEPENDENT PROFESSIONAL ADVICE.

THIS OFFICIAL STATEMENT HAS NOT BEEN, AND WILL NOT BE, REGISTERED AS A PROSPECTUS (AS DEFINED IN THE COMPANIES (WINDING UP AND MISCELLANEOUS PROVISIONS) ORDINANCE (CHAPTER 32 OF THE LAWS OF HONG KONG) (THE "C(WUMP)O")) IN HONG KONG NOR HAS IT BEEN APPROVED BY THE SECURITIES AND FUTURES COMMISSION OF HONG KONG PURSUANT TO THE SECURITIES AND FUTURES ORDINANCE (CHAPTER 571 OF THE LAWS OF HONG KONG) ("SFO"). ACCORDINGLY, THE SERIES 2019D BONDS MAY NOT BE OFFERED OR SOLD IN HONG KONG BY MEANS OF THIS OFFICIAL STATEMENT OR ANY OTHER DOCUMENT, AND THIS OFFICIAL STATEMENT MUST NOT BE ISSUED, CIRCULATED OR DISTRIBUTED IN HONG KONG, OTHER THAN (A) TO 'PROFESSIONAL INVESTORS' AS DEFINED IN THE SFO AND ANY RULES MADE UNDER THE SFO OR (B) IN OTHER CIRCUMSTANCES WHICH DO NOT RESULT IN THE DOCUMENT BEING A "PROSPECTUS" AS DEFINED IN THE C(WUMP)O OR WHICH DO NOT CONSTITUTE AN OFFER TO THE PUBLIC WITHIN THE MEANING OF THE C(WUMP)O. IN ADDITION, NO PERSON MAY ISSUE OR HAVE IN ITS POSSESSION FOR THE PURPOSES OF ISSUE, WHETHER IN HONG KONG OR ELSEWHERE, ANY ADVERTISEMENT, INVITATION OR DOCUMENT RELATING TO THE SERIES 2019D BONDS, WHICH IS DIRECTED AT, OR THE CONTENTS OF WHICH ARE LIKELY TO BE ACCESSED OR READ BY, THE PUBLIC OF HONG KONG (EXCEPT IF PERMITTED TO DO SO UNDER THE SECURITIES LAWS OF HONG KONG) OTHER THAN WITH RESPECT TO SERIES 2019D BONDS WHICH ARE OR ARE INTENDED TO BE DISPOSED OF ONLY (A) TO PERSONS OUTSIDE HONG KONG, (B) TO 'PROFESSIONAL INVESTORS' AS DEFINED IN THE SFO AND ANY RULES MADE UNDER THE SFO.

NOTICE TO PROSPECTIVE INVESTORS IN JAPAN

THE BONDS HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE FINANCIAL INSTRUMENTS AND EXCHANGE ACT OF JAPAN (ACT NO. 25 OF 1948, AS AMENDED, THE "FIEA"). NEITHER THE BONDS NOR ANY INTEREST THEREIN MAY BE OFFERED OR SOLD, DIRECTLY OR INDIRECTLY, IN JAPAN OR TO, OR FOR THE BENEFIT OF, ANY RESIDENT OF JAPAN (AS DEFINED UNDER ITEM 5, PARAGRAPH 1, ARTICLE 6 OF THE FOREIGN EXCHANGE AND FOREIGN TRADE ACT (ACT NO. 228 OF 1949, AS AMENDED)), OR TO OTHERS FOR RE-OFFERING OR RESALE, DIRECTLY OR INDIRECTLY, IN JAPAN OR TO, OR FOR THE BENEFIT OF, ANY RESIDENT OF JAPAN, EXCEPT PURSUANT TO AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF, AND OTHERWISE IN COMPLIANCE WITH, THE FIEA AND ANY OTHER APPLICABLE LAWS, REGULATIONS AND MINISTERIAL GUIDELINES OF JAPAN.

THE PRIMARY OFFERING OF THE BONDS AND THE SOLICITATION OF AN OFFER FOR ACQUISITION THEREOF HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER PARAGRAPH 1, ARTICLE 4 OF THE FIEA. AS IT IS A PRIMARY OFFERING, IN JAPAN, THE BONDS MAY ONLY BE OFFERED, SOLD, RESOLD OR OTHERWISE TRANSFERRED, DIRECTLY OR INDIRECTLY TO, OR FOR

THE BENEFIT OF CERTAIN QUALIFIED INSTITUTIONAL INVESTORS AS DEFINED IN THE FIEA ("QIIs") IN RELIANCE ON THE QIIs-ONLY PRIVATE PLACEMENT EXEMPTION AS SET FORTH IN ITEM 2(I), PARAGRAPH 3, ARTICLE 2 OF THE FIEA. A QII WHO PURCHASED OR OTHERWISE OBTAINED THE BONDS CANNOT RESELL OR OTHERWISE TRANSFER THE BONDS IN JAPAN TO ANY PERSON EXCEPT ANOTHER QII.

NOTICE TO PROSPECTIVE INVESTORS IN TAIWAN

THE OFFER OF THE BONDS HAS NOT BEEN AND WILL NOT BE REGISTERED OR FILED WITH, OR APPROVED BY, THE FINANCIAL SUPERVISORY COMMISSION OF TAIWAN AND/OR OTHER REGULATORY AUTHORITY OF TAIWAN PURSUANT TO RELEVANT SECURITIES LAWS AND REGULATIONS, AND THE BONDS MAY NOT BE OFFERED, ISSUED OR SOLD IN TAIWAN THROUGH A PUBLIC OFFERING OR IN CIRCUMSTANCES WHICH CONSTITUTE AN OFFER WITHIN THE MEANING OF THE SECURITIES AND EXCHANGE ACT OF TAIWAN THAT REQUIRES THE REGISTRATION OR FILING WITH OR APPROVAL OF THE FINANCIAL SUPERVISORY COMMISSION OF TAIWAN. THE BONDS MAY BE MADE AVAILABLE OUTSIDE TAIWAN FOR PURCHASE BY INVESTORS RESIDING IN TAIWAN (EITHER DIRECTLY OR THROUGH PROPERLY LICENSED TAIWAN INTERMEDIARIES), BUT MAY NOT BE OFFERED OR SOLD IN TAIWAN EXCEPT TO QUALIFIED INVESTORS VIA A TAIWAN LICENSED INTERMEDIARY. ANY SUBSCRIPTIONS OF BONDS SHALL ONLY BECOME EFFECTIVE UPON ACCEPTANCE BY THE ISSUER OR THE RELEVANT DEALER OUTSIDE TAIWAN AND SHALL BE DEEMED A CONTRACT ENTERED INTO IN THE JURISDICTION OF INCORPORATION OF THE ISSUER OR RELEVANT DEALER, AS THE CASE MAY BE, UNLESS OTHERWISE SPECIFIED IN THE SUBSCRIPTION DOCUMENTS RELATING TO THE BONDS SIGNED BY THE INVESTORS.

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$58,320,000
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INTRODUCTION

General

This Official Statement, including the cover page and the appendices hereto (the "Official Statement"), is provided in connection with the issuance by the District of Columbia Water and Sewer Authority (the "Authority," also commonly referred to as "DC Water") of its Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds), in the original principal amount of $104,010,000 (the "Series 2019A Bonds"), its Public Utility Subordinate Lien Revenue Bonds, Series 2019B Bonds, in the original principal amount of $58,320,000 (the "Series 2019B Bonds") and its Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable), in the original principal amount of $343,160,000 (the "Series 2019D Bonds" and the Series 2019A Bonds and Series 2019B Bonds, each a "Series" and, together, the "Series 2019A/B/D Bonds")

Capitalized terms used in this Official Statement and not otherwise defined herein shall have the meanings ascribed thereto in APPENDIX C – "Glossary and Summary of the Indenture."

Authorization

The Series 2019A/B/D Bonds are being issued pursuant to the Master Indenture of Trust, dated as of April 1, 1998 (the "Master Indenture"), as amended and supplemented to the date of delivery of the Series 2019A/B/D Bonds (the "Indenture"), including by the Twenty-Fourth Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Series 2019A Bonds and the Series 2019B Bonds (the "Series 2019A/B Bonds") (the "Twenty-Fourth Supplemental Indenture") and the Twenty-Sixth Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Series 2019D Bonds (the "Twenty-Sixth Supplemental Indenture") each by and between the Authority and Wells Fargo Bank, N.A., as trustee (the "Trustee"). The Series 2019A/B Bonds are also being issued pursuant to a resolution of the Authority's Board of Directors passed at its September 5, 2019 meeting authorizing the issuance of the Series 2019A/B Bonds, and the Series 2019D Bonds are being issued pursuant to a resolution of the Authority's Board of Directors passed at its September 27, 2019 meeting authorizing the issuance of the Series 2019D Bonds.

The Public Utility Subordinate Lien Multimodal Revenue Bonds, Series 2019C (the "Series 2019C Subordinate Bonds") are being issued at the same time as the Series 2019A/B/D Bonds pursuant to the Indenture as supplemented by the Twenty-Fifth Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Series 2019C Subordinate Bonds (the "Twenty Fifth Supplemental Indenture") in an amount not to exceed $100,000,000.

District of Columbia Water and Sewer Authority

The Authority is an independent authority of the District of Columbia (the "District"), which was created in April 1996 and began operating on October 1, 1996, under and pursuant to an act of the Council of the District (the "Council"), which is entitled the "Water and Sewer Authority Establishment and Department of Public Works Reorganization Act of 1996" (D.C. Law 11-111) (D.C. Code §§ 34-2201.01 *et seq.*), as amended and supplemented (the "Act"), and an act of the U.S. Congress entitled the "District of Columbia Water and Sewer Authority Act of 1996" (Public Law 104-184) (the "Federal Act"). The Council was authorized to adopt the Act pursuant to the authority set forth in the District of Columbia Self-Government and Governmental Reorganization Act (P.L. 93-198;

87 Stat 774; D.C. Official Code, 2006 Repl., §§ 1-201 *et. seq.*), as amended (the "Home Rule Act"). See "THE AUTHORITY."

The Authority provides retail water and wastewater services to approximately 700,000 residents in the District and wholesale wastewater conveyance and treatment to approximately 1.6 million people in major suburban areas of Prince George's and Montgomery Counties in Maryland and Fairfax and Loudoun Counties in Virginia (collectively, the "User Jurisdictions"). Pursuant to the Act, the District authorized the Authority to use all of the property and assets of the water distribution system (the "Water System") and the wastewater collection, treatment and disposal system (the "Wastewater System" and, together with the Water System, the "System") formerly operated by the District, for as long as any revenue bonds of the Authority, including the Series 2019A/B/D Bonds, remain outstanding. In accordance with the Act, the District retains full legal title to and a complete equitable interest in the System. See "THE SYSTEM."

The Authority's service area consists of the District and certain areas of the User Jurisdictions and, therefore, certain demographic, economic and statistical information relating to the District and the User Jurisdictions may be relevant to prospective purchasers of the Series 2019A/B/D Bonds. The Authority makes no representation as to the accuracy or completeness of information derived from other sources.

Use of the Series 2019A/B/D Bond Proceeds

The proceeds of the Series 2019A Bonds will be used to pay (i) a portion of the costs of the DC Clean Rivers Project (as defined herein) (the "Series 2019A Project") and (ii) the costs of issuing the Series 2019A Bonds. For a description of the DC Clean Rivers Project, see "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Combined Sewer Overflow Projects." The Authority has designated the Series 2019A Project as a "Green Project" and the Series 2019A Bonds as "Green Bonds" based on, among other things, an independent assessment by Vigeo Eiris ("Vigeo") of the DC Clean Rivers Project and the Authority's environmental, social, and governance characteristics. The terms "Green Project" and "Green Bond" are neither defined in, nor related to the Indenture, and their use herein is for identification purposes only and is not intended to provide or imply to provide that a holder of the Series 2019A Bonds is entitled to any additional security other than as provided in the Indenture. For a description of Vigeo's assessment process, see APPENDIX G – "Opinion of Independent Sustainability Consultant."

The proceeds of the Series 2019A Bonds to be used to pay the costs of the Series 2019A Project will be deposited in a segregated account of the Construction Fund established and maintained under the Indenture (the "2019A Construction Account"). Such proceeds will be invested in Permitted Investments pursuant to the Indenture. See "PLAN OF FINANCE." The Authority has committed to report annually on the allocation of such proceeds to the Green Project and on certain environmental and social outcomes of the Green Project and on certain governance matters of the Authority until such proceeds are fully allocated.

The proceeds of the Series 2019B Bonds will be used to (i) pay the costs of certain capital improvements to the System (the "Series 2019B Project") and (ii) pay the costs of issuing the Series 2019B Bonds.

The proceeds of the Series 2019B Bonds to be used to pay the costs of the Series 2019B Project will be deposited in a segregated account of the Construction Fund established and maintained under the Indenture (the "2019B Construction Account"). Such proceeds will be invested in Permitted Investments pursuant to the Indenture. See "PLAN OF FINANCE" and "CAPITAL IMPROVEMENT PROGRAM."

The proceeds of the Series 2019D Bonds will be used to (i) refund all or a portion of the Authority's outstanding Public Utility Subordinated Lien Revenue Bonds, Series 2013A (the "Series 2013A Bonds") and (ii) pay costs of issuing the Series 2019D Bonds. See "PLAN OF FINANCE."

Security and Source of Payment

Under the Indenture, the Authority may issue "Senior Debt" and "Subordinate Debt" from time to time. <u>The Series 2019A/B/D Bonds will constitute Subordinate Debt under the Indenture.</u> The Series 2019A/B/D Bonds will be secured by a lien on and a pledge of Net Revenues that is subordinate to the pledge of Net Revenues that secures the Outstanding Senior Debt and any other Senior Debt the Authority may issue from time to time in the future, and on a parity with the pledge of Net Revenues that secures the Outstanding Subordinate Debt and any other Subordinate Debt the Authority may issue from time to time in the future, without preference, priority or distinction of any Subordinate Debt over any other Subordinate Debt.

Prior to the issuance of the Series 2019A/B/D Bonds, $1,050,305,000 aggregate principal amount of Senior Debt and $2,223,295,266 aggregate principal amount of Subordinate Debt is outstanding. See "OUTSTANDING INDEBTEDNESS."

The Series 2019A/B/D Bonds will be payable solely from Net Revenues after the funding of certain Funds and Accounts established under the Indenture. The principal sources of Net Revenues are the payments received by the Authority pursuant to its rates and charges imposed for the use of and the services furnished by the System, as described in the Indenture. See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Lien and Pledge of the Master Indenture" and "RATES AND CHARGES." The Series 2019A/B/D Bonds will not be secured by a Debt Service Reserve Fund.

The Series 2019A/B/D Bonds shall be special and limited obligations of the Authority. The Series 2019A/B/D Bonds shall be without recourse to the District. The Series 2019A/B/D Bonds shall not be general obligations of the District or of the Authority. The Series 2019A/B/D Bonds shall not be a pledge of or involve the faith and credit or the taxing power of the District, shall not constitute a debt of the District, the United States of America or any User Jurisdiction or any agency or instrumentality of any User Jurisdiction, and neither the District, the United States, any User Jurisdiction, nor any agency or instrumentality of any User Jurisdiction shall be liable thereon. The Series 2019A/B/D Bonds also shall not constitute the lending of the public credit for private undertakings as prohibited by the Home Rule Act of the District. The Authority has no taxing power.

Concurrent Issuance of Bonds by the Authority

Concurrently with the issuance of the Series 2019A/B/D Bonds, the Authority expects to issue the Series 2019C Subordinate Bonds, in an amount not to exceed $100 million pursuant to the Indenture, as supplemented by the Twenty-Fifth Supplemental Indenture. The Series 2019C Subordinate Bonds are expected to finance certain Costs of the System and pay certain costs of issuance. The Authority expects that the Series 2019C Subordinate Bonds will initially bear interest at a Long-Term Rate as defined in the Twenty-Fifth Supplemental Indenture. The Series 2019C Subordinate Bonds will be secured by a pledge of Net Revenues subordinate to the pledge of Net Revenues that secures Senior Debt and on a parity with the pledge of Net Revenues that secures other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future. The issuance of the Series 2019C Subordinate Bonds is not dependent upon the Authority's issuance of the Series 2019A/B/D Bonds, and the Series 2019A/B/D Bonds will be sold separately and independently from the Series 2019C Subordinate Bonds.

Rate Covenant and Financial Forecast

The Master Indenture includes a rate covenant as described below. Rates, fees and charges are established by the Authority and are not subject to regulatory approval, nor are they subject to other regulations under current law. In general, and as more fully described herein, the Rate Covenant provides that the Authority covenants to fix, charge, revise and collect rates, fees and other charges for the use of and the services furnished by the System sufficient in each Fiscal Year so that:

(i) Revenues collected by the Authority in such Fiscal Year will be sufficient to pay at least the actual Operating Expenses and required deposits and payments; and

(ii) Net Revenues shall be sufficient in each Fiscal Year to be at least equal to the sum of (a) an amount equal to one hundred and twenty percent (120%) of the Annual Debt Service on Senior Debt; and (b) one hundred percent (100%) of the Annual Debt Service on Subordinate Debt.

See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Rate Covenant." Additional financial information, including certain projections of revenues, disbursements and debt service coverage, is included in "FINANCIAL OPERATIONS – Projected Financial Operations" herein.

Capital Improvement Program

The Authority utilizes an annually adopted ten-year Capital Improvement Program (the "Capital Improvement Program" or the "CIP") to plan and manage the capital investments necessary to fulfill its service missions, comply with regulatory requirements and preserve and upgrade its water and wastewater systems. The Authority updates the CIP annually in conjunction with its budget process, based on detailed project review by engineering staff, external engineering consultants retained by the Authority, operations staff and senior management. The Authority intends to finance the costs of the CIP from a number of sources, including proceeds of the Series 2019A/B/D Bonds, future bonds and other forms of indebtedness, grants, certain operating revenues and wholesale customer contributions. As more fully described herein, the Authority estimates the cost of the current ten-year CIP at $4.96 billion on a cash disbursement basis. The Board approved the CIP on April 4, 2019. See "CAPITAL IMPROVEMENT PROGRAM."

Miscellaneous

This Official Statement contains brief descriptions of the Series 2019A/B/D Bonds, the Authority, the System, the Capital Improvement Program, the Indenture and certain provisions of the Act. Such descriptions and the summaries of and references to all documents, statutes, reports and other instruments referred to herein do not purport to be comprehensive or definitive, and each such document, statute, report or instrument is qualified in its entirety by reference to each such document, statute, report or instrument, copies of which are available from the Authority. All references to the Series 2019A/B/D Bonds are qualified in their entirety by reference to the definitive forms thereof and the information with respect thereto contained in the Indenture. Insofar as any statements are made in this Official Statement involving matters of opinion, regardless of whether expressly so stated, they are intended merely as such and not as representations of fact.

The information in this Official Statement is subject to change without notice, and neither the delivery of this Official Statement, nor any sale made hereunder shall under any circumstances create an implication that there has been no change in the affairs of the Authority since the date hereof. This Official Statement is not to be construed as a contract or agreement between the Authority or the Underwriters and the purchasers or owners of any of the Series 2019A/B/D Bonds.

Inquiries regarding information about the Authority and the financial matters contained in this Official Statement may be directed to the Chief Financial Officer and Executive Vice President, Finance and Procurement of the Authority at (202) 787-2000.

THE SERIES 2019A/B/D BONDS

General

The Series 2019A/B/D Bonds will be dated their date of delivery and will bear interest at the rates set forth on the inside cover page of this Official Statement. Interest on the Series 2019A/B/D Bonds will be calculated on the basis of a 360-day year of twelve 30-day months, payable semi-annually on each April 1 and October 1, commencing April 1, 2020 (each, an "Interest Payment Date"), and will mature on the dates and in the principal amounts as set forth on the inside cover page of this Official Statement.

Book-Entry Only System

The Series 2019A/B/D Bonds will be issued in fully registered form and, when issued, will be held by DTC or its nominee, as securities depository with respect to the Series 2019A/B/D Bonds. Individual purchases of interests in the Series 2019A/B/D Bonds will be made in book-entry form only, in the principal amount of $5,000 or any integral multiple thereof. Individual purchasers will not receive physical delivery of bond certificates. So long as Cede & Co. is the registered owner of the Series 2019A/B/D Bonds as nominee of DTC, references herein to the holders or registered owners of the Series 2019A/B/D Bonds will mean Cede & Co. and will not mean the beneficial owners ("Beneficial Owners") of the Series 2019A/B/D Bonds. Beneficial interests in the Series 2019A/B/D Bonds may be held through DTC directly as a participant or indirectly through organizations that are participants. See APPENDIX E – "DTC Book-Entry System and Global Clearance Procedures."

As long as the Series 2019A/B/D Bonds are held by DTC or its nominee, interest will be paid to Cede & Co., as nominee of DTC, in same-day funds on each Interest Payment Date. If the book-entry only system is discontinued, bond certificates will be delivered as described in the Indenture, and Beneficial Owners (as defined herein) will become registered owners of the Series 2019A/B/D Bonds (the "Bondholders"). If the book-entry only system is discontinued, interest on the Series 2019A/B/D Bonds shall be payable on each Interest Payment Date by check or draft mailed to the registered owner at the address as it appears on the 15th day of the month preceding an Interest Payment Date on the registration books kept by the Trustee.

Neither the Authority, the Trustee nor the Underwriters will have any responsibility or obligation to the Participants, DTC or the persons for whom they act with respect to (i) the accuracy of any records maintained by DTC or by any Direct or Indirect Participant of DTC, (ii) the providing of notice or payments to the Direct Participants, Indirect Participants or beneficial owners, (iii) the selection by DTC or by any Direct or Indirect Participant of any beneficial owner to receive payment in the event of a partial redemption of the Series 2019A/B/D Bonds or (iv) any other action taken by DTC or its partnership nominee as owner of the Series 2019A/B/D Bonds. For more information on DTC and the book-entry only system, see APPENDIX E – "DTC Book-Entry System and Global Clearance Procedures."

Redemption Provisions

Series 2019A/B Bonds

Optional Redemption. The Series 2019A/B Bonds maturing on or after October 1, 2030, are subject to optional redemption prior to maturity on or after October 1, 2029, from any source, in whole or in part on any date, in such order of maturities as shall be determined by the Authority (and by lot within a maturity), at a redemption price of 100% of the principal amount thereof, together with accrued interest, if any, to the redemption date.

Mandatory Redemption. The Series 2019A Bonds maturing on October 1, 2044 (the "Series 2019A 2044 Term Bonds") and the Series 2019A Bonds maturing on October 1, 2049 (the "Series 2019A 2049 Term Bonds") are subject to mandatory sinking fund redemption in part (in accordance with the procedures described below in "– Selection of the Series 2019A/B Bonds to be Redeemed"), prior to maturity on October 1, in the years set forth below, at a redemption price equal to the principal amount of the Series 2019A Bonds called for redemption plus interest accrued to the redemption date.

Series 2019A 2044 Term Bonds

Year	Amount
2040	$7,115,000
2041	7,470,000
2042	7,845,000
2043	8,235,000
2044†	8,645,000

† Final Maturity

Series 2019A 2049 Term Bonds

Year	Amount
2045	$9,080,000
2046	9,445,000
2047	9,820,000
2048	10,215,000
2049†	10,620,000

† Final Maturity

The principal amount of the Series 2019A/B Bonds required to be redeemed on any redemption date pursuant to the operation of mandatory sinking fund redemption provisions will be reduced, at the option of the Authority, by the principal amount of any Series 2019A/B Bond scheduled for redemption on such redemption date or dates, that, at least 45 days prior to the mandatory sinking fund redemption date, (i) has been acquired by the Authority and delivered to the Trustee for cancellation, (ii) has been acquired and canceled by the Trustee, at the direction of the Authority, at a price not exceeding the principal amount of such Series 2019A/B Bond plus accrued interest to the date of acquisition thereof, or (iii) has been redeemed pursuant to the optional redemption provisions and not previously credited to a scheduled mandatory redemption. Upon such purchase of such Series 2019A/B Bonds, the Trustee shall then credit an amount equal to the principal of such Series 2019A/B Bonds so purchased towards the sinking fund installments for the Series 2019A/B Bonds of such maturity in such order as may be determined by the Authority in a certificate of an Authorized Official, which will direct the reduction of a ratable portion of each annual mandatory sinking fund installment requirement in accordance with the procedures set forth under " – Selection of the Series 2019A/B Bonds to be Redeemed" below.

Selection of the Series 2019A/B Bonds to be Redeemed. The particular maturities of the Series 2019A/B Bonds to be redeemed at the option of the Authority will be determined by the Authority in its sole discretion.

If less than all of a Series 2019A/B Bond of a maturity is called for prior redemption and if the Series 2019A/B Bonds are registered in book-entry only form and DTC or a successor securities depository is the sole registered owner of such Series 2019A/B Bonds, the particular Series 2019A/B Bonds or portions thereof to be redeemed shall be selected by DTC in accordance with DTC procedures, or, if the book-entry only system is discontinued, by the Trustee by lot in such manner as the Trustee in its discretion may determine. In either case, (i) the portion of any Series 2019A/B Bond to be redeemed shall be in the principal amount of $5,000 or integral multiples thereof and (ii) in selecting Series 2019A/B Bonds for redemption, each Series 2019A/B Bond shall be considered as representing that number of the Series 2019A/B Bonds that is obtained by dividing the principal amount of such Series 2019A/B Bond by $5,000.

Series 2019D Bonds

Optional Redemption (Par Call). The Series 2019D Bonds maturing on or after October 1, 2030, are subject to optional redemption prior to maturity on or after October 1, 2029, from any source, in whole or in part on any date, in such order of maturities as shall be determined by the Authority (and by lot within a maturity), at a redemption price of 100% of the principal amount thereof, together with accrued interest, if any, to the redemption date.

Optional Redemption (Make-Whole Call). The Series 2019D Bonds are subject to prior redemption by and at the sole option of the Authority, in whole multiples of $5,000, either in whole or in part (as selected by the Authority) on any date prior to October 1, 2029, at a redemption price equal to the principal amount thereof plus the Make-Whole Premium (as defined herein), plus accrued interest to the date fixed for redemption.

"Make-Whole Premium" means, with respect to any Series 2019D Bond to be redeemed, an amount calculated by a Designated Institution (as defined herein) equal to the positive difference, if any, between:

(i) the sum of the present values, calculated as of the date fixed for redemption of:

a. each interest payment that, but for the redemption, would have been payable on the Series 2019D Bond or a portion thereof being redeemed on each regularly scheduled Interest Payment Date occurring after the date fixed for redemption through the maturity date of such Series 2019D Bond (excluding any accrued interest for the period prior to the date fixed for redemption); provided that if the date fixed for redemption is not a regularly scheduled Interest Payment Date with respect to such Series 2019D Bond, the amount of the next regularly scheduled interest payment will be reduced by the amount of interest accrued on such Series 2019D Bond to the date fixed for redemption; plus

b. the principal amount that, but for such redemption, would have been payable on the maturity date of the Series 2019D Bond or portion thereof being redeemed; minus

(ii) the principal amount of the Series 2019D Bonds or portion thereof being redeemed.

The present values of the interest and principal payments referred to in (1) above will be determined by discounting the amount of each such interest and principal payment from the date that each such payment would have been payable but for the redemption to the date fixed for redemption on a semiannual basis (assuming a 360-day year consisting of twelve 30-day months) at a discount rate equal to the Comparable Treasury Yield (as defined herein), plus the number of basis points set forth below:

		Basis Points
maturing:	2020 through 2027	10
	2028 through 2031	15
	2032 through 2048	20

"Comparable Treasury Yield" means the yield appearing in the most recently published statistical release designated "H.15(519) Selected Interest Rates" under the heading "Treasury Constant Maturities," or any successor publication selected by the Designated Banking Institution that is published weekly by the Board of Governors of the Federal Reserve System and that establishes yields on actively traded United States Treasury securities adjusted to constant maturity, for the maturity corresponding to the remaining term to maturity of the Series 2019D Bond being redeemed. The Comparable Treasury Yield will be determined at least two business days but not more than 45 calendar days preceding the applicable date fixed for redemption. If the H.15(519) statistical release sets forth a weekly average yield for United States Treasury securities that have a constant maturity that is the same as the remaining term to maturity of the Series 2019D Bond being redeemed, then the Comparable Treasury Yield will be equal to such weekly average yield. In all other cases, the Comparable Treasury Yield will be calculated by interpolation on a straight-line basis, between the weekly average yields on the United States Treasury securities that have a constant maturity (i) closest to and greater than the remaining term to maturity of the Series 2019D Bond being redeemed; and (ii) closest to and less than the remaining term to maturity of the Series 2019D Bond being redeemed. Any weekly average yields calculated by interpolation will be rounded to the nearest 1/100th of 1%, with any figure of 1/200th of 1% or above being rounded upward.

If, and only if, weekly average yields for United States Treasury securities for the preceding week are not available in the H.15(519) statistical release or any successor publication, then the Comparable Treasury Yield will be the rate of interest per annum equal to the semiannual equivalent yield to maturity of the Comparable Treasury Price (each as defined herein) as of the date fixed for redemption.

"Comparable Treasury Issue" means the United States Treasury selected by the Designated Banking Institution as having a maturity comparable to the remaining term to maturity of the Series 2019D Bond being redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term to maturity of the Series 2019D Bond being redeemed.

"Designated Banking Institution" means an investment banking institution of national standing which is a primary United States government securities dealer in the City of New York designated by the Authority, which may be one of the underwriters of the Series 2019D Bonds.

"Comparable Treasury Price" means, with respect to any date on which a Series 2019D Bond or portion thereof is being redeemed, either (a) the average of five Reference Treasury Dealer quotations for the date fixed for redemption, after excluding the highest and lowest such quotations, and (b) if the Designated Banking Institution is unable to obtain five such quotations, the average of the quotations that are obtained. The quotations will be the average, as determined by the Designated Banking Institution, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of principal amount) quoted in writing to the Designated Banking Institution, at 2:00 p.m. New York City time on a business day at least two business days but no more than 45 calendar days preceding the applicable date fixed for redemption.

"Reference Treasury Dealer" means a primary United States Government securities dealer in the United States appointed by the Authority and reasonably acceptable to the Designated Banking Institution, which may be one of the underwriters of the Series 2019D Bonds.

Mandatory Redemption. The Series 2019D Bonds maturing on October 1, 2039 (the "Series 2019D 2039 Term Bonds") and the Series 2019D Bonds maturing on October 1, 2048 (the "Series 2019D 2048 Term Bonds," and together with the Series 2019D 2039 Term Bonds, the "Series 2019D Term Bonds") are subject to mandatory sinking fund redemption in part (in accordance with the procedures described below in "– Selection of Series 2019D Bonds for Redemption"), prior to maturity on October 1, in the years set forth below, at a redemption price equal to the principal amount of the Series 2019D Bonds called for redemption plus interest accrued to the redemption date.

Series 2019D 2039 Term Bonds

Year	Amount
2035	$2,200,000
2036	2,270,000
2037	2,340,000
2038	2,410,000
2039†	2,485,000

† Final Maturity

Series 2019D 2048 Term Bonds

Year	Amount
2040	$2,560,000
2041	20,420,000
2042	60,095,000
2043	62,150,000
2044	64,270,000
2045	22,485,000
2046	23,205,000
2047	23,950,000
2048†	24,720,000

† Final Maturity

The principal amount of the Series 2019D Term Bonds required to be redeemed by operation of the mandatory sinking fund schedules set forth above may be reduced by the principal amount of any of the Series 2019D Bonds of the applicable maturity which have been theretofore delivered by the Authority to the Trustee for cancellation, or theretofore redeemed (but not through the operation of the mandatory sinking fund) or purchased or determined to be purchased by the Trustee and which have not theretofore been made the basis of such reduction, as provided in the Indenture (the "mandatory sinking fund credit").

The particular Series 2019D Bonds to be redeemed will be selected from such maturities as shall be determined by the Authority, upon advice from Co-Bond Counsel.

Selection of Series 2019D Bonds for Redemption. If less than all the Series 2019D Bonds of a particular maturity shall be called for any optional redemption or mandatory sinking fund redemption: (i) if the Series 2019D Bonds are not registered in book entry only form, any redemption of less than all of the Series 2019D Bonds will be allocated among the registered owners of such Series 2019D Bonds being redeemed as nearly as practicable in proportion to the amounts of the principal amounts of the Series 2019D Bonds owned by each registered owner, in authorized denominations, calculated based on the formula: (principal to be redeemed) x (principal amount owned by such owner) / (total principal amount outstanding), and the particular Series 2019D Bonds to be redeemed will be determined by the Trustee in any manner as the Trustee in its sole discretion deems fair and appropriate and (ii) if the Series 2019D Bonds are in book entry only form and so long as DTC or a successor securities depository is the sole registered owner of the Series 2019D Bonds, any redemption of less than all of the Series 2019D Bonds will be done in accordance with DTC's procedures in effect at such time. It is the Authority's intent that redemption allocations made by DTC, the DTC Participants or such other intermediaries that may exist between the Authority and the Beneficial Owners be made on a pro rata pass-through distribution of principal basis; provided, however, the Authority provides no assurance that DTC, the DTC Participants or any other intermediary will allocate redemptions among Beneficial Owners on such a proportional basis.

Notice of Redemption

The Authority shall not be responsible for mailing a notice of redemption to anyone other than DTC or another qualified securities depository or its nominee unless no qualified securities depository is the registered owner of the Series 2019A/B/D Bonds. If no qualified securities depository is the registered owner of the Series 2019A/B/D Bonds, a notice of redemption shall be mailed to the registered owners of the Series 2019A/B/D Bonds. See "THE SERIES 2019A/B/D BONDS – Book-Entry Only System."

The Trustee shall send notice of the call for redemption, identifying the Series 2019A/B/D Bonds or portions thereof to be redeemed, not fewer than 20 days prior to the redemption date or such shorter period as may be acceptable to DTC while the Series 2019A/B/D Bonds are in book-entry form and registered to DTC (i) by registered or certified mail or overnight express delivery, to the holder of each Series 2019A/B/D Bond to be redeemed at the address as it appears on the registration books kept by the Trustee, (ii) by registered or certified mail or overnight express delivery, to all organizations registered as securities depositories with the SEC and (iii) to each nationally recognized municipal securities information repository designated as such by the SEC. Failure to give any notice specified in (i) above, or any defect therein, shall not affect the validity of any proceedings for the redemption of any Series 2019A/B/D Bond with respect to which no such failure or defect has occurred. Failure to give any notice specified in (ii) or (iii) above, or any defect therein, shall not affect the validity of any proceedings for the redemption of any Series 2019A/B/D Bond with respect to which the notice specified in (i) above is correctly given. If the notices of redemption are sent before there is sufficient money on deposit in the applicable fund or account to pay the full redemption price of the Series 2019A/B/D Bonds, the notice of redemption of the Series 2019A/B/D Bonds shall specify that the redemption is conditional upon there being on deposit in the applicable fund or account on the redemption date sufficient money to pay the full redemption price of the Series 2019A/B/D Bonds to be redeemed.

Any notice of redemption shall be mailed by first-class mail, postage prepaid. Notice of redemption also shall be given by Electronic Means to a Depository. A certificate of the Trustee shall conclusively establish the mailing of any such notice for all purposes.

PLAN OF FINANCE

Series 2019A Bonds. Net proceeds of the Series 2019A Bonds will be used to pay the costs of the Series 2019A Project. For a description of the DC Clean Rivers Project (of which the Series 2019A Project is a portion) in this Official Statement, see "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Combined Sewer Overflow Projects." Such proceeds will be deposited in the 2019A Construction Account. The proceeds therein will be invested in Permitted Investments pursuant to the Indenture. The remainder of the proceeds of the Series 2019A Bonds will be used to pay costs of issuing the Series 2019A Bonds.

Based on the results of an independent assessment by Vigeo of the Series 2019A Project's environmental, social, and governance characteristics, the Authority has designated the Series 2019A Project as a "Green Project" and the Series 2019A Bonds as "Green Bonds."* The Authority will report annually on the allocation of proceeds to the Series 2019A Project and on certain environmental and social outcomes of the Series 2019A Project. See "INDEPENDENT SUSTAINABILITY CONSULTANT OPINION LETTER" and APPENDIX G – "Opinion of Independent Sustainability Consultant."

Series 2019B Bonds. A portion of the net proceeds of the Series 2019B Bonds will be used to pay the costs of the Series 2019B Project. See "CAPITAL IMPROVEMENT PROGRAM." Such proceeds will be deposited in the 2019B Construction Account. The proceeds therein will be invested in Permitted Investments pursuant to the Indenture. The remainder of the proceeds of the Series 2019B Bonds will be used to pay costs of issuing the Series 2019B Bonds.

Series 2019D Bonds. A portion of the proceeds of the Series 2019D Bonds, together with other funds of the Authority, will be deposited into an escrow account held by the Trustee pursuant to an Escrow Agreement between the Authority and the Trustee dated as of the date of issuance of the Series 2019D Bonds (such account, the

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* The terms "Green Bond" and "Green Project" are not defined in and do not relate to the Indenture, and are used herein for identification purposes only.

"Series 2019D Escrow Account"), and will be used by the Trustee, in its capacity as escrow trustee, to redeem those certain maturities of the Series 2013A Bonds on the redemption dates and at the redemption prices set forth below (together, the "Refunded Bonds" The sufficiency of the amounts deposited in the Series 2019D Escrow Account for the refunding of the Refunded Bonds will be verified by Samuel Klein and Company, Certified Public Accountants, as verification agent (the "Verification Agent"). See "VERIFICATION OF MATHEMATICAL COMPUTATIONS."

Series 2013A Bonds

Maturity (October 1)	Principal Amount	Interest Rate	Redemption Date	Redemption Price
2041	$ 2,300,000	4.750%	10/01/2023	100.000%
2041	15,475,000*	5.000	10/01/2023	100.000
2042	57,680,000*	5.000	10/01/2023	100.000
2043	60,690,000*	5.000	10/01/2023	100.000
2044	63,855,000	5.000	10/01/2023	100.000
2045	23,200,000*	5.000	10/01/2023	100.000
2046	24,360,000*	5.000	10/01/2023	100.000
2047	25,580,000*	5.000	10/01/2023	100.000
2048	26,860,000	5.000	10/01/2023	100.000

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* Principal amount due pursuant to mandatory sinking fund redemption.

SOURCES AND USES OF FUNDS

The proceeds of the Series 2019A/B/D Bonds are expected to be applied as follows:

	Series 2019A Bonds	Series 2019B Bonds	Series 2019D Bonds	Total
Sources of Funds				
Par Amount	$104,010,000.00	$58,320,000.00	$343,160,000.00	$505,490,000.00
Original Issue Premium	21,678,073.60	17,001,590.80	-	38,679,664.40
Authority Contribution	-	-	1,249,520.83	1,249,520.83
Total Sources	$125,688,073.60	$75,321,590.80	$344,409,520.83	$545,419,185.23
Uses of Funds				
Deposit to Construction Account	$125,000,000.00	$75,000,000.00	-	$200,000,000.00
Deposit to Series 2019D Escrow Account	-	-	$342,470,977.41	342,470,977.41
Underwriters’ Discount	483,677.88	234,816.90	1,415,432.99	2,133,927.77
Other Costs of Issuance	204,395.72	86,773.90	523,110.43	814,280.05
Total Uses	$125,688,073.60	$75,321,590.80	$344,409,520.83	$545,419,185.23

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SECURITY FOR THE SERIES 2019A/B/D BONDS

Lien and Pledge of the Master Indenture

General. The Series 2019A/B/D Bonds are authorized and when issued will be issued in accordance with the statutes of the District and the United States, and will constitute valid and legally binding special and limited obligations of the Authority.

The Series 2019A/B/D Bonds will constitute Subordinate Debt under the Indenture, payable solely from the Net Revenues of the System. Net Revenues are Revenues less Operating Expenses (as defined in the Indenture). Revenues are defined as all moneys received as income, rates, fees, charges, receipts, profits and other moneys derived by the Authority from its ownership and operation of the System, and for the use of and for the services furnished by the System, including Connection Fees (as defined in the Indenture), transfers from the Rate Stabilization Fund to the Revenue Fund, proceeds of any business interruption insurance, and investment earnings on all of the funds held by the Trustee under the Indenture and the Authority, except any rebate fund that may be created under the Indenture. Revenues do not include refundable customer deposits, the IMA Capital Payments (as defined in the Indenture) or other payments solely in aid of construction, the EPA Grants or similar payments, or the proceeds resulting from the sale of all or a portion of the System.

The Series 2019A/B/D Bonds are payable and secured on a subordinate basis to the Outstanding Senior Debt and all other Senior Debt hereafter issued or incurred by the Authority pursuant to the Indenture, and on a parity basis with the Outstanding Subordinate Debt and all other Subordinate Debt hereafter issued or incurred by the Authority pursuant to the Indenture. The Authority expects to issue additional Senior Debt and Subordinate Debt in the future. For a listing of the Authority's Outstanding Senior Debt and Subordinate Debt, see "OUTSTANDING INDEBTEDNESS."

The Master Indenture defines "Senior Debt" as Bonds and Other System Indebtedness, and "Bonds" as bonds, notes or other obligations issued pursuant to the Master Indenture, but not including Other System Indebtedness and Subordinate Debt. "Other System Indebtedness" means any indebtedness issued or incurred in connection with the System that the Authority is required, or has elected, to treat as payable on a parity basis with the Bonds with respect to the pledge of Net Revenues. "Subordinate Debt" means bonds, notes or other obligations issued in connection with the System that are expected to be paid from and have pledged to their payment Net Revenues on a subordinate lien basis after the pledge of Net Revenues to Senior Debt.

The Indenture pledges to the payment of the principal of and premium, if any, and interest on all Senior Debt and Subordinate Debt (at their respective levels of priority of security) that may from time to time be outstanding: (i) all right, title and interest of the Authority in and to the Net Revenues; (ii) all moneys or securities in any of the funds or Accounts established under the Indenture (other than the Operating Fund, and all Accounts in the Construction Fund other than the Construction Account, except to the extent a specific Account or subaccount therein relates, and is pledged, solely to specific series of Bonds or Subordinate Debt); and (iii) all rights and privileges of every kind and nature appurtenant to, all proceeds of, and all right, title and claim which the Authority now or may hereafter acquire in the aforesaid property, subject only to the provisions of the Indenture and the Act relating to the use and application thereof. Furthermore, the Indenture provides for specific Accounts in the Debt Service Reserve Fund to be pledged solely to the Senior Debt to which they relate and specific Accounts in the Subordinate Debt Service Reserve Fund to be pledged solely to the Subordinate Debt to which they relate. <u>The Series 2019A/B/D Bonds are not secured by a Debt Service Reserve Fund, therefore no Account in the Subordinate Debt Service Reserve Fund will be established for the Series 2019A/B/D Bonds</u>.

Statutory Lien. The Act provides that a pledge of the Authority is binding from the time it is made. Any funds, or property pledged, are subject to the lien of a pledge without physical delivery. The lien of a pledge is binding as against parties having any tort, contract, or other claim against the Authority regardless of notice. Neither the resolution stipulating the terms for sale of Authority bonds nor any other instrument creating a pledge need be recorded.

Segregated Funds. The Act establishes the Water and Sewer Enterprise Fund and requires the Authority to operate it in accordance with generally accepted accounting principles. The Revenue Fund created by the Master Indenture constitutes the Water and Sewer Enterprise Fund. The Revenue Fund is required to be held by the Authority, subject to the lien of the Indenture.

According to the Act, subject to the provisions made by the Authority for security of revenue bonds, all revenues, proceeds, and moneys from whatever source derived (except those collected or received from the stormwater fee) which are collected or received by the Authority will be credited to the Revenue Fund and will not, at any time, be transferred to, lapse into, or be commingled with the General Fund of the District, or any other funds or accounts of the District, except for limited circumstances under which such funds shall be transferred to the District to pay for goods and services and property contracted for by the Authority from the District, or as otherwise authorized by law.

See “THE AUTHORITY – Authority’s Relationship to the District,” “CUSTOMER BASE, RATES AND CHARGES – Components of Retail Rates and Charges – Stormwater Fee.”

Direct Payments

General. The Series 2010A Bonds are Build America Bonds, a form of “direct payment bonds” issued pursuant to the American Recovery and Reinvestment Act of 2009 (the “Recovery Act”), which allowed an issuer to apply to receive subsidy payments directly from the Secretary of the United States Treasury. An amount equal to thirty-five percent (35%) of the Authority’s semiannual interest payments on the Series 2010A Bonds is to be paid to the Authority by the federal government in the form of Direct Payments.

The Direct Payments on the Series 2010A Bonds do not constitute Revenues under the Indenture and so are not part of the pledged Net Revenues, but, upon receipt, all Direct Payments are required to be deposited by the Authority or the Trustee into the appropriate subaccount in the Subordinate Interest Account in the Subordinate Bond Fund and, upon deposit, become available to be applied solely to the purposes for which the Indenture permits funds in such subaccount, account and fund to be applied, including to pay debt service on the Series 2010A Bonds.

Rate Covenant Amendment. On October 26, 2010, the Twelfth Supplemental Indenture amended the Master Indenture to provide that, for purposes of determining the Authority’s compliance with the Rate Covenant, the amount of any Direct Payment received by the Authority or the Trustee in any Fiscal Year shall be credited against (i) Annual Debt Service on Senior Debt in such Fiscal Year if such Direct Payment is related to Senior Debt or (ii) Annual Debt Service on Subordinate Debt in such Fiscal Year if such Direct Payment is related to Subordinate Debt. This amendment became effective upon the execution of the Twelfth Supplemental Indenture.

Additional Bonds Test Amendment. The Twelfth Supplemental Indenture also amended the Master Indenture to provide that, subject to the requirements of the Master Indenture for obtaining bondholder consent, for the purposes of computing Annual Debt Service on any Direct Payment BABs or Other System Indebtedness as to which Direct Payments are expected to be made (whether previously issued or proposed to be issued by the Authority) in connection with any proposed issuance of additional Bonds or Other System Indebtedness, the amount of any Direct Payment expected to be received by the Authority or the Trustee in the then current or any future Fiscal Year shall be credited against the Annual Debt Service on such Direct Payment BABs. This amendment became effective on November 20, 2014, upon the issuance of the Authority’s Series 2014C Bonds, in connection with which the Authority obtained the required consent of a majority (specifically, 50.5%) of the Holders of the Outstanding Bonds.

No Assurances. No assurances are provided that the Authority will receive the Direct Payments. The Direct Payments do not constitute a full faith and credit guarantee of the United States of America. Such payments are required to be paid by the United States Treasury under the Recovery Act, but the amount of any Direct Payment is subject to change by the United States Congress. The Authority is obligated to make all payments of principal and interest on the Series 2010A Bonds whether or not it receives the Direct Payments pursuant to the Recovery Act.

Sequestration. Direct Payments are classified under federal budget rules as mandatory spending programs. Since 2013, mandatory spending programs, such as Direct Payments, have been subject to an automatic reduction (sequestration) pursuant to the provisions of the Budget Control Act of 2011 (the “Budget Control Act”). As a result of the sequestration, payments due to the Authority on the Series 2010A Bonds have been reduced in the following approximate amounts: (i) \$248,000 (4.3%) (Fiscal Year 2013), (ii) \$411,000 (7.2%) (Fiscal Year 2014), (iii) \$417,000 (7.3%) (Fiscal Year 2015), (iv) \$400,000 (7.0%) (Fiscal Year 2016), (v) \$394,000 (6.9%) (Fiscal Year 2017), (vi) \$377,000 (6.6%) (Fiscal Year 2018), and (vii) \$354,000 (6.2%) (Fiscal Year 2019).

According to the Report of the Office of Management and Budget (“OMB”) to the Congress for Fiscal Year 2020, and as confirmed by the Internal Revenue Service, interest subsidy payments to issuers of direct payment bonds processed on or after October 1, 2019, through and including September 30, 2020, will be reduced by 5.9%, unless intervening Congressional action changes the reduction percentage.

Under the Budget Control Act there may be additional sequester orders for future fiscal years through and including fiscal year 2029. Any such additional sequester order signed by the President may or may not establish a different reduction value. The Authority cannot predict what percentage, if any, cuts may be made to Direct Payments in the future. The projected financial operations of the Authority, as presented herein (see “FINANCIAL OPERATIONS – Projected Financial Operations”), assume that Direct Payments will be 32% of the interest payments on Series 2010A Bonds in each year starting in Fiscal Year 2021. The projected debt service shown in “DEBT SERVICE REQUIREMENTS – Outstanding Senior and Subordinate Debt” reflects the known subsidy reduction of 5.9% for Fiscal Year 2020, and assumes Direct Payments equal to 32% of the interest payments on Series 2010A Bonds in each year starting in Fiscal Year 2021. The Authority is obligated to make all payments of principal of and interest on the Series 2010A Bonds whether or not such Direct Payments are received.

Limited Remedies of Holders of Subordinate Debt

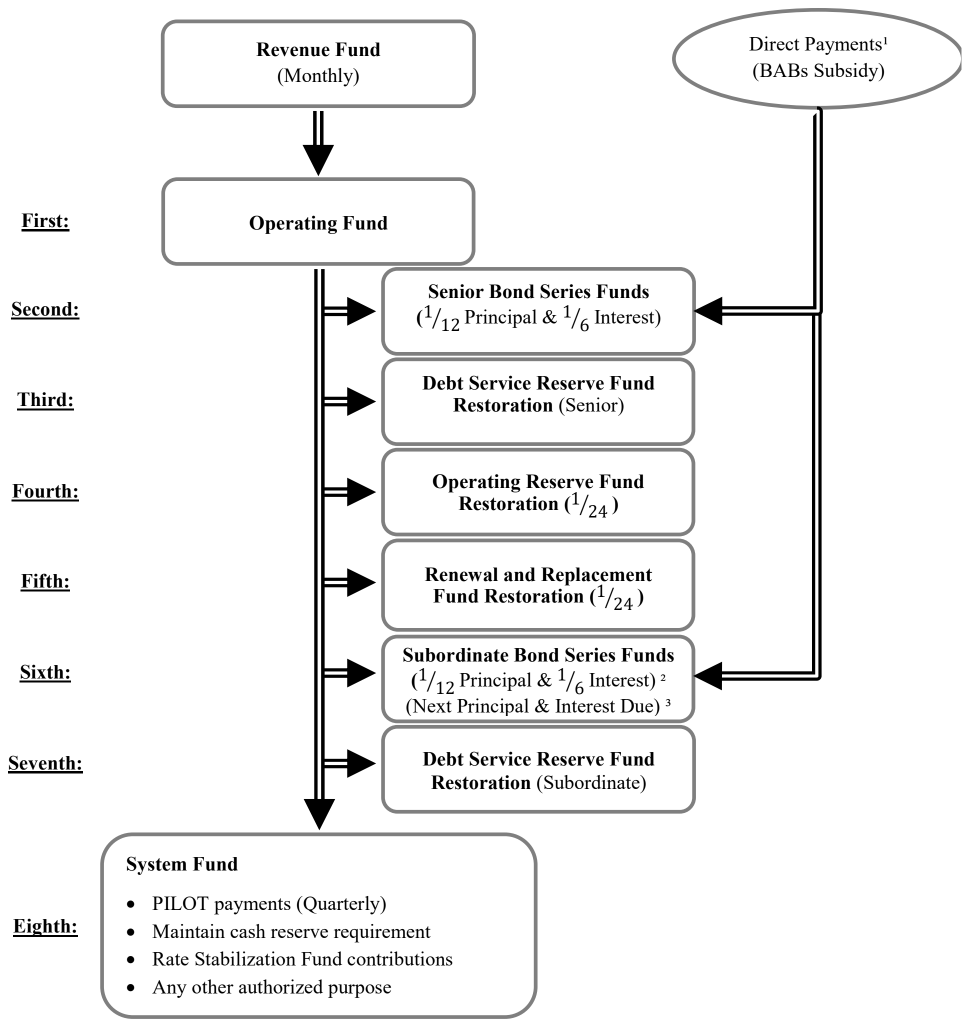
The Indenture prohibits the acceleration of Subordinate Debt if any Senior Debt (including Bonds) is outstanding. The Indenture confers upon the holders of not less than 25% of the aggregate principal amount of

Outstanding Bonds (which includes Senior Debt only, not Subordinate Debt) the right to direct the Trustee to protect and enforce their rights by mandamus or other suit, action or proceeding, and confers upon the holders of a majority of the aggregate principal amount of Outstanding Bonds the right to direct the method and place of conducting all proceedings to be taken in connection with the enforcement of the terms and conditions of the Indenture or any other proceedings under the Indenture, in accordance with the provisions of law and the Indenture. The Indenture does not confer those rights upon any specified percentage of the holders of Subordinate Debt.

Flow of Funds

The Authority deposits all revenues, as received, in the Revenue Fund. The chart below depicts a simplified flow of Revenues required by the Indenture after being deposited into the Revenue Fund. This chart is for illustrative purposes only, is in no way comprehensive or definitive, and must be read in conjunction with the entire Official Statement.

Indenture Revenue Flow of Funds



[1] The Twelfth Supplemental Indenture amended the above-described deposit requirements in the Master Indenture by providing that, upon receipt of any Direct Payment, the Authority or the Trustee shall cause it to be deposited (i) in the appropriate subaccounts in the Interest Account in the Bond Fund if such Direct Payment relates to Bonds or Other System Indebtedness, and (ii) in the appropriate subaccount in the Subordinate Interest Account in the Subordinate Bond Fund if such Direct Payment relates to Subordinate Debt, and shall cause it to be applied solely to the purposes to which the Indenture permits funds in such subaccount, account and fund to be applied.

[2] For fixed rate Subordinate Debt

[3] For variable rate Subordinate Debt

Pursuant to the Indenture, all Revenues received by the Authority shall be deposited in the Revenue Fund to be held by the Authority; provided, however, that upon an Event of Default, the Authority will transfer all amounts in all Authority-held funds to the Trustee, and the Trustee shall hold such moneys in trust for the benefit of the holders of Indebtedness.

Each month, the Authority shall transfer from the Revenue Fund to the Operating Fund an amount sufficient to pay Operating Expenses during such month. Thereafter, Net Revenues shall be disbursed on the last Business Day of each month in the following order (as noted above, the term "Series of Bonds" refers to Senior Debt):

i. To the subaccounts in the Interest Account established for each Series of Bonds the amounts, if any, set forth in the applicable Supplemental Indentures with respect to each Series of Bonds, and an amount equal to 1/6 of the interest due on each Series of Bonds to pay interest required to be paid on any interest payment date related to such Series of Bonds.

ii. On a parity with (i) above, to the subaccounts in the Principal Account established for each Series of Bonds and Sinking Fund Account in the Bond Fund the amounts, if any, set forth in the applicable Supplemental Indentures with respect to each Series of Bonds and an amount equal to 1/12 of the principal due on each Series of Bonds.

iii. To the applicable Account in the Debt Service Reserve Fund with respect to each Series of Bonds the amounts, if any, necessary to restore the amount on deposit therein to the related Series Debt Service Reserve Requirement. For a description of the requirements for and the uses of the Debt Service Reserve Fund, see "Certain Reserve Funds – Debt Service Reserve Fund and Subordinate Debt Service Reserve Fund" below.

iv. To the Operating Reserve Fund the amounts, if any, necessary to restore the amounts on deposit therein to the Operating Reserve Requirement, which requirement shall be funded within 24 months of any withdrawal and replenished from time to time by depositing 1/24 of the Operating Reserve Requirement on the last Business Day of each month after such withdrawal, if necessary. For a description of the requirements for and the uses of the Operating Reserve Fund, see "Certain Reserve Funds – Operating Reserve Fund" below.

v. To the Renewal and Replacement Reserve Fund, to the extent that there has been a withdrawal from such fund, the amounts necessary to make the amounts on deposit therein equal to the Renewal and Replacement Reserve Requirement. Such withdrawn amounts shall be funded within 24 months by depositing in such fund 1/24 of the Renewal and Replacement Reserve Requirement on the last Business Day of each month after such withdrawal. For a description of the uses of the Renewal and Replacement Reserve Fund, see "Certain Reserve Funds – Renewal and Replacement Reserve Fund" below.

vi. To the Subordinate Bond Fund, the amount equal to the deposits to such funds and Accounts required by the related Supplemental Indentures or other documents evidencing such debt. Generally, an amount equal to 1/6 of the interest and 1/12 of the principal next due on any fixed rate Subordinate Debt shall be deposited each month, and generally an amount equal to interest and principal next due on any variable rate Subordinate Debt shall be deposited prior to any date on which such interest and principal is due.

vii. To the applicable Account, if any, in the Subordinate Debt Service Reserve Fund with respect to each Subordinate Debt issue the amounts, if any, necessary to restore the amount on deposit therein to the related Subordinate Debt Reserve Requirement or to reimburse the provider of any Qualified Reserve Credit Facility for amounts drawn thereunder and to pay related costs.

viii. To the System Fund, any moneys remaining in the Revenue Fund, after all deposits and transfers required by (i) through (vii) above have been made. Moneys in the System Fund may be used for any authorized purpose. On the following dates, moneys on deposit in the System Fund shall be used to make the following payments:

(a) on each May 15, and quarterly thereafter, to the District to make the payment in lieu of taxes (the "PILOT") required by the District Memorandum of Understanding relating to the PILOT dated January 29, 1998, as amended;

(b) on each September 1, an amount retained by the Authority in the System Fund necessary to satisfy the Cash Reserve Requirement ($125.5 million as of the date of this Official Statement); and

(c) on each September 30, to the Rate Stabilization Fund, the amount that the Board determines based on an analysis of the Authority's financial performance conducted by the CEO and General Manager (the "CEO") and reported to the Board for approval not later than its regularly scheduled meeting in July of each Fiscal Year. For a description of the uses of the Rate Stabilization Fund, see "Certain Reserve Funds – Rate Stabilization Fund" below.

The Twelfth Supplemental Indenture amended the above-described deposit requirements in the Master Indenture by providing that, upon receipt of any Direct Payment, the Authority or the Trustee shall cause it to be deposited (i) in the appropriate subaccount in the Interest Account in the Bond Fund if such Direct Payment relates to Bonds or Other System Indebtedness, and (ii) in the appropriate subaccount in the Subordinate Interest Account in the Subordinate Bond Fund if such Direct Payment relates to Subordinate Debt, and shall cause it to be applied solely to the purposes to which the Indenture permits funds in such subaccount, account and fund to be applied. See "– Pledge of Master Indenture – Direct Payments – Sequestration" above.

For a more extensive discussion of the terms and provisions of the Indenture including the security for the Series 2019A/B/D Bonds, the funds and Accounts established by the Indenture and the purposes to which moneys in such funds and Accounts may be applied, see APPENDIX C – "Glossary and Summary of the Indenture."

Certain Reserve Funds

Debt Service Reserve Fund and Subordinate Debt Service Reserve Fund. The Indenture creates a Debt Service Reserve Fund and a Subordinate Debt Service Reserve Fund, each to be held by the Trustee. The Indenture permits, but does not require, the Authority to specify a debt service reserve requirement for each issuance of Senior Debt or Subordinate Debt and to make provision for the means by which any such reserve requirements will be met. The Authority will not specify a debt service reserve requirement for the Series 2019A/B/D Bonds.

Operating Reserve Fund. The Master Indenture creates an Operating Reserve Fund in which the Authority must maintain a balance equal to at least 60 days of operating and maintenance expenses of the prior year. Money in the Operating Reserve Fund shall be used to pay, to the extent necessary, Operating Expenses of the Authority. In addition, to the extent that the amount on deposit in the Bond Fund is insufficient to make the required interest and principal payments on Senior Debt, money in the Operating Reserve Fund shall be used prior to any withdrawal from the Debt Service Reserve Fund to satisfy any such deficiencies. The Board has adopted a policy of funding operating reserves to a level in excess of that required by the Master Indenture. See " – Discretionary Reserves" below. As of March 31, 2019 the balance in the Operating Reserve Fund was $54.0 million, which represents 60 days of operating and maintenance expenses.

Renewal and Replacement Reserve Fund. The Master Indenture creates a Renewal and Replacement Reserve Fund to be held by the Authority to provide funding for unforeseen or emergency needs. Money in the Renewal and Replacement Reserve Fund may be used to pay for any capital expenditures related to the System. In addition, to the extent that the amounts on deposit in the Bond Fund and the Operating Reserve Fund are insufficient to make the required interest and principal payments on Senior Debt, money in the Renewal and Replacement Reserve Fund shall be used prior to any withdrawal from the Debt Service Reserve Fund to satisfy any such deficiencies. The Master Indenture allows this requirement to be met if an amount equal to 2% of the original cost value of plant in service, or some other amount as approved by the Board, is held by the Authority. The Board has adopted a policy requiring the Authority to maintain a balance of at least $35.0 million in the Renewal and Replacement Reserve Fund. As of March 31, 2019, the balance in the Renewal and Replacement Reserve Fund was $35.0 million.

Rate Stabilization Fund. The Master Indenture creates a Rate Stabilization Fund to be held by the Authority, the moneys in which may be transferred by the Authority to the Revenue Fund at any time. The Board has adopted a policy allowing moneys to be transferred to the Rate Stabilization Fund from the System Fund annually based on an analysis of the Authority's financial performance conducted by the CEO or designee and reported to the Board for approval during the fourth quarter of each Fiscal Year, and at other times at the direction of the Board. As of March 31, 2019, the balance in the Rate Stabilization Fund was $61.5 million. The Authority may withdraw funds from the Rate Stabilization Fund in the future to reduce rate increases that might otherwise be required. At the direction of the Board, the Authority withdrew $6 million from the Rate Stabilization Fund in Fiscal Year 2019. See "FINANCIAL OPERATIONS – Reserve Funds – Rate Stabilization Fund" and "FINANCIAL OPERATIONS – Projected Financial Operations."

Discretionary Reserves. The Board has adopted a policy of funding operating reserves at a level in excess of the 60-day operating and maintenance reserve required by the Master Indenture. To comply with the Board's policy, the Authority is required to have cash reserves equal to 120 days of budgeted operating and maintenance costs calculated on an average daily balance basis, with the objective of maintaining at least $125.5 million in operating reserves. For purposes of calculating this requirement, the balances in the Operating Reserve Fund and the Renewal and Replacement Reserve Fund are included. For Fiscal Year 2019, the operating reserves requirement is $125.5 million. As of March 31, 2019, the Authority had an operating reserve cash balance of $166.3 million which exceeded the Board's policy requirement.

Pursuant to Board policy, the Authority's reserves are independently evaluated every five years. In February 2018, Amawalk independently evaluated the adequacy of the Authority's reserves and concluded that current Board policy provides for an appropriate level of reserves. Amawalk recommended that the Board may wish to amend its current policy to require the higher of $140.0 million or 140 days of operating reserves to be consistent with the projected reserve balances in the Authority's Financial Plan. In January 2019, Authority staff recommended to further enhance the Authority's cash position and maintain a target of 250 days of cash on hand. As of March 31, 2019, there were no material differences in the balances shown above for the preceding reserve funds and the Rate Stabilization Fund.

Rate Covenant

Master Indenture Covenant. The Master Indenture includes a rate covenant (the "Rate Covenant") as described below. Rates, fees and charges are established by the Authority and are not subject to regulatory approval, nor are they subject to other regulations under current law. (For a description of the pledge of the District not to limit or alter rights vested in the Authority to fulfill agreements made with holders of its bonds, see "COVENANT BY THE DISTRICT OF COLUMBIA.") The Authority has never failed to satisfy the Rate Covenant, which provides that the Authority shall fix, charge, revise and collect rates, fees and other charges for the use of and the services furnished by the System sufficient in each Fiscal Year so that:

i. Revenues collected by the Authority in such Fiscal Year will be sufficient to pay at least: (a) the actual Operating Expenses; (b) Annual Debt Service on Senior Debt; (c) any amount necessary to be deposited in any Account in the Debt Service Reserve Fund relating to a Series of Bonds to restore the amount on deposit therein to the Series Debt Service Reserve Requirement; (d) the amount required to pay Annual Debt Service on the Subordinate Debt (including any reserves in connection therewith and the restoration thereof); (e) any amount necessary to be deposited in the Operating Reserve Fund and the Renewal and Replacement Reserve Fund to maintain the required balances therein; and (f) any amount necessary to make any PILOT payments in such Fiscal Year; and

ii. Net Revenues shall be sufficient in each Fiscal Year to be at least equal to the sum of (a) an amount equal to one hundred and twenty percent (120%) of the Annual Debt Service on Senior Debt; and (b) one hundred percent (100%) of the Annual Debt Service on Subordinate Debt.

If at the end of any Fiscal Year the Authority is not in compliance with the Rate Covenant, or if the Authority fails for three consecutive months to make the deposits required under the Indenture to the Interest Account and the Principal Account (or the Sinking Fund Account, as applicable) or there is a deficiency in a Series Debt Service Reserve Account for longer than three consecutive months, the Authority shall immediately request a Qualified Independent Consultant to submit a written report and recommendations with respect to increases in the Authority's rates, fees and other charges and improvements in the operations of and the services rendered by the System and the Authority's accounting and billing procedures necessary to bring the Authority into compliance with the Rate Covenant. The report and recommendations shall be filed with the Trustee and the Authority within 120 days from the date of discovery of noncompliance with the Rate Covenant. The Authority shall promptly revise its rates, fees and charges, and alter its operations and services to conform with the report and recommendations of the Qualified Independent Consultant to the extent permitted by law.

Deposit and Crediting of Direct Payments. The Twelfth Supplemental Indenture amended the Master Indenture to provide that, for purposes of determining the Authority's compliance with the Rate Covenant, the amount of any Direct Payment received by the Authority or the Trustee in any Fiscal Year shall be credited against (i) Annual Debt Service on Senior Debt in such Fiscal Year if such Direct Payment related to Senior Debt or (ii) Annual Debt Service on Subordinate Debt in such Fiscal Year if such Direct Payment related to Subordinate Debt. This amendment became effective upon the execution of the Twelfth Supplemental Indenture. See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Direct Payment Bonds – Sequestration."

Additional Board Policy. In addition to the Rate Covenant described above, in 1997, the Board adopted a financial policy of fixing, charging, revising and collecting rates, fees and other charges for the use of and the services furnished by the System sufficient in each Fiscal Year so that Net Revenues shall be at least equal to one hundred and forty percent (140%) of the Annual Debt Service on Senior Debt in each such Fiscal Year. See "FINANCIAL OPERATIONS – Financial Policies." To date, the Authority consistently has met or exceeded this policy goal. There can be no assurance, however, that the Board will not change this financial policy or that the Authority will continue to meet this policy goal.

Additional Senior Debt

The Indenture provides that the Authority may issue additional Senior Debt and Other System Indebtedness, including Bonds, to pay Costs of the System only upon satisfaction of certain requirements, including, among other things, receipt by the Trustee of the following:

i. evidence that upon issuance of such Bonds, each Series Debt Service Reserve Account within the Debt Service Reserve Fund will contain the applicable Series Debt Service Reserve Requirement; and

ii. either: (a) a certificate of the Authorized Representative of the Authority stating that, based on the Authority's financial records, the Authority would have been able to meet the Rate Covenant taking into account (1) the maximum Annual Debt Service on the proposed additional Series of Bonds, and (2) the rates, fees and other charges which are in effect at the time of the delivery of the proposed additional Series of Bonds; or (b) a written statement of a Qualified Independent Consultant, which projects Operating Expenses, Revenues and Net Revenues for five full Fiscal Years following the date of issuance of such proposed additional Series of Bonds, which projection does not include the actual debt service for any Indebtedness to be refunded, and which demonstrates that, on the basis of such projection, the Authority can comply with the Rate Covenant.

If any Bonds are issued to refund any Indebtedness, the Trustee must receive the following:

i. evidence that the Authority has made provision as required by the Indenture for the payment or redemption of all Indebtedness to be refunded; and

ii. either: (a) a written determination by the Authorized Representative of the Authority that the Annual Debt Service requirements for each Fiscal Year in which there will be Outstanding Indebtedness not to be refunded will not increase more than 5% over what the Annual Debt Service requirements for such Fiscal Year would have been on all Senior Debt immediately prior to the issuance of such Bonds, and that the final maturity of Indebtedness being refunded has not been extended; or (b) a certificate of the Authority stating that, based on the Authority's financial records, the Authority would have been able to meet the Rate Covenant, taking into account (1) the maximum Annual Debt Service on the proposed additional Series of Bonds, and (2) the rates, fees and other charges which are in effect at the time of the delivery of the proposed additional Series of Bonds; or (c) a written statement of a Qualified Independent Consultant, that projects Operating Expenses, Revenues and Net Revenues for five full Fiscal Years following the date of issuance of such proposed additional Series of Bonds, which projection does not include the actual debt service for any Indebtedness to be refunded, and that demonstrates that, on the basis of such projection, the Authority can comply with the Rate Covenant.

The Authority may incur or refinance Other System Indebtedness provided that: (i) the documents relating to the Other System Indebtedness acknowledge that such debt constitutes Other System Indebtedness under the Master Indenture and is subject to the applicable terms and conditions thereof, and specify the amounts and due dates of Annual Debt Service with respect to the Other System Indebtedness; (ii) the conditions of the Master Indenture regarding the issuance of Bonds have been met as if the Other System Indebtedness was an additional Series of Bonds; (iii) the Trustee receives written notice of the issuance of the Other System Indebtedness and the material terms and conditions thereof, and the Trustee shall register the holder as owner thereof as such on its books and records; and (iv) the Trustee receives an Opinion of Counsel that the documents creating the Other System Indebtedness have been duly authorized, executed and delivered on behalf of the Authority and constitute valid, binding and enforceable obligations. In connection with the incurrence of any Other System Indebtedness, the Trustee shall enter into an intercreditor arrangement with the holder of such Other System Indebtedness, the terms of which shall be determined at the time of incurrence of such Other System Indebtedness.

The Master Indenture was amended with bondholder consent to include provisions regarding the crediting of Direct Payments for the purposes of computing Annual Debt Service on any Direct Payment BABs or Other System Indebtedness as to which Direct Payments are expected to be made in connection with any proposed issuance of additional Bonds or Other System Indebtedness. See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Direct Payments – Sequestration."

Additional Subordinate Debt

Under the Indenture, the Authority may at any time issue Subordinate Debt and pledge Net Revenues thereto so long as rates, fees and charges are in effect or scheduled to go into effect to meet the Rate Covenant immediately after the issuance of such Subordinate Debt. The Authority has modified the Master Indenture to include provisions regarding the crediting of Direct Payments for the purposes of computing Annual Debt Service on any

Direct Payment BABs or other Indebtedness as to which Direct Payments are expected to be made in connection with any proposed issuance of additional Bonds, Subordinate Debt or Other System Indebtedness. See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Direct Payments – Sequestration."

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DEBT SERVICE REQUIREMENTS

Outstanding Senior and Subordinate Debt

The following tables set forth the annual principal and interest requirements for (i) Outstanding Senior Debt, (ii) Outstanding Subordinate Debt, (iii) the Series 2019A/B/D Bonds and (iv) the Series 2019C Subordinate Bonds, as well as annual and aggregate totals.

		Series 2019A/B/D Bonds									
Fiscal Year Ending September 30[1]	Outstanding Subordinate Debt	Principal	Interest	Total	Series 2019C Subordinate Bonds[11]	Refunded Subordinate Debt	Total Outstanding Subordinate Debt[1, 2, 3, 4, 5, 6, 7]	Direct payments Relating to Series 2010A Bonds	Total Subordinate Debt[10]	Outstanding Senior Debt	Total Senior and Subordinate Debt
2020	$130,988,118	$1,650,000	$16,553,500	$18,203,500	$ 1,805,556	$(14,994,250)	$136,002,924	$(5,373,250)	$130,629,674	$76,385,100	$207,014,774
2021	136,707,080	1,625,000	18,307,920	19,932,920	2,000,000	(14,994,250)	143,645,750	(5,161,933)	138,483,817	76,386,225	214,870,042
2022	137,362,379	1,650,000	18,279,272	19,929,272	2,000,000	(14,994,250)	144,297,401	(5,099,176)	139,198,225	76,385,850	215,584,075
2023	137,289,675	1,680,000	18,249,918	19,929,918	2,000,000	(14,994,250)	144,225,343	(5,033,083)	139,192,261	76,395,200	215,587,461
2024	152,473,365	1,710,000	18,219,947	19,929,947	2,000,000	(14,994,250)	159,409,062	(4,963,430)	154,445,632	61,134,725	215,580,357
2025	152,378,341	5,165,000	18,187,730	23,352,730	3,250,000	(14,994,250)	163,986,821	(4,878,673)	159,108,148	61,134,950	220,243,098
2026	152,282,487	5,375,000	17,981,551	23,356,551	3,250,000	(14,994,250)	163,894,788	(4,791,835)	159,102,954	61,133,200	220,236,154
2027	152,183,426	5,590,000	17,764,136	23,354,136	3,250,000	(14,994,250)	163,793,312	(4,702,827)	159,090,485	61,137,400	220,227,885
2028	152,095,687	5,815,000	17,535,511	23,350,511	3,250,000	(14,994,250)	163,701,948	(4,611,477)	159,090,471	61,134,950	220,225,421
2029	159,633,009	6,055,000	17,295,829	23,350,829	3,250,000	(14,994,250)	171,239,588	(4,426,435)	166,813,153	53,018,750	219,831,903
2030	159,423,544	6,305,000	17,044,301	23,349,301	3,250,000	(14,994,250)	171,028,595	(4,232,061)	166,796,534	50,157,500	216,954,034
2031	159,076,435	6,570,000	16,779,549	23,349,549	3,250,000	(14,994,250)	170,681,734	(4,034,152)	166,647,581	49,849,750	216,497,331
2032	158,990,243	6,850,000	16,500,734	23,350,734	3,250,000	(14,994,250)	170,596,726	(3,830,589)	166,766,137	53,363,500	220,129,637
2033	158,759,204	7,145,000	16,207,745	23,352,745	3,250,000	(14,994,250)	170,367,700	(3,618,456)	166,749,243	53,022,250	219,771,493
2034	160,238,264	7,455,000	15,899,673	23,354,673	3,250,000	(14,994,250)	171,848,687	(3,399,962)	168,448,725	53,023,750	221,472,475
2035	159,995,850	7,775,000	15,576,322	23,351,322	3,250,000	(14,994,250)	171,602,922	(3,174,929)	168,427,993	53,020,000	221,447,993
2036	160,033,895	8,120,000	15,230,098	23,350,098	3,250,000	(14,994,250)	171,639,743	(2,944,242)	168,695,501	53,024,500	221,720,001
2037	147,913,487	8,485,000	14,867,977	23,352,977	3,250,000	(14,994,250)	159,522,214	(2,705,427)	156,816,788	55,525,000	212,341,788
2038	146,594,099	8,865,000	14,488,960	23,353,960	3,250,000	(14,994,250)	158,203,808	(2,459,985)	155,743,823	52,574,750	208,318,573
2039	146,030,490	9,260,000	14,092,295	23,352,295	3,250,000	(14,994,250)	157,638,535	(2,207,298)	155,431,237	51,263,000	206,694,237
2040	147,172,963	9,675,000	13,677,330	23,352,330	3,250,000	(14,994,250)	158,781,043	(1,948,692)	156,832,351	51,257,750	208,090,101
2041	138,698,608	27,890,000	13,239,481	41,129,481	3,250,000	(32,769,250)	150,308,838	(971,165)	149,337,673	55,319,750	204,657,423
2042	140,395,952	67,940,000	12,211,111	80,151,111	3,250,000	(71,791,250)	152,005,813	(741,097)	151,264,717	55,316,450	206,581,167
2043	146,507,434	70,385,000	9,891,615	80,276,615	3,250,000	(71,917,250)	158,116,799	(502,723)	157,614,076	55,312,700	212,926,776
2044	146,170,915	72,915,000	7,486,714	80,401,714	3,250,000	(72,047,750)	157,774,879	(255,779)	157,519,100	55,321,450	212,840,550
2045	74,090,504	31,565,000	4,993,325	36,558,325	3,250,000	(28,200,000)	85,698,829	-	85,698,829	64,570,000	150,268,829
2046	49,159,025	32,650,000	3,909,031	36,559,031	3,250,000	(28,200,000)	60,768,056	-	60,768,056	64,569,550	125,337,606
2047	42,708,762	33,770,000	2,787,047	36,557,047	3,250,000	(28,202,000)	54,313,809	-	54,313,809	64,569,300	118,883,109
2048	42,708,463	34,935,000	1,626,170	36,561,170	3,250,000	(28,203,000)	54,316,633	-	54,316,633	60,525,500	114,842,133
2049	14,507,998	10,620,000	424,800	11,044,800	3,250,000	-	28,802,798	-	28,802,798	60,524,000	89,326,798
2050	11,873,750	-	-	-	23,250,000	-	35,123,750	-	35,123,750	30,502,750	65,626,500
2051	-	-	-	-	22,600,000	-	22,600,000	-	22,600,000	30,498,000	53,098,000
2052	-	-	-	-	21,950,000	-	21,950,000	-	21,950,000	30,499,000	52,449,000
2053	-	-	-	-	21,300,000	-	21,300,000	-	21,300,000	16,849,000	38,149,000
2054	-	-	-	-	20,650,000	-	20,650,000	-	20,650,000	16,849,000	37,499,000
2055-2014[8]	-	-	-	-	-	-	-	-	-	16,849,000	16,849,000
2105	-	-	-	-	-	-	-	-	-	44,918,000	44,918,000
2106	-	-	-	-	-	-	-	-	-	44,917,758	44,917,758
2107	-	-	-	-	-	-	-	-	-	44,918,480	44,918,480
2108	-	-	-	-	-	-	-	-	-	44,917,986	44,917,986
2109	-	-	-	-	-	-	-	-	-	44,918,053	44,918,053
2110	-	-	-	-	-	-	-	-	-	44,918,215	44,918,215
2111	-	-	-	-	-	-	-	-	-	44,917,860	44,917,860
2112	-	-	-	-	-	-	-	-	-	44,918,233	44,918,233
2113	-	-	-	-	-	-	-	-	-	44,918,340	44,918,340
2114	-	-	-	-	-	-	-	-	-	44,918,040	44,918,040
Total[9]	**$3,974,443,450**	**$505,490,000**	**$405,309,592**	**$910,799,532**	**$200,805,556**	**$(676,209,750)**	**$4,409,838,848**	**$(86,068,676)**	**$4,323,770,173**	**$3,193,185,515**	**$7,516,955,687**

[*] Certain totals may not add due to rounding. Data shown as of 10/1/2019.

[1] Amounts due October 1 are shown as debt service for the preceding Fiscal Year ending September 30 (since the amounts actually are required to be set aside in such Fiscal Year). For example, debt service payments due October 1, 2020, are shown in the Fiscal Year ending September 30, 2020.
[2] Outstanding Subordinate Debt is calculated excluding the impact of Direct Payments related to the Series 2010A Bonds. See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Direct Payments – Sequestration."
[3] Interest on Series 2016B Bonds (Environmental Impact Bonds) is calculated through the mandatory tender date of April 1, 2021 at the fixed term rate of 3.43%, and at an assumed rate of 3.25% thereafter through final maturity.
[4] The Authority currently has $29.2 million of Commercial Paper outstanding, all of which is assumed to remain outstanding upon issuance of the Series 2019A/B/D Bonds. Debt service is based on a hypothetical amortization of $29.2 million of Commercial Paper over 20 years with an assumed interest rate of 3.25%.

[5] Includes the Authority's Debt Service requirements for Government Notes associated with Jennings Randolph.

[6] Series 2014B Bonds are weekly-reset variable rate bonds payable through a Liquidity Facility provided by TD Bank, N.A., which expires on July 23, 2020. For calculation of the projected debt service requirement, the all-inclusive rate was assumed to be 2.00% in 2020, 2.50% in 2021 and 3.25% thereafter. The debt is assumed to amortize in Fiscal Year 2041 – Fiscal Year 2050.
[7] The Authority currently has $50.0 million of Extendable Maturity Commercial Paper outstanding. Debt service is based on a hypothetical amortization of 30 years with an assumed interest rate of 3.25%.
[8] Amounts shown for Fiscal Year 2055 – Fiscal Year 2104 are annual totals for each fiscal year and do not represent the cumulative total.
[9] Amounts represent cumulative totals for all fiscal years shown. Totals from consolidated rows are included.
[10] Total Subordinate Debt is calculated including the impact of Direct Payments related to the Series 2010A Bonds. With respect to the effect of sequestration on the receipt by the Authority of Direct Payments on its Series 2010A Bonds, a reduction of 5.9% was applied to 2020. Thereafter, the subsidy amount is assumed to be 32% of the interest payments. See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Amendment of the Master Indenture" and for a discussion of the effect of sequestration on the Direct Payments to be received by the Authority, see "SECURITY FOR THE SERIES 2019A/B/D BONDS – Direct Payments - Sequestration."
[11] Series 2019C Subordinate Bonds anticipated to be issued by November 6, 2019; Assumes $100.0 million in proceeds issued at par with an equal principal structure from 10/1/2050 - 10/1/2054; Assumed initial rate of 2.00% through the assumed mandatory tender date of 10/1/2024 and then assumed 3.25% thereafter.
Source: Authority records.

List of Outstanding Indebtedness

The Authority's indebtedness as of the date of this Official Statement is set forth in Table 1 below. For a summary of the annual debt service payments for the Authority's existing indebtedness, see "FINANCIAL OPERATIONS – Debt Service."

Table 1. Outstanding Indebtedness
($ in thousands)

	Original Principal Amount	Interest Rates	Final Maturity	Amount Outstanding as of 10/1/2019[1]
Senior Debt				
Series 1998 Bonds	$266,120	5.50%	2028	$109,870
Series 2014A Bonds	350,000	4.81	2114	350,000
Series 2017A Bonds	100,000	4.00-5.00	2052	100,000
Series 2017B Bonds	200,000	4.00-5.00	2044	193,760
Series 2018A Bonds	100,000	5.00	2049	100,000
Series 2018B Bonds	200,000	5.00	2049	196,675
Total Senior Debt				$1,050,305
Subordinate Debt				
Subordinate Bonds				
Series 2010A Bonds	300,000	4.07-5.52[2]	2044	300,000
Series 2012A Bonds	177,430	4.00-5.00	2037	142,665
Series 2012C Bonds	163,215	4.00-5.00	2033	163,215
Series 2013A Bonds	300,000	4.75-5.00	2048	300,000
Series 2014B Bonds	100,000	VR[3]	2050	100,000
Series 2014C Bonds	377,700	3.00-5.00	2044	376,580
Series 2015A Bonds	100,000	2.00-5.00	2045	97,420
Series 2015B Bonds	250,000	5.00-5.25	2044	250,000
Series 2016A Bonds	389,110	5.00-5.25	2039	377,575
Series 2016B Bonds (Environmental Impact Bonds)	25,000	3.43[4]	2046	25,000
Government Notes				
Jennings Randolph Reservoir Debt	$18,269	3.25%	2041	$11,640
Commercial Paper Notes[5]				
Series C CP Notes (taxable)	$29,200[6]	VR	2020[7]	$29,200
Extendable Municipal Commercial Paper Notes				
Series A EMCP Notes	$50,000[8]	VR	N/A[9]	$50,000
Total Subordinate Debt				$2,223,295
Total				**$3,273,600**

[1] Amounts outstanding do not reflect any amortization of accrued principal.

[2] Taking into account the Direct Payment subsidy, the Series 2010A Bonds had an all-in-true interest cost of 3.6%. With respect to the effect of sequestration on the receipt by the Authority of Direct Payments on its Series 2010A Bonds, see "SECURITY FOR THE SERIES 2019A/B/D BONDS – Direct Payments – Sequestration."

[3] The Series 2014B Bonds are weekly-reset variable rate bonds supported by a Liquidity Facility provided by TD Bank, N.A.

[4] Interest on Series 2016B Bonds (Environmental Impact Bonds) is calculated through the mandatory tender date of April 1, 2021 at the fixed term rate of 3.43%, and at an assumed rate of 3.25% thereafter through final maturity.

[5] Maximum amount authorized for the CP Notes (Series B CP Notes and Series C CP Notes) is $150 million; the CP Notes are supported by a Letter of Credit provided by Landesbank Hesse-Thüringen Girozentrale; the Series A CP Notes are not currently authorized for issuance.

[6] Maximum amount authorized to be outstanding at any one time for the Series C CP Notes is $50 million.

[7] Final maturity of the CP Notes reflects expiration of current credit facility.

[8] Maximum amount authorized to be outstanding at any one time for the Series A EMCP Notes is $100 million.

[9] The Series A EMCP notes are placed for an original maturity date not to exceed 90 days. At their original maturity date, the EMCP notes may be repaid, remarketed and resold as new Series A EMCP notes, or extended at the option of the Authority to an extended maturity date not greater than 270 days from their initial issuance. Should the Series A EMCP Notes be remarketed and resold, upon such resale the Series A EMCP Notes will mature on such date or dates as provided in the terms of the remarketing and resale (up to a maximum original maturity date of 90 days and a maximum extended maturity date of 270 days).

Source: Authority records.

Outstanding Senior Debt

As indicated in Table 1, as of October 1, 2019, the Authority had Senior Debt outstanding in the aggregate principal amount of $1,050,305,000 consisting of its Public Utility Senior Lien Revenue Bonds, Series 1998 (the "Series 1998 Senior Bonds"), its Public Utility Senior Lien Revenue Bonds, Series 2014A (Federally Taxable) (Green Bonds) (the "Series 2014A Senior Bonds"), its Public Utility Senior Lien Revenue Bonds, Series 2017A (Green Bonds) (the "Series 2017A Senior Bonds"), its Public Utility Senior Lien Revenue Bonds, Series 2017B (the "Series 2017B Senior Bonds"), its Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds) (the "Series 2018A Senior Bonds") and its Public Utility Senior Lien Revenue Bonds, Series 2018B (the "Series 2018B Senior Bonds"). The Authority expects to issue additional Senior Debt in the future to finance capital improvements to the System. See "CAPITAL IMPROVEMENT PROGRAM."

Outstanding Subordinate Debt

The Subordinate Debt summarized in Table 1 consists of the following categories of outstanding debt: (i) Subordinate bonds (including Environmental Impact Bonds); (ii) Government Notes; (iii) Commercial Paper Notes; and (iv) Extendable Municipal Commercial Paper Notes (the "EMCP Notes"). As of October 1, 2019, the Authority had Subordinate Debt outstanding in the aggregate principal amount of $2,223,295,266.

Subordinate Bonds. As of October 1, 2019, $2,132,455,000 of Subordinate bonds was outstanding, consisting of its Public Utility Subordinate Lien Revenue Bonds of various series listed in Table 1. The Authority expects to issue additional Subordinate bonds in the future to finance capital improvements to the System. See "CAPITAL IMPROVEMENT PROGRAM."

Environmental Impact Bonds. On September 29, 2016, the Authority issued $25 million of tax-exempt Public Utility Subordinate Lien Revenue Bonds, Series 2016B (Environmental Impact Bonds) (the "Series 2016B Bonds"). The Series 2016B Bonds are multimodal variable rate bonds, initially issued bearing a 3.43% fixed rate through the mandatory tender date, April 1, 2021. The Series 2016B Bonds are the Authority's first environmental impact bonds to finance green infrastructure. The Series 2016B Bonds are designated as environmental impact bonds and, as such, include provisions for the possibility of an outcome payment by the Authority to the original purchasers of the Series 2016B Bonds, and for the possibility of a risk share payment by such original purchasers to the Authority depending upon the results achieved by the green infrastructure financed with the proceeds of the Series 2016B Bonds. The potential outcome payment by the Authority is an unsecured obligation and is estimated to be $3.3 million, due in Fiscal Year 2021. The net proceeds of the issuance are being used for construction of green infrastructure for the Rock Creek Project A (RC-A). The green infrastructure is designed to mimic natural processes to absorb and slow surges of stormwater during periods of heavy rainfall, reducing the incidence and volume of combined sewer overflows that pollute the District's waterways. As of October 1, 2019, $25 million of the Series 2016B Bonds was outstanding.

WIFIA Loans. The Authority has applied for loans to finance a portion of its CIP pursuant to the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA), a federal credit program administered by EPA for eligible water and wastewater infrastructure projects. The application amount is a total of $144 million to be disbursed over multiple years. If such loans are approved, it is anticipated that (i) the amount of the bonds issued in future years by the Authority will be reduced by the principal amount of the loans received from the WIFIA program; and (ii) the annual debt service payments on such loans will be approximately equal to or less than the debt service that would be required if the Authority issued bonds in lieu of accepting the loan proceeds.

Government Notes. The Authority is responsible for debt service on notes payable to the federal government for the construction of the Jennings Randolph Reservoir. As of October 1, 2019, $11,640,266 of Government Notes was outstanding. Upon the issuance of the Series 2019A/B/D Bonds, the amount of outstanding Government Notes will remain unchanged.

Commercial Paper Notes. The Authority has established a commercial paper program to provide interim financing for Costs of the System, consisting of three series of notes, each as Subordinate Debt: (i) the tax-exempt Series A CP Notes, which are currently not authorized or enhanced by a liquidity facility (although the Authority has the right to authorize the Series A CP Notes in the future), (ii) the tax-exempt Series B CP Notes in an aggregate principal amount not to exceed $100 million, and (iii) the taxable Series C CP Notes in an aggregate principal amount not to exceed $50 million (collectively, the "Commercial Paper Notes"). To provide liquidity and credit support for the Series B CP Notes and the Series C CP Notes, the Authority obtained irrevocable, direct-pay letters of credit (the "Letters of Credit") issued by Landesbank Hessen-Thüringen Girozentrale, New York Branch (the "Bank") which expire on May 15, 2020. In connection with the Bank's issuance of the Letters of Credit, the Authority and the Bank entered into a Reimbursement Agreement for each series of CP Notes, each dated as of May 1, 2015, each as amended (collectively, the "Reimbursement Agreements") that obligates the Authority to pay Bank Obligations and Reimbursement Obligations (both as defined in the Eleventh Supplemental Indenture relating to the Commercial Paper Notes) and Fee Obligations (as defined in each Reimbursement Agreement) to the Bank. The Bank Obligations, the

Reimbursement Obligations and Fee Obligations are Subordinate Debt under the Indenture. As of October 1, 2019, $29.2 million of the Series C CP Notes was outstanding.

Extendable Municipal Commercial Paper Notes. The Authority has established an extendable municipal commercial program to provide an additional source of interim financing for Costs of the System. The EMCP Notes are not supported by a credit facility or credit enhancement, but instead are solely supported by a subordinate lien on and pledge of Net Revenues on a parity with the lien on and pledge of Net Revenues that secures Outstanding Subordinate Debt and any other Subordinate Debt that the Authority may issue in the future. The Board has authorized one series of EMCP Notes not to exceed $100 million outstanding at any one time. As of October 1, 2019, $50 million of the EMCP Notes was outstanding.

Interest Rate Exchange Agreements and Guaranteed Investment Contracts

The Authority has not previously entered into any interest rate exchange agreements or any guaranteed investment contracts.

THE AUTHORITY

General

The Authority is a corporate body and an independent authority created pursuant to the Act that has a separate legal existence within the District government. It was created in 1996 to expedite the repair, replacement, rehabilitation, modernization and extension of existing water distribution and sewage collection, treatment and disposal systems, and the financing, on a self-sustaining basis, of capital and operation expenses relating thereto. The Authority began operations on October 1, 1996, and in June 2010, adopted a new logo and rebranded itself as "DC Water." Prior to creation of the Authority, the District, through its Department of Public Works, Water and Sewer Utility Administration ("WASUA"), owned, operated and maintained the System. In accordance with the Act, the District authorized the Authority to use all of the property and assets of the System and transferred to the Authority any liabilities of the District that were directly attributable to the System. The District has retained full legal title to, and a complete equitable interest in, the System. In accordance with the Act, however, the System must remain under the control of the Authority for as long as any Authority revenue bonds remain outstanding.

The Authority currently provides retail water and wastewater services to approximately 700,000 residents of the District of Columbia and wholesale wastewater conveyance and treatment to approximately 1.6 million residents of Prince George's and Montgomery Counties in Maryland and Fairfax and Loudoun Counties in Virginia. In addition, the Authority annually serves approximately 22.0 million visitors to the area and approximately 800,000 workers in the District. In addition to providing services to the White House, the U.S. Congress and the Supreme Court, the Authority also counts among its customers a number of international organizations, including the International Monetary Fund and numerous diplomatic embassies. The Authority also provides services to a number of nationally recognized cultural and educational institutions, including the John F. Kennedy Center for the Performing Arts, and Georgetown, Howard, American, Catholic and George Washington Universities.

The Authority operates the largest advanced wastewater treatment facility in the United States and is in material compliance with all requisite permits. Since its creation as an independent authority of the District, the Authority has become a leader in the water and wastewater industry. The Board has provided stable leadership and a focus on establishing long-term policies and planning, particularly financial stability. Under its leadership, the Authority has adopted and implemented financial and rate-setting policies that have enhanced financial performance. The Authority's unrestricted cash, cash equivalents and investment balances have increased from $55.8 million as of September 30, 1998, to $232.0 million as of September 30, 2018. The Authority's operating revenues have increased from $258.4 million in Fiscal Year 1998 to $684.5 million in Fiscal Year 2018.

The Authority's accomplishments are consistently recognized by industry associations and publications. The Government Finance Officers Association ("GFOA") has given the Authority the Certificate of Achievement for Excellence in Financial Reporting Program every year since 1997, and the Distinguished Budget Presentation Award every year since 2001. In 2016, the Authority also received the Excellence in Government Finance Award, and the Excellence in Public Finance Award for its Environmental Impact Bond, both from the GFOA, the Healthiest Employer Award from *SmartCEO*, the Utility of the Future Award from the *National Association of Clean Water Agencies*, and the Non-Traditional Deal of the Year from *The Bond Buyer* for its Environmental Impact Bond.

In 2017, the Authority received (i) the Utility of the Future in Beneficial Biosolids Refuse from *WEF/WERF/NACWA/EPA*, (ii) the Platinum Peak Performance Award for 5 years of 100% compliance with NPDES requirements from the *National Association of Clean Water Agencies*, (iii) the "Unbuilt" Award and Jurors' Citation in Conceptual Unbuilt Architecture for the Authority's Headquarters Building from the *American Institute of Architects, Maryland and Northern Virginia Chapters*, (iv) the Tunneling Achievement Award for the Blue Plains Tunnel from *Breakthroughs in Tunneling*, (v) the Project of the Year, Water/Environment Project of the Year overall and for the Mid-

Atlantic for the Blue Plains Tunnel from *Engineering News Record*, (vi) the Sustainability Initiative of the Year for the Anacostia River Tunnel from the *International Tunneling Awards*, (vii) Excellence in Concrete Award for the First Street Tunnel from *National Capital Chapter American Concrete Institute*, and (viii) 100 Best Fleets and Green Fleet Awards from *National Association of Fleet Administrators*, and (ix) Leading Fleet Award from *Government Fleet*.

In 2018, the Authority received (i) the Utility of the Future Award from the *National Association of Clean Water Agencies,* (ii) Honorable Mention in the Spaces, Place and Cities category in the 2018 Innovation by Design Awards Program by *Fast Company*, (iii) Global Best Project Award – Award of Merit in Water/Wastewater for the Anacostia River Tunnel project from *Engineering News-Record*, (iv) Mid-Atlantic Best Project Awards – Award of Merit Water/Wastewater for the Anacostia River Tunnel from *Engineering News-Record*, (v) Tunneling and Underground Space Award – Sustainability Initiative of the Year from the *International Tunneling Association* for the DC Clean Rivers Project, (vi) 2018 Outstanding Shotcrete Project of the Year in the Underground Category from the *American Shotcrete Association* for the Tuber Creek Sewer Repair, (vii) Excellence in Dispute Avoidance and Resolution Award from the *Disputes Review Board Foundation*, (viii) Distinguished Budget Presentation Award from the *Government and Finance Officers Association*, (ix) Certificate of Achievement for Excellence in Financial Reporting from *the Government and Finance Officers Association*, (x) 100 Best Fleets from *National Association of Fleet Administrators*, (xi) Platinum Peek Performance Award recognizing 100 percent compliance with the NPDES permit limits for a consecutive five-year period from *National Association of Clean Water Agencies*, (xii) Certification in Business Continuity Management System, (xiii) Conditional Accreditation from the *Emergency Management Accreditation Program*.

Purposes and Powers

The Act requires the Authority to establish, fix and revise fees, rates or other charges for the use of, or services furnished, rendered or made available by the System, owned, leased or utilized by the Authority at least in an amount sufficient, together with other revenues available to the Authority, if any, to pay its costs, the principal of and interest on and other requirements pertaining to its bonds, and to make transfers to the District of amounts equal to the debt service payments on the District General Obligation Bonds, which financed WASUA capital projects, as such debt service and transfers become due and payable. All such General Obligation Bonds are now retired.

Pursuant to the Home Rule Act, the Council delegated to the Authority, under the Act, its power to issue revenue bonds, including the Series 2019A/B/D Bonds, for the purpose of financing "water and sewer facilities" (as such term is defined in the Home Rule Act). Pursuant to the Home Rule Act and the Act, the Authority is required to submit its annual operating budget to the District for its review and recommendations; however, the District has no power to change the annual budget of the Authority. After receiving the Authority's budget, the District then submits its annual operating budget, of which the Authority's budget is a part, to the U.S. Congress for approval. See "– Authority's Relationship to the District" and "FINANCIAL OPERATIONS – Annual Budget."

Board of Directors

The Authority is governed by a Board of Directors consisting of 11 principal and 11 alternate members, each appointed for a staggered four-year term. Six principal members (appointed by the Mayor of the District with the advice and consent of the Council) represent the District and five principal members (appointed by the Mayor on the recommendations of the User Jurisdictions) represent the User Jurisdictions, two each from Prince George's and Montgomery Counties in Maryland, and one from Fairfax County, Virginia. The powers of the Authority are vested in and exercised by the Board at meetings duly called and held where a quorum of at least six members is present. All Board members participate in decisions directly affecting the management of joint-use facilities which are those facilities used by all three jurisdictions. Only the six members appointed to represent the District participate in those matters that affect District ratepayers and in setting rates, fees and charges for various services that affect only District residents. The Board meets monthly and operates through various standing and ad-hoc committees. The committees include Environmental Quality and Operations, Finance and Budget, Human Resources and Labor Relations, Audit, Strategic Planning, Governance, and District of Columbia Retail Water and Sewer Rates. The current principal members of the Board are listed below.

Principal Board Members	Appointing Authority	Term Start Date*	Term Expiration
Tommy Wells, Chairman	District of Columbia	December 2016	September 2020
Randy Bartlett	Fairfax County	February 2019	September 2019
Ellen O. Boardman	District of Columbia	July 2013	September 2020
Krystal J. Brumfield	District of Columbia	December 2018	September 2022
Rachna Bhatt	District of Columbia	July 2012	September 2022
David Franco	District of Columbia	May 2017	September 2019
Floyd Holt	Prince George's County	February 2019	September 2022
Fariba Kassiri	Montgomery County	June 2019	May 2020
Adam Ortiz	Montgomery County	June 2019	May 2020
Major F. Riddick, Jr.	Prince George's County	March 2019	September 2022
Emile Thompson	District of Columbia	December 2016	September 2020

* Term start date indicates start of the Board member's initial term as a principal member.

Source: Authority records.

The following are short biographies of the principal members of the Board.

Tommy Wells (District of Columbia)

Mr. Wells was appointed as principal member of the Board in December 2016 and as chairman of the Board in September 2017. Mr. Wells has served as the Director of the District of Columbia Department of Energy & Environment since January 2015. He is chiefly responsible for protecting the environment and conserving the natural resources of the District of Columbia. Mr. Wells served as the District Council member representing Ward 6 from 2006 until 2014. During his time on Council, he garnered broad support for his efforts to make the District livable and walkable for all. In 2009, Mr. Wells crafted *The Anacostia River Clean Up and Protection Act of 2009*, to implement a $0.05 fee on disposable bags. This landmark legislation prompted thousands of District residents to curb use of plastic bags and, instead, opt for reusable green alternatives. Mr. Wells earned a Bachelor of Science in Psychology from the University of Alabama, a Juris Doctor from the Columbus School of Law at Catholic University and a Master of Social Work from the University of Minnesota.

Randy Bartlett (Fairfax County)

Mr. Bartlett was appointed a principal member of the Board in 2019. Mr. Bartlett was appointed director of Fairfax County's Department of Public Works and Environmental Services in November 2018. He has more than 40 years of public works and private engineering experience, including serving as Public Works director in Bedford, VA., Blacksburg, VA., and Arlington County, VA. Mr. Bartlett's areas of responsibility have included water treatment and distribution and wastewater collection and treatment. Prior to his current position, Mr. Bartlett served as the deputy director, leading Fairfax County's Wastewater and Stormwater Management programs. He is a registered engineer in the Commonwealth of Virginia. Mr. Bartlett received a Bachelor of Science in Civil Engineering from Virginia Tech.

Ellen O. Boardman (District of Columbia)

Ms. Boardman was appointed as a principal member of the Board in 2013. Ms. Boardman is a partner at O'Donoghue & O'Donoghue LLP. Prior to joining O'Donoghue & O'Donoghue LLP in 1986, Ms. Boardman served as an attorney for the National Labor Relations Board. Ms. Boardman is a member of the District of Columbia and Maryland bar associations, numerous federal district and appellate courts, and the U.S. Supreme Court. Ms. Boardman is a fellow of the College of Labor and Employment Lawyers, and is listed as a Washington, D.C. Super Lawyer. Ms. Boardman holds a Bachelor of Arts in History from Catholic University and a Juris Doctor from the Columbus School of Law at Catholic University.

Krystal J. Brumfield (District of Columbia)

Ms. Brumfield was appointed as a principal member of the Board in 2018. Ms. Brumfield currently serves as the President and Chief Executive Officer of the Airport Minority Advisory Council (AMAC), a non-profit dedicated to promoting the full participation of minority-owned, women-owned and disadvantaged business enterprises (M/W/DBEs) in contracting opportunities and professional development throughout the aviation and aerospace industries. As President and CEO, Ms. Brumfield works consistently with Congress, the Federal government, aviation trade associations and others serving as a resource for information, education and guidance on business and employment matters. She also provides leadership to AMAC's strategic planning process and implements new programmatic strategic initiatives. Ms. Brumfield previously served as the Vice President and Chief Operating Officer at the DC Chamber of Commerce where she was responsible for developing, implementing, and managing the operational aspects of the annual budget. A graduate of Southern University with a Bachelor of Science in Accounting, Ms. Brumfield earned a Juris Doctorate from the Southern University Law Center, and obtained a Master of Laws in Taxation from the University of Florida Levin College of Law.

Rachna Bhatt (District of Columbia)

Ms. Bhatt was appointed as a principal member to the Board in July 2012. Ms. Bhatt serves as Director at HRGM Corporation, and has been with HRGM since 2001. Previously, Ms. Bhatt served as an Associate for Wachovia Securities, and as a consultant for Deloitte & Touche, LLP. Ms. Bhatt serves as a board member for the Professional Women in Construction and holds a Virginia Class A Contractor's License. Ms. Bhatt holds and a Bachelor of Science in Business Administration from Georgetown University and a Master in Business Administration from The Wharton School, University of Pennsylvania, with a major in Real Estate and Management.

David Franco (District of Columbia)

Mr. Franco was appointed as a principal member to the Board in May 2017. Mr. Franco is principal of Level 2 Development. Mr. Franco co-founded several businesses in the District, including Discount Mart, Trumpets Restaurants, Tracks Nightclub, and Universal Gear. Mr. Franco is committed to helping the residents of the District and has led efforts in the past to address community needs, including preserving the 48-unit Cresthill Apartments, which created home ownership opportunities along the 14th Street corridor for low to medium income residents. Mr. Franco attended the University of Maryland, College Park.

Floyd Holt (Prince George's County)

Mr. Holt was appointed a principal member of the Board in 2019. Mr. Holt is Deputy Chief Administrative Officer for Government Infrastructure, Technology and the Environment for Prince George's County Maryland. He previously worked as Prince George's County's Deputy Director of Central Services. Mr. Holt served as Chief of University Police at Gallaudet University; the world's only liberal arts university for the deaf before joining the Washington Suburban Sanitary Commission as Chief of Public Safety and Internal Investigations. He was later appointed Director of General Services, overseeing Fleet Management and Transportation, Warehousing, Quality Assurance, Procurement and Contracting. Mr. Holt attended the University of Maryland where he received a Bachelor's Degree in Government and Politics with a minor in Law Enforcement. Mr. Holt also holds a Master's in Business Administration from Gallaudet University.

Fariba Kassiri (Montgomery County)

Ms. Kassiri was appointed principal member of the Board in 2019. Ms. Kassiri is the Montgomery County Deputy Chief Administrative Officer (DCAO) and joined the Office of the County Executive in 2006. She is responsible for assisting the Chief Administrative Officer (CAO) in managing the operations and performance of County Government. In doing so, she provides administrative oversight to the directors of County departments and ensures that departments' core activities align with the County's Effective and Sustainable priority outcome and comply with all applicable policies, procedures, and regulations. Prior to joining Montgomery County, Ms. Kassiri spent four years as Special Advisor to the Prince George's County Chief Administrative Officer, providing recommendations to the County Executive and Chief Administrative Officer on a wide array of issues, programs, and policies. Ms. Kassiri holds a Bachelor of Science degree in Civil and Environmental Engineering from the University of Colorado, and a Master's degree in Public Policy specializing in finance and management from the University of Maryland.

Adam Ortiz (Montgomery County)

Mr. Ortiz was appointed principal member of the Board in 2019. Mr. Ortiz is the Director of the Montgomery County Department of Environmental Protection, a $140 million agency with 300 employees and contractors. The Department oversees programs for watershed restoration, greenhouse gas reduction, renewable energy, sustainability, and environmental compliance. Prior to joining Montgomery County, Mr. Ortiz served as the Director of the Department of Environment for Prince George's County, Maryland, from 2012 through 2018. During his time, Mr. Ortiz oversaw stormwater management, recycling, waste management, animal services, and sustainability programs. From 2007 to 2012, Mr. Ortiz served in the administration of Governor Martin O'Malley where he focused on workforce, higher education, and veterans' affairs as Deputy Chief of Staff for Lieutenant Governor Anthony Brown. From 2005 to 2011, Mr. Ortiz served as Mayor of Edmonston, Maryland. Mr. Ortiz has a B.A. in Public Policy from Goucher College in Towson, Maryland.

Major F. Riddick, Jr. (Prince George's County)

Major Riddick was appointed principal member of the Board in 2019. Major Riddick currently serves as Acting Chief Administrative Officer for Prince George's County government, which he was appointed to in December 2018. Prior to serving as Acting Chief Administrative Officer for Prince George's County, Major Riddick served as President and CEO of Strategic Solutions Center where he worked with clients and partners to focus on technology solutions and management services to improve government efficiency. In 1995, Major Riddick was appointed Chief of Staff for the Governor of Maryland. As Chief of Staff, Mr. Riddick was responsible for the daily operations of state government and for implementing the Governor's priorities. During the last several months of state service, Major

Riddick served as Chief of Technology. In this role, he spearheaded the Governor's mission and vision to make Maryland a digital state by making technology available to all citizens of Maryland. Major Riddick was the first African-American to serve as the Governor's Chief of Staff in the State of Maryland and was the first African-American appointed Chief Administrative Officer for Prince George's County. Major Riddick holds a Bachelor's Degree in Political Science and a Master's Degree in Public Administration from Virginia Tech. He also completed the Executive Training Institute at the J.F.K School of Government, Harvard University.

Emile C. Thompson (District of Columbia)

Mr. Thompson was appointed as a principal member to the Board in December 2016. Mr. Thompson currently serves as an Assistant United States Attorney for the District of Columbia. Prior to that role, Mr. Thompson served as the Chief of Staff to the Deputy Mayor for Public Safety and Justice in the Bowser Administration. In that capacity, Mr. Thompson advised the Deputy Mayor on policies and initiatives throughout the cluster. Mr. Thompson began his legal career as law clerk to the Honorable Herbert B. Dixon, Jr. of the D.C. Superior Court. Mr. Thompson earned a Bachelor of Science in Computer Science from Morehouse College and a Juris Doctorate from the Wake Forest University School of Law.

Organizational Structure

The Authority's day-to-day operations are managed by the Chief Executive Officer (CEO), who is appointed by the Board. The CEO is supported by the Chief Financial Offer and Executive Vice President, Finance and Procurement (CFO); the Chief of Staff; the Executive Vice President, Operations and Engineering; the Executive Vice President, Performance; the Executive Vice President, Administration; and the Executive Vice President, Customer Service. Also reporting to the CEO is the Executive Vice President, Legal Affairs and the Executive Vice President of People and Talent.

The CFO oversees the departments of Finance, Accounting, Budget and Rates and Revenue, and Procurement. The Chief of Staff is responsible for the evaluation, oversight and implementation of all Authority business-related processes, policies, operating procedures. The Executive Vice President of Operations and Engineering oversees Water Operation and Water Quality, Engineering, Wastewater, Permit Operation, and Clean Rivers. The Executive Vice President of Administration oversees Security, Safety, Emergency Management, Fleet Management, and Facilities Management.

The Executive Vice President of Performance oversees Sustainability & Watershed Management, Integration & Delivery, Business Performance Management, and Enterprise Program Management. The Executive Vice President of Customer Experience oversees Customer Care, Marketing & Communication, Business Relations, IT (Infrastructures and application).

Senior Management

The Authority has in place a senior and mid-level management team with a broad range of private and public sector utility experience. The following are short biographies of key members of the Authority's senior management.

David Gadis, CEO and General Manager

Mr. Gadis was appointed CEO and General Manager in 2018. Mr. Gadis brings 20 years of industry experience to the role, most recently as Executive Vice President of Veolia North America (VNA), where he led North American business development operations, and was responsible for corporate growth and $3 billion in revenue. Mr. Gadis has been a frequent presenter at utility and government services conferences, including the U.S. Conference of Mayors, speaking on both Underground Infrastructure and Managing Utilities, as well as the National League of Cities and the National Association of Public Private Partnerships. Mr. Gadis earned a basketball scholarship to Southern Methodist University and was a four-year basketball player and team captain before graduating from SMU with a B.A. in Marketing Communications.

Matthew T. Brown, CFO and Executive Vice President, Finance and Procurement

Mr. Brown was appointed CFO and Executive Vice President, Finance and Procurement in 2017. From 2015 until his appointment as Chief Financial Officer and Executive Vice President, Finance and Procurement, Mr. Brown served as a principal member and chairman of the Board and as the Director of the Office of Budget and Finance. Mr. Brown previously served as the Director of the Office of Budget and Finance for the District of Columbia. Prior to that position, Mr. Brown served as the Director of the District's Department of Transportation. Mr. Brown began his career with the New York Office of Management and Budget and has held positions in the Milwaukee Metropolitan Sewerage District, Public Financial Management and the Washington Metropolitan Area Transit Authority. Mr. Brown holds a B.A. in Political Science from Texas Wesleyan University, and an M.P.A. in Budget and Public Finance from The George Washington University.

Biju George, Executive Vice President, Operations and Engineering

Mr. George was appointed Executive Vice President, Operations and Engineering in September 2018, after serving as Chief Operating Officer since February 2015. Mr. George is responsible for the performance management of all operations of the Authority. He participates in the implementation of the Authority's strategic plan and assists the General Manager in developing and implementing the Authority's business plans. Mr. George is the 2014 recipient of the Innovator of the Year Award from the U.S. Environmental Protection Agency. Mr. George has a bachelor's degree in mechanical engineering from the PDA College of Engineering at Gulbarga University. He is a licensed professional engineer in Ohio.

Mustaafa Dozier, Chief of Staff

Mr. Dozier assumed the position of Chief of Staff in August 2015. Mr. Dozier initially joined the Authority in 2011 as the Labor Relations Manager. Prior to joining the Authority, Mr. Dozier served as the Employment and Labor Relations Advisor to the District's Department of Public Works. Mr. Dozier holds a B.A. from Alabama State University and a J.D. from the Howard University School of Law.

Gregory A. Hope, Interim Executive Vice President, Legal Affairs

Mr. Hope was appointed Interim, EVP, Legal Affairs in December 2018, after serving as Associate General Counsel since May 2017, and Principal Counsel since 2013. Prior to joining the Authority in 2005, Mr. Hope worked as the Water Quality Manager for the District of Columbia Environmental Health Administration (now the Department of Energy and Environment) enforcing District water quality laws and regulations in water and wastewater regulatory compliance, enforcement, management and engineering. Mr. Hope holds a B.S. in Chemical Engineer from Howard University and a JD from the University of Maryland. Mr. Hope is a Patent Attorney before the U.S. Patent and Trademark Office. Mr. Hope is admitted to practice law in the District of Columbia, Maryland, the Court of Appeals for the Federal Circuit, and the U.S. Supreme Court.

Leonard R. Benson, Senior Vice President CIP Project Delivery

Mr. Benson was appointed Senior Vice President CIP Project Delivery in September 2018, after serving as Chief Engineer since August 2010, and previously serving as Acting Chief Engineer and Deputy General Manager since May 2008. Mr. Benson transferred to the Authority as Director of Engineering and Technical Services from its predecessor agency when the Authority was created in 1996. Mr. Benson began his career as a Project Manager for the District of Columbia's Department of Highways and Traffic in 1968 and later transferred to the Department of Sanitary Engineering and successor agencies including the Department of Environmental Services and the Department of Public Works. Mr. Benson holds a B.S. in Civil Engineering from the University of Maryland.

Carlton Ray, Director of DC Clean Rivers Project

Mr. Ray joined the Authority in July 2009, and is responsible for the planning, design, construction and implementation of the DC Clean Rivers Project. The 20-year, $2.4 billion project is designed to capture nearly all combined sewer overflows to the Potomac and Anacostia Rivers and to the Rock Creek during periods of wet weather through a system of deep underground tunnels. Previously, Mr. Ray managed the capital program for the City of Indianapolis, including successfully developing and managing a similar combined sewer overflow abatement program. Mr. Ray has over 30 years' experience in water and wastewater engineering and holds a B.S. in Civil Engineering from Auburn University.

Aklile Tesfaye, Vice President, Wastewater Operations and Engineering

Mr. Tesfaye joined the Authority in 1994. Mr. Tesfaye formerly served as the Director of Wastewater Treatment Operations for the Authority. Mr. Tesfaye is a licensed engineer with the American Academy of Environmental Engineers, and holds several other professional certifications. Mr. Tesfaye received a B.S. in Civil Engineering from the University of Rourke (India; now known as Indian Institute of Technology), an M.S. in Civil Engineering from Tampore University of Technology (Finland) and an M.S. in Environmental Engineering from the University of Maryland (College Park).

Maureen Holman, Executive Vice President, Administration

Ms. Holman has been with DC Water for almost a decade, serving in the Office of the CEO, and was appointed EVP, Administration in November, 2018. Prior to joining DC Water, Ms. Holman served as Interim Director of the District Department of Energy & Environment and as a senior policy analyst in the Office of the City Administrator. Ms. Holman represents DC Water on the Metropolitan Washington Council of Governments Climate, Energy, and Environmental Policy Committee and the DC Green Building Advisory Council; while also serving a Mayoral appointee to the DC Urban Forestry Advisory Committee, the DC Commission on Climate Change and Resiliency and the Leadership Council for a Cleaner Anacostia River. Ms. Holman holds a bachelor's degree in environmental studies from the University of Southern California, a juris doctorate from the University of Georgia School of Law, and a graduate environmental ethics certificate from the UGA College of Environment and Design.

Authority's Relationship to the District

General. In accordance with section 207(e) of the Act, the District retained full legal title to, and a complete equitable interest in, the System; however, the System must remain under the control of the Authority for as long as any Authority revenue bonds remain outstanding. The District also has the power to appoint certain Board members, see "– Board of Directors" above.

According to the Home Rule Act, as amended by the "District of Columbia Water and Sewer Authority Independence Preservation Act," P.L. 110-273, enacted by the Congress on July 15, 2008, (i) the authority of the District's Chief Financial Officer to hire, supervise and remove certain financial management employees, set forth in Section 424A of the Home Rule Act (D.C. Official Code Section 1-204.25), does not apply to personnel of the Authority and (ii) the financial management, personnel and procurement functions and responsibilities of the Authority shall be established exclusively pursuant to the rules and regulations adopted by the Board.

Pursuant to the Home Rule Act and the Act, the Authority is required to submit its annual operating budget to the District for its review and recommendations; however, the District has no power to change the annual budget of the Authority. After receiving the Authority's budget, the District then submits its annual operating budget, of which the Authority's budget is a part, to the U.S. Congress for approval. See "FINANCIAL OPERATIONS – Annual Budget."

The Act provides that, subject to the provisions made by the Authority for security of revenue bonds, all revenues, proceeds, and moneys (except those collected or received from the stormwater fee) which are collected or received by the Authority will be credited to a segregated fund and will not, at any time, be transferred to, lapse into, or be commingled with the General Fund of the District or any other funds or accounts of the District, except for limited circumstances under which funds will be transferred to the District to pay for goods and services and property contracted for by the Authority from the District, or as otherwise authorized by law. See "SECURITY AND SOURCE OF PAYMENT FOR THE SERIES 2019A/B/D BONDS – Lien on and Pledge of Net Assets – *Segregated Funds*."

The Act also provides that, except as provided in the Act, the District will not limit or alter rights vested in the Authority to fulfill agreements made with holders of Authority bonds, or in any way impair the rights and remedies of the holders of Authority bonds. See "COVENANT BY THE DISTRICT OF COLUMBIA."

The DC Water Consumer Protection Amendment Act of 2018, DC Law 22-299, effective April 11, 2019 (the "OPC Act"), amended the Act authorizing the Office of the People's Counsel, an independent agency of the District of Columbia government to (1) represent District of Columbia rate payers at DC Water administrative hearings; (2) represent the interests of and advocate for District of Columbia ratepayer's at public hearings; (3) represent and advocate for District of Columbia ratepayers at proceedings before local and federal regulatory agencies and courts; (4) investigate the services given by, and the rates charges by, the Authority; and (5) advise and educate the Authority customers about their legal rights and responsibilities pursuant to the rules governing service by the Authority. The OPC Act also requires the Authority to provide the public at least 45 days notice to consider adjustments to water and wastewater rates before a public hearing is held and to provide a written response to the OPC if it submits any written comments on the establishment or adjustments of water and wastewater rates. The OPC Act will not have a material impact on the Authority or its finances. See "Customer Base, Rates and Charges – Customer Assistance Programs".

The Fiscal Year 2019 Budget Support Act of 2018, D.C. Law 22-168, effective October 30, 2018 (the "Budget Act"), amended the Act authorizing the Mayor to establish a financial assistance program to assist residential and nonprofits organizations located in the District with their payment of the Clean Rivers Impervious Area Charge. The District also included $7 million to fund the programs. On December 28, 2018, DC Water expanded its Customer Assistance Program (CAP) to establish the CAPII program to provide benefits to customers whose household income exceeded the current CAP program of 60% of the state median income, but below 80% of the area median income. DC Water also transferred $6 million from its Rate Stabilization Fund to fund this program. Based on the level of customer participation in these programs during FY 2019, and the amount of funds remaining, the District and DC Water plan to carryover the remaining funds into FY 2020. The Budget Act will not have a material impact on the Authority or its finances.

Memoranda of Understanding. The Authority is presently operating under, and is in compliance with, the following Memoranda of Understanding (each, a "Memorandum of Understanding" or "MOU") with the District.

- A January 29, 1998, Memorandum of Understanding provides that the Authority will pay the District a PILOT for government services it receives from the District (the "1998 PILOT MOU"). This MOU provides that, beginning in Fiscal Year 1999, the annual PILOT will be based on the amount due from the Authority to the District for the previous Fiscal Year plus a percentage increase in an amount equivalent to the Authority's System-wide rate increase for the current Fiscal Year. The District and the Authority amended the 1998 PILOT MOU pursuant to a September 4, 2014 Memorandum of Understanding, as amended and restated on December 15, 2014 (the "2014 PILOT MOU"). According to the 2014 PILOT MOU, the amount of the PILOT payment increases by two percent per annum based on the amount of the prior year's annual PILOT payment. In addition, the Authority will deduct one-fourth of the annual fire protection service fee for services provided by the Authority to the District from the annual PILOT payment. In Fiscal Year 2018, the Authority made a PILOT payment to the District in the amount of $16.3 million. The 2014 PILOT MOU will remain in effect until September 30, 2024. If the parties have not executed a new amendment to the 1998 PILOT MOU before September 30, 2024, the terms of the 2014 PILOT MOU will remain in force until a new amendment has been executed.

- A September 12, 2003, Memorandum of Understanding provides that the Authority will make quarterly payments to the District for its public right of way occupancy permit fee (the "2003 ROW MOU"). Under the terms of this MOU, the Authority was obligated to pay the District an annual fee of $5.1 million through September 30, 2013, the expiration date of the MOU. On October 2, 2014, the District and the Authority entered in a new Memorandum of Understanding (the "2014 ROW MOU") that amended the 2003 ROW MOU to establish the amount of the ROW Fee payment of $5.1 million to the District for Fiscal Years 2015 to 2024 and revised the expiration date to September 30, 2024. As with the 2014 PILOT MOU, if the parties have not executed a new ROW MOU before September 30, 2024, the terms of the 2014 ROW MOU will remain in force until a new amendment has been executed.

- A July 25, 2008, Memorandum of Understanding between the District Department of Energy and Environment ("DOEE") and the Authority establishes the basis for the billing and collection of a stormwater fee by the Authority on behalf of DOEE, and the transfer of those fees on a pass-through basis to DOEE. This MOU extends for one-year periods at the option of the Parties. See "THE SYSTEM – The Wastewater System – District Stormwater Permit and Management Program" and "CUSTOMER BASE, RATES AND CHARGES – Components of Retail Rates and Charges."

- A May 3, 2013, Memorandum of Understanding between the District of Columbia Fire and Emergency Medical Services Department ("FEMS") and the Authority memorializes the ongoing commitment between the two agencies to share information about public fire hydrant inspections and upgrades. The Authority is required to inspect all public fire hydrants once per year in accordance with National Fire Protection Association ("NFPA") guidelines, and FEMS may, as time permits, also conduct a second inspection of fire hydrants in coordination with the Authority. The Authority is responsible for identifying and installing new hydrants as part of its ongoing capital program, developing manuals and protocols for hydrant inspection and inspection data management, and ensuring that the required preventative maintenance is performed on each hydrant as required by the manufacturer. The Authority is required to flow test all hydrants every six years, and those hydrants that have been upgraded as part of the capital program will be tested upon being placed in service to ensure proper pressure and operation. Furthermore, the Authority has committed to providing water supply personnel on scene to FEMS when requested for two-alarm or greater fires. The Authority annually bills the District to recover the Authority's costs for these fire hydrant protection services activities.

- A September 11, 2014, Memorandum of Understanding provides the terms by which the District and the Authority will cooperate in the execution of the Northeast Boundary Neighborhood Protective Project (the "2014 Bloomingdale MOU"). This MOU established the value of incremental capital expenditures totaling $58,579,499.00 incurred by the Authority at the request of the District in order to mitigate overland flooding and wastewater backups in the Bloomingdale and LeDroit Park neighborhoods in Northwest Washington, D.C. The District has entered into an agreement with the Authority for the amounts spent pursuant to the 2014 Bloomingdale MOU, to be paid in ten equal annual installments, commencing January 2016, and has made the payments on a timely basis.

Proposed Legislation. In March 2019, legislation was introduced in the Council for the District of Columbia, "Green Building Residential Metering Amendment Act of 2019" which, three (3) years after enactment, would require every residential unit in all new residential buildings to have individual meters for electric, gas and water utility service. As of the date of this Official Statement, this proposed legislation had not been reported out of committee, but even if it were enacted, it would not have a material impact on the Authority or its finances.

Employees and Labor Relations

The total number of authorized positions for the Authority for Fiscal Year 2019 is 1,223. As of March 31, 2019, the Authority had 1,120 full-time equivalent employees, of whom 710 were represented by five unions:

- American Federation of Government Employees ("AFGE") consisting of Locals 631, 872 and 2553;

- American Federation of State, County and Municipal Employees ("AFSCME"), Local 2091; and,

- National Association of Government Employees (“NAGE”), Local R3-06.

The Authority and all five unions operate under a single Master Agreement on Compensation, which is effective from October 1, 2019 through September 30, 2023.

The Authority is also a party to five separate working condition agreements with each union. AFGE 2553 and AFSCME Local 2091 working condition agreements were recently renewed for a 3-year term from October 1, 2018 through September 30, 2021. NAGE R3-06 working condition agreement was recently tentatively agreed to for a 4-year term renewable from October 1, 2019 through September 30, 2023. AFGE 631 and 872 working condition agreements are subject to renewal negotiations at any time moving forward (until negotiations commence, the same terms and conditions of each working condition agreement remain in full force and effect).

The percentage of current employees eligible to retire within the next five and ten years (based on age and years of service) is shown in Table 2.

Table 2. Percentage of Current Employees Eligible to Retire Within the Next Five and Ten Years
(based on age and years of service)

	03/31/2019	12/31/2024	12/31/2029
Employees	12%	21%	34%
Directors and Executives	9%	21%	42%

Source: Authority records.

People & Talent within the Authority’s Human Resources department launched a Succession Development Pilot Program in the 3rd Quarter of the fiscal year 2019. The pilot program includes critical positions from both leadership and operational rolls across the Authority. The program uses a systematic approach of identifying critical positions, developing internal talent, retaining organizational knowledge, and fostering interdepartmental collaboration.

Retirement/Pension Plan

Most DC Water employees participate in Defined Contribution type retirement plans. In the 401(a) Defined Contribution plan, all contributions are made by DC Water, who contributes 7% of employee base pay each pay period. An additional matching contribution is made (dollar for dollar) when employees defer money into the 457(b). The maximum match is 5%. Employees with salaries more than the social security wage base receive an additional 5% contribution each pay period for the salary above the social security wage base. This plan requires three (3) years of service to be fully vested (Cliff Vesting Schedule). In the 457(b) Deferred Compensation plan, employees may defer salary on a pre-tax basis up to the annual limits established by the IRS. Finally, in the Retirement Health Savings Plan, non-union employees who leave DC Water after 5 years of service with an unused sick leave balance of equal or greater than 100 hours have the value of the sick leave cashed out and deposited into a Retirement Health Savings Plan for the benefit of the employee.

The Authority has a small group (88 as of June 2019) of employees participating under Federal Benefits. Most of the employees were hired before October 1, 1987. In the Civil Service Retirement (CSR) plan, each pay period DC Water contributes 7% of base pay and the employee contributes 7% of base pay into the CSR system. When these employees retire, their pension is paid by the Federal Government and administered by the Office of Personnel Management. DC Water bears no post retirement cost. The Federal Retirement Health and Life plan consists of a grandfathered group who may continue to participate in the Federal Health Benefits Plan at the same cost share arrangement as active employees. The employer share is assumed by the federal government and administered by OPM after retirement.

The Authority has no unfunded pension liability or other post-employment benefits liability under any of the plans described above.

Risk Management and Insurance

The Authority has developed a comprehensive risk management and insurance program which is annually reviewed and periodically bid by management and their independent insurance advisors through qualified brokers and direct insurance writers. The most recent risk management, insurance assessment and bid process was completed in July 2018. The Authority’s insurance policies (including liability insurance and workers’ compensation, property, equipment, crime, fiduciary, public officials’ and employment practices liability) were renewed July 1, 2018 with coverage through July 1, 2019. Since the passage of the Terrorism Risk Insurance Act of 2002 (“TRIA”), terrorism coverage is included under all insurance policies.

Risks from Unexpected Events

General

The Authority's infrastructure could sustain damage and loss of use as a result of certain unexpected events, such as terrorist attacks, extreme weather events and other natural occurrences, fires and explosions, spills of hazardous substances, strikes and lockouts, sabotage, wars, blockades and riots. While the Authority has attempted to address the risk of loss through the purchase of insurance, certain of these events may not be covered. Furthermore, even for events that are covered by insurance, the Authority cannot guarantee that coverage will be sufficient or that insurers will pay claims in a timely manner. From time to time, the Authority may change the types of, and limits and deductibles on, the insurance coverage that it carries. The Authority cannot predict what effects any of these events may have on the Authority's ability to generate Revenues but the effects may be materially adverse.

Global Climate Change

Numerous scientific studies on global climate change show that, among other effects on the global ecosystem, sea levels will rise, extreme temperatures will become more common and extreme weather events will become more frequent as a result of increasing global temperatures attributable to atmospheric pollution. Over the next 25 to 100 years, such extreme events and conditions are expected to increasingly disrupt and damage critical infrastructure and property as well as regional economies and industries that depend on natural resources and favorable climate conditions. Disruptions could include more frequent and longer-lasting power outages, fuel shortages and service disruptions. Coastal public infrastructure may be threatened by the continued increase in the frequency and extent of high-tide flooding due to sea level rise, and inland infrastructure, including access to roads, the viability of bridges and the safety of pipelines, may be affected by increases in the severity and frequency of heavy precipitation events. Near-coastal areas like the greater Washington, D.C. metropolitan area (which contains areas of land that are at or near sea level) may be at risk of substantial flood damage over time, affecting private development and public infrastructure. As a result, many residents, businesses, and governmental operations within this area could be negatively impacted and possibly displaced, reducing the number of rate payers and users of the system. In addition, local public agencies and governmental entities, could be required to mitigate these climate change effects at a potentially material cost.

Ensure a Safe & Reliable Computing Environment

As a retail utility and critical infrastructure asset, the Authority is at risk from an array of threat sources including the casual hacker to a state sponsored cyber terrorist. It is the Authority's priority and responsibility to maintain a safe and reliable computing environment 24/7. The Authority was the first water utility to adopt the voluntary Cyber Security framework outlined in Executive Order 13636, "Improving Critical Infrastructure Cyber Security," issued in February 2013. This Cyber Security framework is now formally known as the NIST Cybersecurity Framework (the "NIST Framework"). The NIST Framework forms the foundation of the Authority's Cyber Security program. Coupled with a layered defense approach, a default deny strategy, a privilege access control policy and a comprehensive cyber awareness program, the Authority strives to ensure the highest level of protection across its computing environment.

The NIST Framework focuses on five (5) primary pillars of excellence. The Authority helps to:

Identify – Develop an organizational understanding to manage cybersecurity risks to systems, people, assets, data and capabilities. The activities in the Identify Function are foundational for effective use of the NIST framework. Understanding the business context, the resources that support critical functions, and the related cybersecurity risks enables an organization to focus and prioritize its efforts, consistent with its risk management strategy and business needs. Examples of outcome categories include: Asset Management, Business Environment, Governance, Risk Assessment and Risk Management

Protect – Develop and implement appropriate safeguards to ensure delivery of critical services. The Protect Function supports the ability to limit or contain the impact of a potential cybersecurity event. Examples of outcome categories include: Identity Management and Access Control, Awareness and Training, Data Security, Information Protection Processes and Procedures and Patch Management and Protective Technology.

Detect – Develop and implement appropriate activities to identify the occurrence of a cybersecurity event. The Detect Function enables timely discovery of cybersecurity events. Examples of outcome categories include: Anomalies and Event detection, Security Continuous Monitoring and Correlation Analysis.

Respond – Develop and implement appropriate activities to take action when cybersecurity incident is suspected or detected. The Respond Function supports the ability to contain the impact of a potential cybersecurity incident. Examples of outcome categories include: Response Planning, Communications Analysis, Mitigation and Incident Management.

Recover – Develop and implement appropriate activities to maintain plans for resilience and to restore any capabilities or services that were impaired due to a cybersecurity incident. The Recover Function supports timely recovery to normal operations to reduce the impact from a cybersecurity incident. Examples of outcome categories include: Recovery Planning, Backup and Replication and Recovery Management.

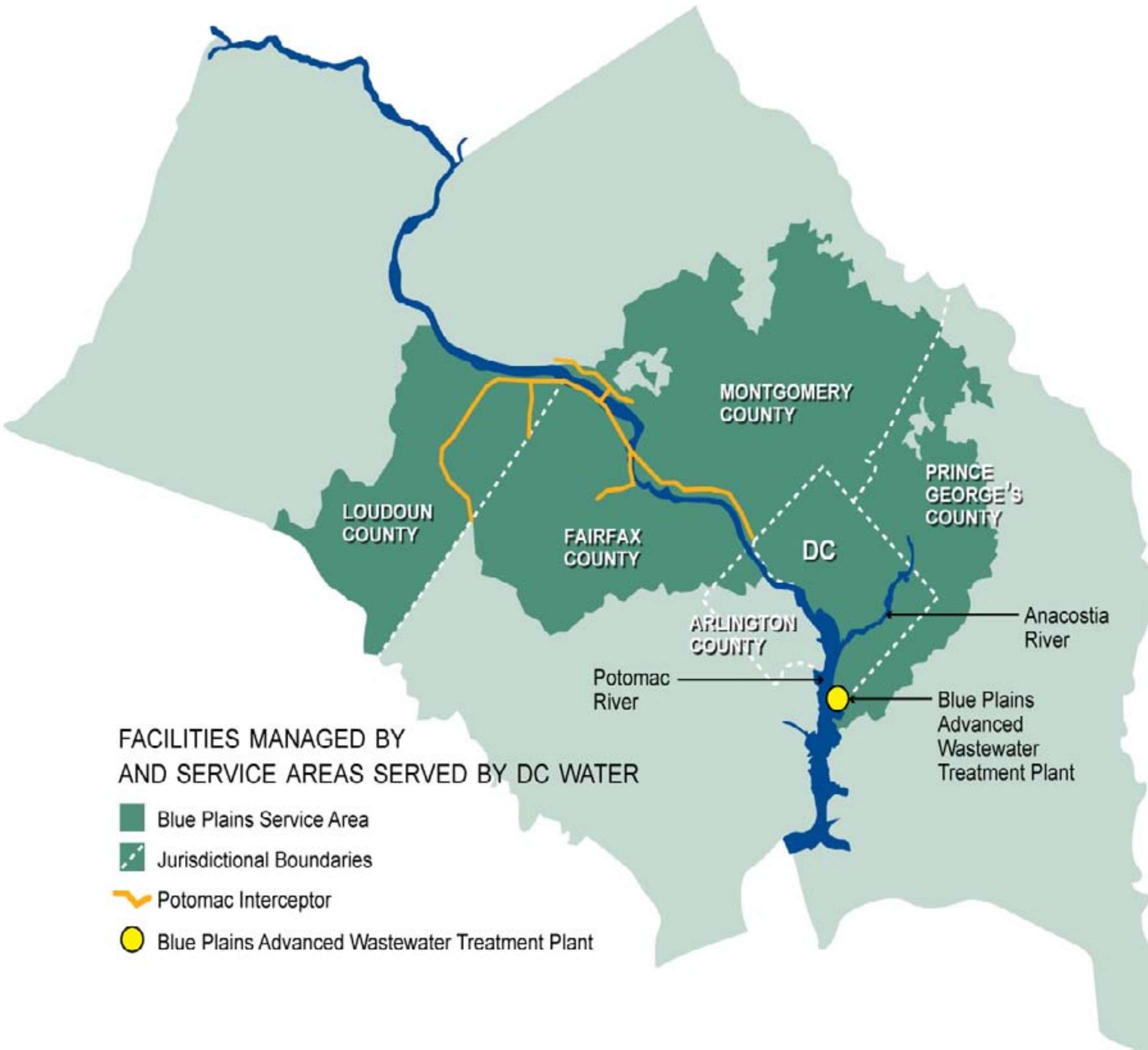
In addition to the NIST Framework, the Authority has implemented information systems with consideration to IT-related risks that could impact the Authority or the Water and Waste Water Systems of the Authority. The information system's goal is met through the following security objectives: confidentiality – data stored on an information systems is not disclosed to unauthorized individuals; integrity – there has not been an unauthorized alteration of the data while in storage or in transit, and the information system is free from unauthorized changes; availability – the system functions as designed and service is available to authorized users upon demand; accountability – actions of an entity may be traced uniquely to that entity; assurance – confidence that the security measures protect the information system and the information it processes.

The Authority also has an established network of resources, which it leverages to proactively assess new and evolving risks including: vendors, WaterISAC, DHS, auditors and peer utilities. These resources contribute to continuously improving the Authority's capabilities. Finally, the Authority has purchased Cyber Liability and Breach Notification insurance coverage for third party liability and privacy notification expenses resulting from data breaches. The total aggregate coverage is $5 million.

Adopting the NIST Framework and implementing information systems alone will not ensure the Authority and the Water and Waste Water Systems are protected from a cyber-threat. The Authority's success is achieved by institutionalizing the elements of the NIST Framework and information system, so it becomes the way of doing business not something else the Authority does.

THE SYSTEM

The Authority provides retail water distribution to the District and wastewater treatment, collection and disposal services to the District and certain neighboring counties in Maryland and Virginia. The following section describes the Water and Wastewater Systems of the Authority, including a description of the Aqueduct.



The Wastewater System

Blue Plains Advanced Wastewater Treatment Plant

The Authority operates the Blue Plains Advanced Wastewater Treatment Plant ("Blue Plains"), the largest advanced wastewater treatment facility in the United States. The original wastewater treatment facility at the site of Blue Plains was built in 1938. The original facility provided only primary treatment for up to 130 million gallons per day ("mgd"). Subsequently, there have been several expansions and upgrades. Since 1983, Blue Plains has provided advanced treatment, which includes nutrient removal, filtration and dechlorination. The most recent expansion of Blue Plains was completed in 1997, which increased the plant's capacity to 384 mgd.

Service Area

The Blue Plains service area includes the District (retail service), parts of Fairfax and Loudoun Counties, the Town of Vienna in Virginia, parts of Prince George's and Montgomery Counties in Maryland, Washington Dulles International Airport and various U.S. Government agencies located in Virginia and Maryland (wholesale service). The population of the Blue Plains service area totals approximately 2.3 million, consisting of approximately 700,000 residents of the District and 1.6 million residents of the surrounding jurisdictions. In addition, the Authority annually serves approximately 22.0 million visitors to the area and approximately 800,000 workers in the District.

Wholesale Customer Agreements

Intermunicipal Agreements – In 1985, the District signed the Blue Plains Intermunicipal Agreement of 1985 (the "1985 IMA") with Fairfax County in Virginia, Montgomery and Prince George's Counties in Maryland and the Washington Suburban Sanitary Commission (the "WSSC") in order to address wastewater treatment, biosolids management and cost allocation rights, obligations and objectives with respect to Blue Plains. A significant portion of the wastewater collection and all of the wastewater treatment and related biosolids management required by the 1985 IMA was provided by the District at Blue Plains until 1996, when the District created the Authority as an independent authority with regional responsibilities to provide those services through the operation and management of Blue Plains and associated facilities. The District, however, retained and continues to hold title to the real property, appurtenances and fixtures of Blue Plains.

The 1985 IMA was replaced in 2012 by a new Intermunicipal Agreement (the "2012 IMA"), which was negotiated, approved and executed by each of the signatories to the 1985 IMA, in addition to the Authority. The 2012 IMA incorporates provisions and establishes terms relating to: facility location; current and long-range infrastructure planning and development; allocation of wastewater treatment capacity of Blue Plains and associated facilities and related peak flows for the collection system; funding and allocation of the capital costs of wastewater treatment, biosolids management and O&M costs; responsibilities with respect to pretreatment and operational requirements; the process of making future wastewater capacity planning decisions, including load allocations; mechanisms for coordination among the parties; and long-term management of the wastewater treatment and disposal process. Under those terms, the cost of operations and maintenance of Blue Plains are shared among the 2012 IMA signatories on an actual basis, whereas the costs of the capital program of Blue Plains are shared among the 2012 IMA signatories commensurate with their respective capacity allocations, with 45.8% of Blue Plains flow capacity allocated to the District and the remainder to the WSSC (on behalf of Montgomery and Prince George's Counties) and Fairfax County. The 2012 IMA also establishes the Authority's right to require the User Jurisdictions to off-load flows to other wastewater treatment plants as necessary to provide the Authority capacity as needed to serve the District's portion of the service area.

Potomac Interceptor Agreements – Since October 1963, the District has entered into separate, limited allocation agreements with several entities that were tributaries to the Potomac Interceptor sewer as provided by statute. Certain of those agreements remain in effect and include users that did not participate in the IMA as signatories, but are allocated flow capacity under the 2012 IMA in accordance with the original individual agreements they entered into with the District prior to the 1985 IMA. Those entities include the Department of Transportation/Federal Aviation Administration on behalf of Washington Dulles International Airport, the Department of the Navy, the National Park Service, and the Town of Vienna, Virginia, which together account for less than 1% of Blue Plains allocated flow capacity. These Potomac Interceptor agreements provide for the pro-rata recovery, through the District, of the Authority's costs of constructing, operating and maintaining the Potomac Interceptor sewer and certain major interceptor sewers within the Blue Plains service territory. A separate Potomac Interceptor agreement was executed after the 1985 IMA with the Loudoun County Sanitation Authority and is described below.

Loudoun County Sanitation Authority Agreement – In November 1998, the Authority and the District executed an agreement with the Loudoun County Sanitation Authority ("LCSA") allocating the right to limited Potomac Interceptor flow capacity to the LCSA, including the treatment and disposal of the associated wastewater at Blue Plains. Consistent with that agreement, the 2012 IMA allocates commensurate Blue Plains flow capacity to the LCSA, although it is also not a signatory to the IMA. The agreement requires LCSA to pay for its share of the Potomac Interceptor and Blue Plains operating and capital costs, following the IMA methodology (i.e., based upon metered flows for operating costs and a pro rata capacity allocation for capital costs).

Wastewater Collection

The wastewater collection system consists of approximately 1,900 miles of sanitary, stormwater and combined sewers, 125,000 building sewer laterals, 22 flow-metering stations, nine off-site wastewater pumping stations and 16 stormwater pumping stations. The Authority has completed detailed assessments and a large number of improvements to many of the pumping stations. See "THE SYSTEM – Wastewater Regulation and Permits" below.

Sanitary Sewer System

A sanitary sewer system serves two-thirds of the District's land area. The system includes 600 miles of interceptor and sewer collection pipes with eight sanitary pumping stations. The typical operation is a gravity flow system with a few pumping stations to pump across higher grades in the District. Over the last 15 years, the Authority has completed a number of upgrades to its sanitary sewer system, which have made the system compliant with new code standards and regulations, and increased the efficiency and effectiveness of several of the system's pump stations.

Combined Sewer Overflow Wastewater System

Approximately one-third of the District's land area is served by a combined sewer overflow ("CSO") wastewater system that combines both stormwater and wastewater in a single conveyance system. Combined sewer systems are common among older cities throughout the United States. The District's combined sewer system conveys only sanitary flow to Blue Plains during dry weather. During and immediately following periods of heavy rainfall, however, the combined sanitary and stormwater flows frequently exceed the capacity of the combined sewer system and a combination of stormwater and untreated wastewater is discharged through one or more of the 53 existing CSO outfalls authorized in the Authority's NPDES Permit. See "THE SYSTEM - Wastewater Regulation and Permits – NPDES Permit" below.

Biosolids Disposal

In the second quarter of Fiscal Year 2015, the Authority fully implemented its new Blue Plains biosolids processing facilities featuring thermal hydrolysis and anaerobic digestion. Operation of these facilities resulted in a reduction in biosolids production from 1200 tons per day (60 truckloads) to approximately 500 tons per day (25 truckloads). These biosolids are considered Class A (as defined by EPA) and are currently applied directly to farmland at various sites in Virginia, Maryland, and Pennsylvania with disposal in landfills being utilized as an alternate method if weather conditions do not allow land application. Because the biosolids are Class A, the Authority has greater flexibility in its efforts to recycle biosolids produced at Blue Plains than it did prior to the new processing facilities. See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Wastewater Treatment Projects."

Wastewater Regulation and Permits

NPDES Permit. Blue Plains is authorized to discharge treated effluent to the Potomac River through two outfalls (Outfalls 001 and 002) pursuant to an NPDES permit (the "NPDES Permit") that was reissued to the Authority by the U.S. Environmental Protection Agency (the "EPA") effective August 26, 2018. Discharges through Outfall 002, which consist of sanitary flow and some combined sewer flow from the CSO system during and following rainfall events, receive complete treatment. Combined sewer flows that exceed Blue Plains' capacity to provide complete treatment receive partial treatment and are discharged through Outfall 001. The NPDES Permit also authorizes discharges to the Anacostia River, the Potomac River and Rock Creek from the combined sewer system through a total of 53 CSO outfalls and four emergency relief outfalls.

The NPDES Permit requires that discharges from the CSO outfalls not exceed those limits necessary to comply with applicable water quality standards under the Clean Water Act, 33 U.S.C. § 1251 et seq. (the "Clean Water Act"). The Authority was the first agency to meet the voluntary nutrient reduction goal of the 1987 Chesapeake Bay Agreement. See "– *The Chesapeake Bay Agreements*" below. The NPDES Permit also requires the development and implementation of a Nine Minimum Controls program (the "NMC Program"), consisting of proper operation and maintenance of the existing collection and treatment system to minimize untreated discharges from the CSO outfalls, as well as the implementation of a CSO Long-Term Control Plan (the "DC Clean Rivers Project")[*] designed to control CSO discharges to prevent them from causing or contributing to violations of applicable water quality standards.

The DC Clean Rivers Project is being implemented pursuant to a consent decree among the Authority, the District, and the United States dated March 25, 2005 (the "2005 LTCP Consent Decree"). In 2016, the Authority successfully renegotiated an amendment to the 2005 LTCP Consent Decree that modifies the DC Clean Rivers Project to include green/gray infrastructure in the Potomac Watershed and green infrastructure in the Rock Creek Watershed. According to the amended 2005 LTCP Consent Decree, pursuant to the DC Clean Rivers Project, the Authority will construct 17 miles of tunnels with a combined storage capacity of 187 million gallons, five new tunnels, a low lift pumping station, several diversion structures and sewers to collect CSO overflows, and green infrastructure to control selected CSOs. The amended 2005 LTCP Consent Decree does not have an expiration date.

The DC Clean Rivers Project continues on schedule. The FY 2019 – FY 2028 CIP includes approximately $1.42 billion for the costs of the DC Clean Rivers Project and combined sewer projects. See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Combined Sewer Overflow Projects." Effective May 1, 2009, the Authority implemented a rate structure that more equitably allocates the costs of the DC Clean Rivers Project to retail customers based on the impervious surface area on customers' properties. See "CUSTOMER BASE, RATES AND CHARGES –Components of Retail Rates and Charges – *Clean Rivers Impervious Area Charge*."

Industrial Pretreatment Program. As with most large wastewater systems, the Authority, under the provisions of the Clean Water Act, operates an industrial pretreatment program to control the discharge into the wastewater system of industrial wastewater containing certain toxins or prohibited pollutants. The Authority regulates

[*] Note that in prior Official Statements of the Authority the DC Clean Rivers Project was referred to as the "CSO LTCP".

50 “significant industrial users” as defined by EPA regulations. Fourteen of these users are located within the District; the remaining users are located in the User Jurisdictions.

Wastewater Consent Decree and Stipulated Agreement and Orders. Upon its creation, the Authority assumed responsibility for compliance with various legal actions taken against the District related to the operation of, and discharges from, Blue Plains, specifically including a judicial Consent Decree issued in 1995 (the “1995 Consent Decree”) and a subsequent Stipulated Agreement and Order (the “1996 Stipulated Agreement and Order”). The Authority is presently in compliance with all of the requirements under each of the 1995 Consent Decree and the 1996 Stipulated Agreement and Order. The EPA Region III has acknowledged satisfaction of these requirements, although the 1995 Consent Decree remains in effect.

The Chesapeake Bay Agreements. In 1987, the Mayor of the District and the Governors of the Commonwealths of Virginia and Pennsylvania and the State of Maryland entered into the 1987 Chesapeake Bay Agreement, committing each jurisdiction to, and subsequently achieving, a 40% reduction of nutrients, such as nitrogen and phosphorus, reaching the main stem of the Chesapeake Bay by the year 2000. Unlike many municipal wastewater treatment facilities that discharge into the Chesapeake Bay, the Authority has historically removed phosphorus and nitrogen. As a supplemental environmental project in settlement of liability for stipulated penalties under the 1995 Consent Decree, the Authority installed a pilot program to test a nitrogen reduction process on one-half of its wastewater, which demonstrated a greater than 40% nitrogen reduction in completely treated effluent. As a result, in 2000, the Authority began operation of full plant scale biological nutrient removal.

In 2000, the parties entered into Chesapeake 2000, a comprehensive agreement to guide further efforts to improve the water quality in the Chesapeake Bay through 2010. In April 2007, the EPA issued a modification to the Authority’s NPDES Permit, reflecting a new total nitrogen effluent limit for Blue Plains, which was developed to match the goals of Chesapeake 2000. In addition to meeting the new effluent limit for total nitrogen, the Authority had existing NPDES Permit requirements for treating wet weather flows at Blue Plains as part of its long-term control plan for the combined sewer system. In October 2007, the Authority submitted to the EPA the Blue Plains Total Nitrogen Removal/Wet Weather Plan (“TN/Wet Weather Plan”), setting forth the Authority’s proposal and schedule to attain the new nitrogen limit and to satisfy its wet weather treatment obligations. The principal TN/Wet Weather systems include the Blue Plains Enhanced Nitrogen Removal Facilities program (“ENRF”), which was designed to achieve advanced effluent treatment with nitrification and denitrification facilities, and the extension of the tunnels system from Poplar Point to Blue Plains, including tunnel dewatering and enhanced clarification facilities at the tunnels system terminus. In September 2008, the Authority submitted to the EPA a summary report that provided a plan for implementing the wet weather aspects of the TN/Wet Weather Plan. The EPA approved the TN/Wet Weather Plan in July 2010 and incorporated these changes into the amended 2005 LTCP Consent Decree.

The Authority’s current NPDES Permit, issued on September 30, 2010, required the Authority to comply with a new total nitrogen discharge limit by January 1, 2015. The ENRF was completed and began treating the full Blue Plains plant flow in October 2014, satisfying the Authority’s obligation to begin compliance by January 1, 2015. See “CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Wastewater Treatment Projects.”

On June 16, 2014, the parties to Chesapeake 2000 and the Governors of the State of Delaware, New York and West Virginia entered into the Chesapeake Watershed Agreement (“2014 Chesapeake Agreement”) committing to have in place practices and controls to achieve 60% reduction of nutrients and sediments by 2017. On March 9, 2018, the Authority began operation of all TN/Wet Weather systems, which satisfies the requirements of the 2014 Chesapeake Agreement.

Air Quality Regulations. The Authority has applied for and received from the DOEE numerous air quality permits under Chapter 2 of Title 20 of the District of Columbia Municipal Regulations for several emission sources. The terms of the Chapter 2 air quality permits as well as other applicable requirements relating to air pollution will eventually be incorporated into an air quality operating permit under Chapter 3 of Title 20 of the District of Columbia Municipal Regulations (“Chapter 3 Operating Permit”). The Authority submitted an application to the DOEE for the Chapter 3 Operating Permit in March 2008 and the application was updated in 2016 to include all new sources.

Future Matters. In addition to continued compliance with its current permits and regulations described above, in the future, the Authority’s wastewater discharges may become subject to additional requirements based on new federal or local requirements. As the EPA or the District promulgate additional regulations, the Authority may be required to modify operations and/or construct facilities beyond those contemplated in the CIP. As an example, on November 23, 2015, the Authority filed a declaratory action in the U.S. District Court for the District of Columbia against the EPA, seeking to correct alleged technical errors in a regulatory action related to the Total Maximum Daily Load (“TMDL”) for E. coli. The TMDL, as approved, did not account for the normal day-to-day variability at Blue Plains and, if enforced against the Authority, could have required significant capital improvements at Blue Plains. On January 13, 2017, EPA issued a revised decision rationale, which resolved the issues that the Authority challenged. On March 13, 2017, the parties filed a motion to dismiss the Authority’s complaint and that case was closed. However, the EPA’s revised decisional rationale was challenged in a separate proceeding. On August 12, 2019, the U.S. District Court for the District of Columbia held that the TMDL for E. coli that DOEE developed and the EPA’s approval (based on its revised decision rationale) did not comply with the Clean Water Act. The court vacated the TMDL, but stayed the vacatur for one year to allow for the development of new TMDL. The Authority will monitor the development of new TMDL and will advocate, as necessary, on behalf of itself and its rate payers.

The Water System

The Washington Aqueduct

Established in 1852, the Washington Aqueduct Division of the U.S. Army Corps of Engineers (the "USACE") provides water to the District and parts of Virginia. The USACE owns and operates the Washington Aqueduct (the "Aqueduct"), including its two water treatment plants, raw water conduits, reservoirs, pumping stations and treated water transmission lines.

The Aqueduct facilities supply treated water to distribution systems of the Authority, Arlington County, Fairfax County Water Authority ("FCWA") (collectively, the "Aqueduct Customers"), the federal government, and other parts of northern Virginia. In January 2014, FCWA assumed ownership and operation of the water distribution system previously owned and operated by the City of Falls Church. The Authority is responsible for managing the treated Water System that serves the District and several other governmental customers outside the District. The Authority purchases approximately 73% of the finished water produced by the Aqueduct, and Arlington County and the FCWA purchase the remainder. The Authority's share of the water purchased from the Aqueduct in the last ten Fiscal Years is set forth in Table 3. For a discussion regarding the reduction in consumption and customer demand, see "CUSTOMER BASE, RATES AND CHARGES – Customer Demand."

Table 3. Historical Water Demand

Fiscal Year ended September 30	Annual Deliveries to System (MG)	Average Day (MGD)	Max Day (MGD)
2009	39,998	109.6	150.4
2010	38,589	105.7	146.9
2011	37,556	102.9	143.7
2012	36,930	100.9	142.9
2013	34,714	95.1	129.7
2014	34,708	95.1	123.7
2015	38,146	104.5	148.4
2016	36,363	99.4	127.7
2017	35,827	98.2	122.7
2018	34,343	94.1	132.5

Source: Authority records.

The Aqueduct draws water from the Potomac River, which is the predominant source of water in the District and the User Jurisdictions. As a result of the Potomac River's importance for maintaining adequate water supply, the Interstate Commission on the Potomac River Basin ("ICPRB") and the Metropolitan Washington Council of Governments ("COG"), have maintained a drought plan since 1978, through which the Potomac River's water supply is supplemented by a 23.5 billion gallon reserve that is stored at three separate off-river reservoirs. Due to the maintenance of this strategic reserve, the ICPRB has been able to effectively manage drought conditions and effectively allocate water resources during drought events.

The federal Safe Drinking Water Act Amendments of 1996 authorized the Secretary of the Army with the consent of the Authority, the City of Falls Church and Arlington County to either establish a non-federal public or private utility to receive title to operate, maintain and manage the Aqueduct or to allow the USACE to remain as owner and operator with the Authority, the City of Falls Church and Arlington County having some input into strategic operations, direction, operations and capital improvement of the Aqueduct. In May 1998, the Authority, the City of Falls Church, Arlington County and the USACE executed a Memorandum of Understanding that the USACE would continue to own and operate the Aqueduct facilities. In December 2013, the Authority, FCWA, Arlington County and the USACE executed a revised Memorandum of Understanding to include the FCWA as the successor in interest to the City of Falls Church.

The Aqueduct has developed a capital improvement program, including improvements to the Dalecarlia and McMillan Water Treatment Plants (each a "WTP"), raw water conduits, pumping stations and reservoirs. Over the next ten years, the Authority estimates that its share of the cost of the Aqueduct capital improvements will be $187 million, which is accounted for in the CIP. See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Washington Aqueduct Projects."

The Trump Administration's proposed 2018-20 budgets include a proposal to divest the Aqueduct currently operated by USACE to a State or local government or the private sector. In response to those proposals, the Authority is working with the other Aqueduct customers to consider and evaluate a range of possibilities, including, among others: transfer of ownership to an existing public authority (which could include the Authority); enhancing operations and maintaining current ownership; or creating a new regional water authority. At this point, no prediction can be made as to whether a divesting of the Aqueduct will occur, or, if it does, who might acquire the Aqueduct, or what the terms of the acquisition might be.

Water Sales Agreement

Pursuant to a Water Sales Agreement, dated as of July 31, 1997, by and between the Authority and the USACE (the "Water Sales Agreement"), the USACE sells and furnishes to the Authority all of the finished water that the Authority requires for the operation of the Water System to the extent that the USACE has water and facilities available at the Aqueduct. In accordance with the Water Sales Agreement, the Authority is obligated to make monthly payments into an escrow account to be used by the USACE to cover the Authority's pro rata share, based on its consumption of water, of the costs of the operation and capital improvement of the Aqueduct. The Authority currently contributes approximately 73% of capital and operating expenditures of the Aqueduct. The Water Sales Agreement will remain in effect until September 30, 2023, unless earlier terminated in accordance with its terms. Thereafter, the Water Sales Agreement may continue until terminated by either party giving the other party not less than six months' prior written notice.

Water Supply

The Aqueduct obtains its water supply from two Potomac River intakes at Great Falls and Little Falls. Two other regional water suppliers, FCWA and WSSC, also obtain for processing at their drinking water treatment facilities water from the same area of the Potomac River. Water for the Authority is withdrawn at the Great Falls intake and flows by gravity through two nine-mile conduits and is then pumped to the Dalecarlia Reservoir. Water also may be withdrawn from the Little Falls intake and pumped to the Dalecarlia Reservoir. The Dalecarlia Reservoir acts as a presedimentation basin for water drawn into the Dalecarlia WTP and for water diverted to the Georgetown Reservoir for subsequent treatment at the McMillan WTP.

In 1978, the United States, the District, the State of Maryland, the Commonwealth of Virginia and the FCWA entered into a Low Flow Allocation Agreement to provide a basis for allocation of resources during severe drought conditions and outline procedures to be followed in such circumstances. Water supply reservoirs developed on Little Seneca Creek and the north branch of the Potomac River are designed to augment the natural flow of the Potomac River during low flow conditions and ensure that the Washington metropolitan area will have sufficient water for years to come.

Raw Water Supply Agreements

A series of agreements ensures the continuous adequate supply of water to the Aqueduct's and the Authority's customers. The following are the Authority's raw water supply agreements:

The Savage Reservoir Maintenance and Operation Cost Sharing Agreement was executed in June 1982. Pursuant to the laws of the State of Maryland, the Upper Potomac River District contracted with the District, WSSC, FCWA and Allegheny County, Maryland, to share the operation, maintenance, repair and replacement costs of the Savage Reservoir project located in western Maryland. This agreement provides for releases from Savage Reservoir that mix with, and thereby reduce, the acidic nature of the Jennings Randolph Lake waters. The Savage Reservoir cost-sharing agreement was incorporated by reference into the Water Supply Coordination Agreement described below.

The Little Seneca Lake Cost Sharing Agreement was executed in July 1982 by and among the District, WSSC and FCWA to construct a dam and reservoir to provide an adequate supply of potable water continuing into the current century. This agreement calls for WSSC to finance, construct, operate and maintain Little Seneca Lake. The Authority's share of the project and operating and maintenance costs under the agreement is 40%. The Little Seneca Lake Cost Sharing Agreement was incorporated by reference into the Water Supply Coordination Agreement described below.

The Water Supply Coordination Agreement was executed in July 1982 by and among WSSC, FCWA and the Aqueduct to provide for the coordinated operation of its water supply sources and cooperative regional management of the water supply system and the cost-sharing arrangement for any water supply projects for the Washington metropolitan area, if and when they are needed.

The Novation and Future Water Supply Storage Agreement was executed in July 1982, by and among the United States, the Maryland Potomac Water Authority, WSSC, FCWA and the District, to provide for initial water supply storage in the Jennings Randolph Lake reservoir of approximately two billion gallons. The Novation and Future Water Supply Storage Agreement increases the amount of water supply storage to 13.4 billion gallons, or 32% of the reservoir's total storage. Of the remaining reservoir storage 40% is designated for water quality and 28% for flood control.

Water Treatment and Storage

The Authority receives finished water from the Dalecarlia and McMillan WTPs. The original Dalecarlia WTP was completed in 1928, and underwent major expansion and improvements in 1964. The McMillan WTP was constructed in 1985 on the site of the original 1905 plant. The design capacity of the Dalecarlia and McMillan WTPs was based on population growth and water use projections that are greater than have been realized to date. The total treatment capacity of the plants of 384 mgd currently exceeds the day-to-day demands and peak requirements of their respective service areas.

Finished water from the Dalecarlia WTP and McMillan WTPs is pumped by the Dalecarlia Pumping Station and Bryant Street Pumping Station, respectively, to (i) five underground reservoirs (Brentwood, Soldier's Home, Fort Reno No. 1, Fort Stanton No.1 and Fort Stanton No. 2) and three elevated tanks (Fort Reno Elevated Tank No. 2, Good Hope Elevated Tank and Boulevard Elevated Tank) operated by the Authority, and (ii) three reservoirs owned and operated by the Aqueduct (Foxhall, Van Ness and Fort Reno Reservoir No. 2). The combined facilities can store up to 110 million gallons ("mg") of finished water. Flexibility in the distribution system is provided so that each of the two water pumping stations can pump to other reservoirs in the distribution system as circumstances dictate.

In addition to the existing three elevated tanks, the Authority completed a fourth elevated tank – the St. Elizabeth's Elevated Tank in the summer of 2018, which can store up to 2 mg of finished water. The Authority also plans to replace the Ft. Reno Elevated Tank No. 2, which is currently out of service, with another elevated tank with 2 mg capacity in Fiscal Year 2024.

Sold vs. Pumped Ratio

The Authority regularly monitors the ratio of water billed to customers (sold water) versus water it purchases from the Aqueduct (pumped water). Unlike many other water utilities, the Authority does not adjust this ratio for water used in normal system activities, such as firefighting and system maintenance, including flushing of water mains and hydrant testing.

The sold versus pumped ratio increased from 72.14% in 2017 to 74.33% in 2018. Water sales figures are derived from the operating budget of the Authority and may not be consistent with the audited financial statements for each year. The cost of unbilled water is not substantial relative to total annual expenses of the Authority.

Water System Regulation and Permits

Drinking Water Quality

The water operations of the Aqueduct and the Authority are subject to the requirements of the federal Safe Drinking Water Act of 1974, 42 U.S.C. § 300f et. seq., as amended in 1986 and 1996 by Congress. The 1986 amendments to the Safe Drinking Water Act extended the regulatory agenda of the EPA to include, among other things, the development of drinking water standards for 90 contaminants.

The Aqueduct and the Authority are in substantial compliance with all physical, chemical, radiological and bacteriological standards established by the regulations currently in effect under the Safe Drinking Water Act and are studying the potential impacts of proposed rules as well as those still under development by the EPA. As the EPA promulgates additional regulations, there is a potential that the Aqueduct or the Authority will be required to modify operations and/or construct facilities beyond those contemplated by the CIP. The Aqueduct and the Authority management believe, however, that planned capital projects should address all current regulatory requirements.

NPDES Permit and Water Treatment System Sediments

Until April 2003, during high flow periods, the Aqueduct discharged into the Potomac River the river sediments that are removed during the treatment process. The NPDES Permit issued in March 2003 included discharge limitations on sediments. The Aqueduct entered into a Federal Facilities Compliance Agreement ("FFCA") with EPA Region III, which provides a legally mandated plan and an enforceable compliance schedule for achieving the effluent discharge limitations in the NPDES Permit. The Aqueduct evaluated various options for residuals collection, conveyance, processing and disposal and selected a process which dewaters the residuals on site and transports them off-site for disposal. Construction on this project commenced in Fiscal Year 2008, was completed and placed into service on November 22, 2012. The Authority's share of the total cost of this project was $98.6

million. See “CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Washington Aqueduct Projects.”

Lead Levels

Pursuant to the Safe Drinking Water Act, the Lead and Copper Rule promulgated in 1991 by the EPA (the “Lead and Copper Rule”) establishes maximum contaminant level goals and action levels for lead and copper. Large water suppliers, such as the Authority, are required to perform periodic monitoring and optimize corrosion control of water so as to minimize leaching of lead and copper contaminants into drinking water. If more than 10% of the tap water samples contain lead above the “action level” of 15 micrograms per liter, the water supplier is required to perform public education and to optimize the corrosion control treatment. If, after optimal corrosion control treatment has been implemented, the lead level in water at the tap continues to exceed the action level, the supplier must annually replace 7% of existing lead service lines that it owns. Alternatively, the water supplier may demonstrate through testing that individual lead service lines that it owns do not have lead levels above the action level (called “sampling in lieu of replacement”). The supplier may perform a combination of these two actions to attain the 7% annual replacement level. In the District, property owners own the lead service lines.

In August 2002, the Authority reported to EPA Region III that results for the sampling period from July 2001 to June 2002 demonstrated lead levels in excess of the threshold for action established by the Lead and Copper Rule. Elevated lead levels were believed to be linked to changes in the Aqueduct’s water treatment methods. In November 2000, the Aqueduct had switched from free chlorine to chloramines disinfection to reduce the concentration of disinfection byproducts under the federal Disinfectant Byproducts Rule. Elevated lead levels began appearing within a year of the chlorine/chloramines switchover.

In February 2004, EPA Region III commenced an audit of the Authority’s compliance with the Lead and Copper Rule and found noncompliance with regard to sampling, monitoring, public notification and reporting requirements. In an Administrative Order dated June 17, 2004, as supplemented on January 14, 2005, and amended on June 8, 2005 (collectively, the “Administrative Order”), EPA Region III and the Authority agreed to remedies for the issues identified by the compliance audit. The Authority and the Aqueduct undertook appropriate measures to implement corrosion control treatment. Lead levels have consistently been below the action level since 2005 and the Authority is no longer subject to the Administrative Order from EPA Region III.

Pursuant to a Consent Agreement and Final Order (“CAFO”) executed on May 2, 2007, the Authority agreed to pay a civil penalty in the amount of $10,000 to EPA Region III for certain alleged reporting violations of the Lead and Copper Rule. The CAFO resolved all of the civil claims in connection with these allegations. EPA Region III and the DOJ also conducted an investigation to determine whether any criminal violations occurred in connection with the Annual Report on Lead Service Replacement Program the Authority filed with EPA Region III in October 2003 and the two different methods the Authority used to test lead levels. In October 2008, EPA Region III and the DOJ informed the Authority that it would take no adverse action against the Authority, thereby resolving all criminal claims against the Authority in connection with this matter.

In addition to the measures undertaken by the Authority pursuant to the Administrative Order, in 2004 the Authority commenced a voluntary lead service replacement program, even though not legally required to do so under the Lead and Copper Rule. In order to reduce adverse impacts and costs to ratepayers, lead service replacement construction work was performed in conjunction with sewer laterals, small valves and water main repair work, and the replacement of broken or defective hydrants. However, this resulted in a large number of partial lead service replacements because many property owners declined to replace the lead service line on their private property. In 2008, in response to research indicating that partial lead service replacements are not effective in reducing lead levels, the Authority discontinued its accelerated replacement program. In September 2009, the Board approved modifications of the Authority’s lead service replacement policy to encourage full service line replacements and to manage costs. Under the modified policy, public lead service lines (between the main and the property line) will continue to be replaced with copper pipes in conjunction with: (i) the Authority’s water main replacement projects when the Authority must replace the water service pipe to connect to a new water main, and (ii) when the customer replaces the private portion of lead service lines and requests that the Authority replace the public portion of the lead service line.

A study authored by Marc Edwards, PhD, an engineer at the Virginia Polytechnic Institute and State University, and Dana Best, MD, a physician at the Children’s National Medical Center, published in the March 1, 2009, issue of *Environmental Science and Technology*, found that the number of toddlers and infants with high blood-lead concentrations more than doubled in certain District neighborhoods that experienced rising lead concentrations in 2001 (the “Edwards Study”). These findings contradicted a report published by the Centers for Disease Control and Prevention (the “CDC”) on March 30, 2004 (the “2004 CDC Report”), which found that lead might have contributed a small increase in blood lead levels and claimed that no children with dangerously high blood lead levels were found in the District.

The Edwards Study prompted the U.S. House of Representative’s Committee on Science and Technology to open an investigation into the 2004 CDC Report. The Majority Staff of the Subcommittee on

Investigations and Oversight of the Committee on Science and Technology issued a report on May 20, 2010, releasing its findings. The Subcommittee's primary findings include, among others, that (i) the CDC knowingly used flawed data in drafting the 2004 CDC Report, leading to "scientifically indefensible" claims being included in the 2004 CDC Report, and (ii) the CDC failed to publicize later research showing that the harm was more serious than the 2004 CDC Report suggested. In May and June 2010, the CDC issued two notices to the readers of its digest, *Morbidity and Mortality Weekly Report*, admitting that the 2004 CDC Report was misleading and that it "should not be used to make conclusions about the contribution of water lead to blood levels in DC, to predict what might occur in other situations where lead levels in drinking water are high, or to determine safe levels of lead in drinking water."

In December 2010, the CDC published a study of the District's water supply conducted from 1998 to 2006, which concluded that children living in the District were exposed to high levels of lead despite an attempt to prevent the water from being contaminated by partial lead service replacements. The 2010 CDC Study confirms information the Authority received in previous years which led the Authority in 2008 to discontinue the partial lead service line replacements. Partial line replacements can cause agitation that temporarily releases lead into the home, which can cause a temporary spike in lead levels. As described above, the Authority modified its lead service line replacement program in 2009 and continues its efforts to address lead in drinking water by: (i) monitoring household lead levels to ensure drinking water is in compliance with the EPA drinking water standards, (ii) conducting research on household plumbing characteristics, (iii) offering free lead testing, (iv) recommending full lead service replacements on public and private property, (v) providing free water filters and lead testing following a full or partial lead service line replacement, (vi) recommending that pregnant women and children under the age six should use filtered tap water for drinking and cooking until all sources of lead impacting water are removed, and (vii) participating in coordinated District interagency meetings and responses to lead in water issues.

The Authority estimates the cost of the lead service line replacement program in the CIP at $63.2 million over the next 10 years. From the inception of the line replacement program through September 30, 2018, the Authority expended $214.8 million on the lead service line replacement program. See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Water Projects."

The Lead Water Service Line Replacement and Disclosure Amendment Act of 2018, D.C. Law 22-241, effective March 13, 2019 (the "Line Replacement Act"), established new programs that will fund the replacement of the lead service lines on private property. The Authority is prohibited, however, from replacing only a portion of a lead water service line that is on public property. The Line Replacement Act accomplishes four things:

(1) Full Lead Water Service Line Replacement. The Line Replacement Act authorizes the Authority to use District appropriated funds to pay for the costs to replace the lead water service line on private property when the Authority is replacing the lead water service line in conjunction with water main replacements or after an emergency replacement of the water main or lead water service line;

(2) Lead Water Service Line Replacement Payment Assistance Program. In cases where the water service line on public property is not lead, the District has budgeted appropriated funds to assist all District homeowners to provide 50% to 100% of the costs, depending on their household income, to pay for the lead water service line replacement on private property. This provision was funded by the District's budget and included in the Authority's Fiscal Year 2020 budget. Under this program, the Authority is responsible for certifying that the work is done, and paying the contractor from funds provided by the District;

(3) Voluntary Lead Service Pipe Replacement Program. In cases when there are lead service lines on private property and in public space, but the District's funds are insufficient to cover the costs, or where the Authority does not have any planned activities to replace water mains and the lead water service lines connected to them within two years, or the street is not under a DDOT moratorium, the property owner may participate in the Authority's Voluntary Lead Service Pipe Replacement program. Under this program, the property owner agrees to pay the costs for the replacement of the lead pipe on private property and the Authority will replace the pipe in the public space at the same time; and

(4) Education. Creates a new series of outreach, education and disclosure requirements for home sellers and real estate agents to increase awareness of lead service issues.

As of the date of this Official Statement, the District has proposed funding for both these programs in the Fiscal Year 2020 Budget, but their implementation will not have a material impact on the Authority or its finances.

Protection of the Water System and Wastewater System

In 2000, the Authority developed and implemented an extensive security program in conjunction with the District's Metropolitan Police Department and various federal agencies, including the Federal Bureau of Investigation and the Bureau of Alcohol, Tobacco and Firearms (the "2000 Security Program"). After the events of September 11, 2001, and in response to certain provisions of the Bioterrorism Act of 2002 and amendments to the

Safe Drinking Water Act pertaining to security for community water systems, the Authority implemented additional security measures beyond the 2000 Security Program.

The Aqueduct and each of the Aqueduct Customers have independent obligations under law to protect the community water systems they operate. Both the Authority and the Aqueduct completed studies of Water System vulnerability using the Sandia National Laboratories RAM-W methodology. The vulnerability reports were submitted to EPA Region III in March 2003 to fulfill the Bioterrorism Act requirement for a vulnerability assessment.

Blue Plains and the primary water and wastewater distribution facilities it operates are fenced, gated and manned 24 hours a day by security officers. Major security technology video surveillance, intrusion alarm monitoring, and access control management system upgrades are utilized, with significant security technology upgrades in progress at several facilities and properties. The secondary distribution facilities are monitored by vehicular security patrols as well as some security technologies. The Authority also employs cameras and other monitoring equipment at these facilities.

Access to facilities operated by the Aqueduct is also controlled, and the Aqueduct has increased security at both staffed and remotely operated facilities. In conformance with the requirements of the Safe Drinking Water Act, the Aqueduct contracted with the Interstate Commission on the Potomac River Basin to develop a source water assessment and monitoring program. The program was implemented in 2002. In 2003, the Aqueduct together with the Fairfax County Water Authority and the WSSC founded the Potomac River Drinking Water Source Protection Partnership to further the goals of watershed protection. In 2014, the Aqueduct and the Authority collaborated with the Metropolitan Washington Council of Governments to pilot a web-based regional source water assessment tool ("WaterSuite") building on the static 2002 assessment prepared by the Interstate Commission on the Potomac River Basin. The WaterSuite tool emphasizes chemicals stored throughout the watershed and draws upon federal, state, and local databases for insights into potential chemical contaminants. The physical security of the Aqueduct facilities that (i) collect water from the Potomac River, (ii) process the water to Safe Drinking Water Act standards, and (iii) deliver the water into the Authority's distribution system are all maintained via a wide variety of means including gated facilities, armed guards, video surveillance, and employee protocols. All Aqueduct employees have current federal background investigations that are required for their employment. The electronic business records of the Aqueduct are handled on systems accredited by the Department of Defense to give a high assurance of control over unauthorized intrusion. The industrial control systems that function to control treatment plant processes and data transfer operate in a contained environment (i.e., no connection to the Internet). These systems are also accredited by Department of Defense and Department of the Army agencies and are constantly monitored for possible compromise. The Aqueduct is currently upgrading all elements of its industrial control system for both increased reliability as well as security."

For information regarding the cyber security measures taken to protect the Authority and the Water and Waste Water Systems, see "THE AUTHORITY – Risks from Unexpected Events – Ensure a Safe and Reliable Computing Environment."

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CAPITAL IMPROVEMENT PROGRAM

General

The Authority utilizes an annually adopted ten-year Capital Improvement Program to plan and manage the capital investments necessary to fulfill its service missions, comply with regulatory requirements and preserve and upgrade its Water and Wastewater Systems. The Authority updates the CIP annually in conjunction with its budget process, based on detailed project review by engineering staff, external engineering consultants retained by the Authority and senior management.

The Authority evaluates and prioritizes capital projects based on specific criteria. These criteria are fundamental in developing a CIP based on demonstrated needs and are set forth in Table 4 and described below.

Table 4. Capital Improvement Program Criteria
($ in thousands)[1]

Fiscal Year	Mandates[2]	Health and Safety[3]	Board Policy[4]	Potential Failure[5]	High Profile Good Neighbor[6]	Good Engineering/High Payback[7]	Good Engineering/ Lower Payback[8]	Total
FY 2019	$210,807	$13,874	$33,472	$36,117	$8,132	$87,332	$49,385	$439,117
FY 2020	150,388	3,821	67,776	42,560	501	98,520	56,776	420,342
FY 2021	139,790	5,858	72,529	41,437	924	112,534	93,944	467,016
FY 2022	191,411	6,928	53,535	37,742	3,315	149,552	119,241	561,724
FY 2023	151,297	2,099	42,382	72,801	1,281	151,811	108,335	530,006
FY 2024	64,692	5,368	50,055	34,511	558	158,304	109,120	422,607
FY 2025	55,919	12,457	54,634	35,514	1,415	183,675	106,744	450,358
FY 2026	144,295	18,846	48,081	40,102	2,679	162,071	169,379	585,454
FY 2027	97,067	8,604	44,926	31,137	89	152,165	201,677	535,666
FY 2028	83,286	1,511	65,369	33,705	--	167,928	192,690	544,490
Total	**1,288,951**	**79,366**	**532,760**	**405,626**	**18,893**	**1,423,892**	**1,207,291**	**4,956,780**
% of Total	**26.0%**	**1.6%**	**10.7%**	**8.2%**	**0.4%**	**28.7%**	**24.4%**	

[1] Column and row totals may not add due to rounding.
[2] Agreements, regulatory standards, court orders, issues and permits requirements, stipulated agreements, etc.
[3] Projects required to address public safety.
[4] Projects undertaken as a result of the Board's commitment to outside agencies.
[5] Projects related to facilities in danger of failing or critical to meeting permit requirements.
[6] Projects that address public concerns.
[7] Projects that are necessary to fulfill mission and upgrade facilities.
[8] Lower priority projects.

Source: Authority records.

Since its creation in 1996 through September 30, 2018, the Authority has expended approximately $6.5 billion, on a cash disbursement basis, for capital improvement projects, including $2.7 billion for projects at Blue Plains, $952 million for Water System infrastructure projects, $1.7 billion for the DC Clean Rivers Project and combined sewer projects, $395 million for sanitary sewer projects, $40 million for stormwater projects, $66 million for non-process facilities, $77 million for meter replacement/Automated Meter Reading ("AMR") projects, $262 million for capital equipment, and $293 million for projects at the Aqueduct.

The Authority estimates the cost of the Fiscal Year 2019 - 2028 CIP at $4.96 billion on a cash disbursement basis, including approximately $979 million for wastewater treatment projects at Blue Plains, $1.3 billion for the DC Clean Rivers Project and combined sewer projects, $945 million for Water System infrastructure projects, $957 million for sanitary sewer projects, $69 million for stormwater projects, $138 million for non-process facilities, $312 million for capital equipment, $187 million for Washington Aqueduct Division projects and $29 million for meter replacement/AMR projects. The Board approved the CIP on April 4, 2019.

An overview of the CIP project categories and the sources of funding is set forth in Table 5.

Table 5. Fiscal Year 2019 - 2028 Capital Improvement Program
Sources and Uses of Capital Funds
Fiscal Years ended/ending September 30
($ in thousands)[1,2]

	Actual(s)[3]	Projected										
	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Total (FY19-FY28)**
BEGINNING BALANCE	**$172,706**	**$282,107**	**$146,623**	**$126,525**	**$121,691**	**$122,820**	**$122,241**	**$142,368**	**$152,463**	**$101,684**	**$110,769**	**$282,107**
SOURCES OF FUNDS:												
Proceeds from Rev. Bonds	$346,672	$110,000	$190,000	$225,470	$282,036	$224,077	$125,000	$140,000	$168,381	$176,895	$172,490	$1,814,349
System Availability Fee (SAF)	0	1,130	5,775	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	68,505
Transfer from Operations (CRIAC)	0	31,270	34,769	39,522	42,586	45,708	47,120	47,247	48,193	49,571	50,415	436,401
Transfer from Operations (Pay-Go)	113,021	69,989	59,732	100,316	113,858	132,832	165,152	164,901	179,571	182,295	198,129	1,366,775
EPA Grants /FEMA Grants/DC Reimbursement	25,332	16,385	38,990	15,858	15,858	15,858	15,858	15,858	10,000	10,000	10,000	164,665
CSO Grants	14,054	8,000	-	-	-	-	-	-	-	-	-	8,000
Wholesale Customer Capital Contributions	98,522	63,877	67,321	71,625	97,995	101,012	80,655	83,347	119,146	116,520	119,986	921,484
Interest Income	1,730	2,981	3,658	1,691	2,820	2,241	1,250	1,400	1,684	1,769	1,725	21,219
Total Sources	**$599,330**	**$303,633**	**$400,244**	**$462,182**	**$562,853**	**$529,428**	**$442,735**	**$460,453**	**$534,675**	**$544,750**	**$560,446**	**$4,801,398**
USES OF FUNDS:												
Water System Projects	$69,006	$61,885	$71,721	$96,300	$101,039	$84,395	$96,491	$103,325	$106,145	$105,338	$118,377	$945,016
Blue Plains Projects	106,104	69,979	66,620	76,510	97,635	110,047	82,434	81,249	133,338	137,575	123,351	978,738
Sanitary Sewer Projects	46,888	44,927	43,646	57,249	85,588	97,220	98,194	115,011	140,020	134,664	140,615	957,134
Combined Sewer	12,420	7,490	4,219	9,444	8,015	8,647	13,519	8,852	5,801	5,593	7,598	79,178
Combined Sewer LTCP (DC Clean Rivers Project)	175,874	187,859	147,208	139,786	191,573	151,411	64,415	55,689	144,295	97,067	83,286	1,262,589
Stormwater Projects	1,988	4,220	8,571	8,118	8,587	3,725	4,987	7,564	7,494	5,239	10,102	68,607
Non Process Facilities	35,526	15,309	36,002	26,793	20,665	6,831	11,058	10,396	3,901	3,553	3,560	138,068
Washington Aqueduct Division	13,194	12,930	15,532	15,909	15,536	35,006	14,830	32,731	9,034	12,298	23,321	187,127
Capital Equipment	14,430	27,400	17,105	30,027	29,656	29,295	33,750	32,610	32,496	31,409	31,349	295,097
Meter Replacement / AMR / CIS	14,499	7,118	9,718	6,880	3,430	3,430	2,930	2,930	2,930	2,930	2,930	45,226
Total Uses	**$489,929**	**$439,117**	**$420,342**	**$467,016**	**$561,724**	**$530,007**	**$422,608**	**$450,357**	**$585,454**	**$535,666**	**$544,489**	**$4,956,780**
Sources Minus Uses	109,401	(135,484)	(20,098)	(4,834)	1,129	(579)	20,127	10,096	(50,779)	9,084	15,957	(155,382)
Capital Contingency Reserve for Clean Rivers	-	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Sources Minus Uses Net of Reserves	109,401	(165,484)	(50,098)	(34,834)	(28,871)	(30,579)	(9,873)	(19,904)	(80,779)	(20,916)	(14,043)	(185,382)
Ending Balance	**$282,107**	**$146,623**	**$126,525**	**$121,691**	**$122,820**	**$122,241**	**$142,368**	**$152,463**	**$101,684**	**$110,769**	**$126,725**	**$126,725**

[1] Totals may not add due to rounding.
[2] Beginning in Fiscal Year 2019, the Authority will set aside $30 million of cash on hand from the above sources to serve as a contingency for the DC Clean Rivers Project. The ending balance shown above in each year beginning in Fiscal Year 2019 is inclusive of these funds and assumes that such funds are not drawn down through Fiscal Year 2028.
[3] Preliminary results, unaudited.

Source: Authority records.

Categories of CIP Projects

Water System Projects. Projects in the water service area are designed to maintain an adequate and reliable potable water supply to customers and to provide required fire protection for the District. Categories of projects include the rehabilitation and replacement of water mains, water service connections, storage facilities, and pumping stations. The Authority has completed several critical improvements to the Water System, including cross connection removal, and major pumping station and storage facility rehabilitation.

The CIP includes approximately $945 million in projected disbursements for Water System projects, including new system storage facilities, large diameter water main rehabilitation, 1% renewal of small diameter water mains (including ancillary items, such as fire hydrants, valves and service connections) DDOT-related water main projects, and continued funding for the water lead program. See "THE SYSTEM – The Water System – Water System Regulation and Permits – Lead Levels."

Blue Plains – Wastewater Treatment Projects. Capital projects in the wastewater treatment service area are required to rehabilitate, upgrade or provide new facilities at Blue Plains to ensure that it can reliably meet its NPDES Permit requirements and produce a consistent, high-quality dewatered solids product for land application. The Authority has undertaken several major capital improvement projects to rehabilitate, replace or add new processes and capacity at Blue Plains in recent years, including: (i) a new facility was placed in service in 2015 to comply with NPDES requirements to reduce nitrogen in the plant effluent; (ii) facilities to digest solids after thermal hydrolysis treatment were placed in operation in 2015, reducing the volume by 50% (reducing hauling and recycling costs) and resulting in production of Class A biosolids, which can be applied to land without any pathogen-related restrictions at the site and also can be bagged and marketed to the public for application to lawns and gardens, thereby increasing beneficial reuse options; (iii) a combined heat and power facility to utilize digester gas produced by the process to generate electricity (up to one-third of plant needs) along with steam for the thermal hydrolysis and digestion process, and a belt filter press facility to dewater the Class A product were placed in service in 2016; (iv) a facility upgrade to improve secondary treatment performance for more efficient overall nitrogen removal capability was completed in 2018; (v) construction of a new facility to treat high nitrogen load dewatering recycles was completed in 2018; (vi) the design phase for an upgrade of a raw wastewater pump station, the filtration and disinfection facility and the gravity thickener complex will be completed in 2018; and (vii) an upgrade of one of the influent pumping facilities, which is expected to be completed in 2019; and (viii) a tunnel dewatering pump station and enhanced clarification facilities to pump out and treat flows captured through the Authority's ongoing combined sewer overflow projects were completed and placed in operation in 2018.

The projected ten-year disbursements for wastewater treatment projects are approximately $979 million, which includes approximately $901 million in disbursements for liquid, plant-wide and solids processing projects such as major improvements to filtration and pumping facilities, and $78 million for the ENRF program projects such as the Tunnel Dewatering Pump Station and Enhanced Clarification Facility.

Sanitary Sewer Projects. The CIP includes approximately $957 million in projected disbursements for sanitary sewer projects including the rehabilitation of six sanitary sewer pumping stations – Potomac, Main & O, Swirl Facility, East Side, and 3rd & Constitution Avenue, as well as sewer condition assessments that cover 60 miles of the system per year through year 2026. Rehabilitation of the District's major assets including the Potomac Interceptor, B Street/New Jersey Avenue Trunk Sewer, Northeast Boundary Trunk Sewer, Anacostia Force Main and portions of the other 35 major sewers are also included. Creekbed sewers and sewers under buildings will largely be rehabilitated as part of these projects. The program to rehabilitate other small and large diameter sewers including replacement and lining of laterals, and replacement of manholes, is an ongoing project of the Authority.

In 2016, the Authority completed a Sewer System Asset Management Plan. This Plan includes a risk tool that calculates the consequence of failure and likelihood of failure for each sewer in the system. This information can then be used to prioritize sewers for inspection/condition assessment and/or rehabilitation. The Plan also includes a high level risk assessment for all pumping stations in the system which can also be used to help prioritize proposed CIP projects for these facilities. The Sewer System Facilities Plan represents the culmination of an initiative involving sewer inspection and condition assessment, development of a sewer GIS database, hydraulic monitoring and modeling to assess system capacity and the development of prioritized activities for system improvement.

Combined Sewer Overflow Projects. The CIP includes $1.34 billion for the DC Clean Rivers Project and combined sewer projects. The DC Clean Rivers Project is designed to control combined sewer overflow discharges to prevent them from causing or contributing to violations of applicable water quality standards. See "THE SYSTEM – Wastewater Regulation and Permits – NPDES Permit." Through the DC Clean Rivers Project, the Authority will construct combined sewage storage/conveyance tunnels that are designed to intercept and store water until Blue Plains can receive and treat the combined sewage. The DC Clean Rivers Project includes a variety of capital improvement projects throughout the System including three large tunnel systems which will accommodate the storage of combined sewer overflows ("CSOs") from storm events until they can be conveyed to Blue Plains for treatment. Approximately one-third of the System is served by a combined sewer system, in which both sanitary sewage and stormwater flow through the same pipes. When the collection system reaches capacity, typically during periods of heavy rainfall, the system is designed to overflow the excess diluted sewage or CSOs.

The DC Clean Rivers Project also includes the Authority's green infrastructure initiative. See "THE SYSTEM – Wastewater Regulation and Permits." The green infrastructure initiative is cost-neutral (as compared to the Authority's tunnel options) and will reduce the size of the tunnels required to serve the Rock Creek and Potomac River by implementing new environmental technologies on a significant scale. Green infrastructure technologies capture, infiltrate, treat and reuse polluted stormwater runoff before it enters the sewer system. Examples of green infrastructure technologies include rain gardens, porous pavements, bioswales, green roofs, infiltration planters, trees and tree boxes, and rainwater harvesting for non-potable uses such as landscape irrigation. See "DEBT SERVICE REQUIREMENTS – Outstanding Subordinate Debt – Subordinate Bonds - Environmental Impact Bonds."

When completed, the DC Clean Rivers Project will reduce the combined sewer overflows by at least 96% (exceeding the EPA standard of 85%), reducing pollution to the Potomac, Anacostia and Rock Creek waterways, improving water quality, and reducing locally generated debris from the combined sewer system and local waterways. The Authority expects to implement the DC Clean Rivers Project, which commenced in March 2005, over a 25-year period, at a total estimated cost (including funds spent prior to Fiscal Year 2018) of $2.8 billion.

Stormwater Projects. The projected disbursements for the stormwater service area in the CIP are approximately $69 million and include extensions to the system and relief of certain sewers as well as rehabilitation or replacement of deteriorated storm sewers. Also, included in the budget is the rehabilitation of the stormwater pumping stations operated and maintained by the District.

Non-Process Facilities Projects. This area accommodates projects approved under the non-process facilities master plan and related improvements necessary to support Authority critical operations. The CIP includes approximately $138 million in projected disbursements for facility land use projects. In fiscal year 2019, the Authority completed its Administrative Headquarters Building at the Main & O Street Campus and relocated over 300 employees into the new LEED Platinum facility.

Washington Aqueduct Projects. The Aqueduct provides wholesale water treatment services to the Authority and other Aqueduct Customers. See "THE SYSTEM – The Water System – The Washington Aqueduct." Under federal legislation enacted and a memorandum of understanding executed in 1997, the Aqueduct Customers have a role in the oversight of the Aqueduct's operations and its capital improvement program. The Aqueduct successfully designed, constructed and implemented a new orthophosphate corrosion control system at its water treatment plants in 2005 that meets the optimal corrosion control requirements of the Lead and Copper Rule. As a result, periodic sampling by the Authority shows that lead levels are below the action level, which supported the decision of the Authority to significantly modify its lead pipe replacement program. The CIP includes approximately $187 million for Aqueduct projects. See "THE SYSTEM – The Water System – Water System Regulation and Permits – NPDES Permit and Water Treatment System Sediments."

Capital Equipment Projects. The CIP includes approximately $295 million for major information technology projects, vehicle fleet upgrades, and large equipment projects at Blue Plains and the major water and sewer pumping stations.

Meter Replacement Projects. The CIP includes approximately $45 million for ongoing meter replacements and continued automated meter reading system improvements and upgrades to the AMR equipment. This planned upgrade is part of the Authority's preventative maintenance program for the advanced meter infrastructure, which collects data from approximately 120,000 meter readings per day and is an essential asset to the Authority's billing process. The upgrades allow the Authority to move to the current version of AMI software and replace aging meters and meter data communication equipment.

CIP Financing Sources

The Authority expects to finance the CIP from multiple sources including (i) revenue bonds, (ii) income from certain fees and charges, pay-as-you-go funds and interest income (all of which constitute Revenues under the Indenture), as well as (iii) federal and other grants and wholesale customer contributions (which are excluded from the definition of Revenues under the Indenture). The CIP financing sources are summarized below.

Revenue Bonds/Commercial Paper Notes. The Authority expects to finance approximately $1.81 billion, or 37.8%, of the sources of funds with new long-term debt. The Authority has used, and expects to use in the future, its Commercial Paper Notes and EMCP Notes to fund capital needs on an interim basis, followed by issuance of long-term revenue bonds (or other forms of indebtedness, as appropriate) to retire outstanding Commercial Paper Notes and EMCP Notes and provide permanent financing for CIP costs. As approved by the Board, the total amount of Commercial Paper Notes outstanding at any time cannot exceed $150 million. As of the date of this Official Statement, $29.2 million of the Series C CP Notes were outstanding. In addition, the Authority anticipates using proceeds from the EMCP Notes as an additional CIP financing source. As approved by the Board, the total amount of Series A

EMCP Notes outstanding at any one time cannot exceed $100 million. As of the date of this Official Statement, $50 million of the Series A EMCP Notes were outstanding.

System Availability Fee. On February 1, 2018, the Board approved a new System Availability Fee ("SAF") to be effective June 1, 2018. The SAF is intended to be a one-time fee, assessed to a property owner of any premises, building or structure, to recover the cost of system capacity servicing all metered water service and sanitary sewer connections renovation or redevelopment projects that require an upsized meter size connection to the water and sewer system in the District. For a renovation or redevelopment project on a property that already has the Authority meters and accounts, credits will be applied for the older meters being removed from the system. Such fees are common in the industry and among utilities in the region. The SAF is based on meter size. The Authority currently expects to finance $68 million, or 1.4%, of the sources of funds with revenues generated by the SAF.

Clean Rivers Impervious Area Charge. The Authority currently expects to finance about $436 million, or 9.1%, of the sources of funds with revenues received from the Clean Rivers Impervious Area Charge ("CRIAC"), which was implemented in Fiscal Year 2009 to recover the costs of the DC Clean Rivers Project. For more information regarding the CRIAC, see "CUSTOMER BASE, RATES AND CHARGES – Components of Retail Rates and Charges – Clean Rivers Impervious Area Charge."

Pay-As-You-Go Funds. The Authority expects to finance approximately $1.36 billion, or 28.5%, of the sources of funds with pay-as-you-go funds. Revenues in excess of those required to meet operating and maintenance expenses, to make debt service payments and to fund reserves can be used, at the discretion of the Authority, to fund a portion of the CIP. The projected financial operations of the Authority assume that such amounts are used as a source of funds for the CIP. In addition, the Authority established a separate line item in its operating budget beginning in Fiscal Year 2015 to provide funds for additional cash-financed capital construction, the defeasance of debt, or other uses at the discretion of the Authority. The projected financial operations of the Authority assume that the amounts in this line item are also used a source of funds for the CIP. The Board has also adopted a policy that authorizes any funds in excess of the operations and maintenance reserve and any other significant one-time cash infusions to be used to finance the CIP or to pay off higher cost debt. The projected financial operations of the Authority assume at this time that no funds are available from these potential sources.

Interest Income on Bond Proceeds. The Authority estimates that $21 million in interest income, or 0.4%, will be available to finance the CIP. Subject to Federal tax law requirements relating to use of the proceeds of tax-exempt bonds, the Authority uses interest earned on the proceeds of its bonds as a source of funds for the CIP. This interest income is treated as non-operating revenue of the Authority that is available to pay debt service, if needed. The use of this income for capital funding purposes represents another source of pay-as-you-go capital.

Federal and Other Grants. The Authority expects to finance approximately $172 million, or 3.6%, of the sources of funds with federal and other grants. The Authority receives annual grants from the federal government under the Clean Water Act and Safe Drinking Water Act for a variety of projects at Blue Plains and for the Water System to improve drinking water supplies and wastewater treatment. Unlike most public water or wastewater utilities, the Authority receives appropriations in the form of grants and not as loans pursuant to a State Revolving Fund program. Under the terms of these grants, payments to the Authority are made on a reimbursable basis, with unclaimed appropriations remaining available to be obligated in subsequent years. In addition, the Authority has received a special Congressional appropriation for improvements to the combined sewer system. Under the Wet Weather Water Quality Act of 2000 that codified the EPA's 1994 National CSO Policy, the U.S. Congress authorized grant funding for the DC Clean Rivers Project. These appropriations require a 50% match from the Authority. As of March 2019, the Authority received $8.0 million in grant funding for the DC Clean Rivers Project, and in Fiscal Years 2016 through 2018, the Authority received an average of $14 million each year for such funding. The Authority also expects to be reimbursed by the District for certain capital investments. Federal and other grants do not constitute Revenues under the Indenture.

Wholesale Customer Contributions. The Authority expects to finance approximately $921 million, or 19.2%, of the sources of funds with wholesale customer contributions. Under the terms of the 2012 IMA, the Authority's wholesale customers share the cost of operating, maintaining and making capital improvements at Blue Plains. A separate agreement with the Loudoun County Sanitation Authority ("LCSA") allows the Authority to recoup capital and operating costs from the LCSA on the same basis as provided for in the 2012 IMA. Contribution levels are governed by the agreements that provide for the pro-rata reimbursement for capital improvements based on the capacity allocated to each wholesale customer. As of the date of this Official Statement, all wholesale customers were current on their capital contributions payments. Wholesale customer contributions do not constitute Revenues under the Indenture.

Cost Estimates

Although actual bid prices for recent construction projects, on average, have been slightly below the engineering cost estimates for such projects, the costs shown in the CIP reflect the Authority's practice of increasing construction cost estimates by 3% annually to the midpoint of construction. There are no assurances that the actual rate of inflation in construction costs will not increase significantly above the assumed rate of inflation or that such increases will not have an adverse impact on the financial operations of the Authority.

An additional consideration regarding the construction cost estimates is the value of change orders relative to the total cost of construction work performed. The cost of construction-related change orders executed by the Authority for contracts closed during the five-year period from Fiscal Year 2014 through Fiscal Year 2018 was $50,872,045, or 5.7% of the total original value of the contracts of $897,320,435 for this period. The relatively low value of change orders compared to the total construction costs incurred is an indication that project designs are thorough and that projects are being effectively managed during construction.

CUSTOMER BASE, RATES AND CHARGES

Customer Categories and Accounts

As of September 30, 2018, the System had 124,906 active, metered water and wastewater accounts (30 of which are accounts of the Authority and 2 of which are accounts of the Aqueduct). Except for wholesale accounts, the majority of accounts receive both water and wastewater service. The Authority's customer accounts are divided into three categories: (i) residential, multifamily and commercial, (ii) governmental and (iii) wholesale. The number of accounts in each of the categories as of September 30, 2018 is set forth in Table 6.

Table 6. Customer Categories and Accounts

Customer Category	Number of Accounts	% of Total Operating Revenue
Residential, Multifamily, Commercial	122,793	62%
Governmental (Federal, District and D.C. Housing Authority) [1]	2,106	17
Wholesale	7	18
Total	124,906	97%[2]

[1] The D.C. Housing Authority is the only District agency that is billed separately. The remaining District agencies are billed as part of a composite bill for the government.

[2] The remaining 3% of the Authority's operating revenue comes from capital contributions, interest income, and other revenue.

Source: Authority records and the Authority's CAFR.

Customer Base

The Authority's customer and revenue base is diverse, consisting of a wide variety of residential, commercial and governmental customers, as well as wholesale wastewater customers. In Fiscal Year 2018, the residential, commercial and multifamily customer revenue represented approximately 62% of total operating revenue.

The commercial portion of the customer base includes a variety of uses, including nationally recognized universities and regional hospitals, commercial office space with tenants that are national associations, lobbying firms, major law firms and large hotels. Table 7 reflects the Authority's ten largest commercial customer accounts in Fiscal Year 2018, which in aggregate represented 2.57% of total operating revenues.

Table 7. Ten Largest Commercial Customers (2018)

Customer	Revenue	% of Total Operating Revenues
Howard University	$3,879,664	0.57%
George Washington University	2,522,689	0.37%
Georgetown University	2,118,763	0.31%
William C Smith & Co.	2,078,614	0.30%
Washington Hospital Center	2,003,511	0.29%
Metropolitan Washington Airports Authority	1,280,248	0.19%
Amtrak	1,046,179	0.15%
American University	1,004,977	0.15%
Medstar - Georgetown University Hospital	850,673	0.12%
Children's Hospital	831,854	0.12%
Total	$17,617,172	2.57%

Source: Authority records.

Table 8 reflects the Authority's ten largest government customers in Fiscal Year 2018, which in aggregate represented 5.57% of total operating revenues.

Table 8. Ten Largest Government Customers (2018)

Customer	Revenue	% of Total Operating Revenues
U.S General Service Administration	$8,096,034	1.18%
D.C. Housing Authority	5,176,951	0.76%
U.S. Congress	5,061,870	0.74%
Smithsonian Institution	4,683,524	0.68%
Bolling Air Force Base	4,187,710	0.61%
U.S. National Park Service	3,298,927	0.48%
Federal Naval Research Lab	2,209,408	0.32%
U.S. Department of Defense	2,082,125	0.30%
U.S. Department of the Navy	1,732,073	0.25%
D.C. Board of Education	1,569,405	0.23%
Total	$38,098,027	5.57%

Source: Authority records.

Customer Demand

Table 9 shows the average percentage of annual water consumption by customer category from Fiscal Year 2014 through Fiscal Year 2018. The results illustrate the diversification of the Authority's customer base.

Table 9. Average Annual Consumption By Customer Category
Fiscal Years 2014 – 2018
(millions of Ccf)

Customer	Average Annual Consumption	% of Total Consumption
Residential Single-Family	7.27	21.0
Commercial	12.76	36.9
Residential Multi-Family	8.27	23.9
D. C. Municipal Government	1.05	3.0
Federal Government	4.44	12.8
D. C. Housing Authority	0.78	2.3
Total Consumption	34.56	100.0

Source: Authority Records. Totals may not add due to rounding.

Table 10 shows projected annual consumption for the Authority's customer categories for Fiscal Years 2019 through 2023. The Authority's use of the AMR program, including the replacement and repair of meters, significantly reduces estimated meter readings and improves the reporting of actual consumption.

Table 10. Projected Annual Consumption by Major Customer Category[1,2]
Fiscal Years ending September 30
(millions of Ccf)

	2019	**2020**	**2021**	**2022**	**2023**
Residential Single-Family	7.00	6.93	6.86	6.79	6.72
Commercial[3]	11.54	11.42	11.31	11.20	11.09
Residential Multi-Family	8.38	8.30	8.21	8.13	8.05
D. C. Municipal Government[4]	1.01	1.00	0.99	0.98	0.97
Federal Government	4.30	4.26	4.22	4.18	4.13
D.C. Housing Authority	0.79	0.78	0.77	0.77	0.76
Total Consumption	33.02	32.69	32.36	32.04	31.72

[1] Totals may not add due to rounding.
[2] Total water consumption in Fiscal Years 2020 - 2023 reflects the assumption of a 1% annual decline.
[3] Reflects consumption at commercial facilities and selected facilities at Soldiers' Home.
[4] Reflects consumption at District of Columbia Government facilities and the Authority facilities.

Source: Amawalk

Some fluctuation in consumption can occur in a given year due to variations in weather conditions and other factors such as billing adjustments. Consumption declined in Fiscal Year 2014 by 3.6%. About 70% of the total decline in Fiscal Year 2014 was attributable to reductions in use by the federal government due to federal initiatives to reduce water use, billing adjustments and other factors. In Fiscal Year 2015, total consumption increased by 5.0% with nearly all of that increase attributable to the federal government. In Fiscal Year 2016 and 2017, total consumption decreased by 1.7% each year. In Fiscal Year 2018, total consumption decreased by 0.9%. See "– Rate-Setting Authority" for additional information.

The Authority anticipates that consumption will total 33.02 million Ccf in Fiscal Year 2019, representing a decrease of 3.0% from the prior year. The Authority assumes that long-term total water consumption will decline at the rate of 1% per year beginning in Fiscal Year 2020, recognizing that weather conditions and other factors may affect water demand in a given year. The expectation that future sales will decline is consistent with recent trends in the Washington, D.C. region as well as the projected sales in other large cities in the northeast United States.

There is some risk that consumption could be lower than anticipated during the Projection Period. The risk is mitigated to some extent in that revenues from the federal government are determined in advance and then subject to a true-up after the year is completed. For example, the significant reduction in actual federal consumption in Fiscal Year 2014 (compared to the budgeted consumption that was billed for Fiscal Year 2014) was reflected in the reconciliation credit to the federal government for Fiscal Year 2017. In addition, the consumption risk is mitigated to a significant extent by retail revenue that is not consumption-related: customer receipts from the meter charge, the

Water System Replacement Fee and the CRIAC, are unaffected by changes in the quantity of customer water use. Consumption-based retail water and wastewater revenues within the District are estimated to comprise about 61% of total revenues (excluding the PILOT/ROW Fee) in Fiscal Years 2019 through 2023. The Authority evaluates its water consumption projections annually in connection with its budget preparations and more frequently if the need arises.

Rate-Setting Authority

The Authority recovers the costs of operations, maintenance and debt service through retail rates and fees, wholesale customer charges and other miscellaneous non-operating income such as interest earnings. The Board establishes the Authority's rates, fees and charges. Only the six Board members representing the District vote on setting retail water and wastewater rates and fees for the retail customers who are customers within the District. No approvals from federal or local officials are required in order to set rates.

Retail Rates, Fees and Charges

The Authority adopted several changes to its retail rate structure that went into effect in Fiscal Year 2016. These changes were designed to better align the Authority's revenues and expenditures by establishing customer class-based volumetric water rates based upon peaking factors, to create a more progressive rate structure for its residential customers by establishing lifeline water rates that discount core consumption and to fund the Authority's water main replacement program by establishing the monthly, fixed Water System Replacement Fee (the "Water System Replacement Fee"). For a summary of the Authority's retail rates, fees and charges, see "– Components of Retail Rates and Charges" and "– Historical and Projected Retail Rates" below.

Historically, the Authority adopted its budgets and its retail rates and charges on an annual basis. The budget process is expected to remain the same during the Projection Period: budgeted revenues, operating expenses and CIP expenditures will be adopted annually by the Board. Beginning with Fiscal Year 2017, the Authority started setting retail rates and charges for a two-year period – i.e., in calendar year 2016 the Board adopted (i) rates and charges effective October 1, 2016 (Fiscal Year 2017) and (ii) rates and charges to be effective October 1, 2017 (Fiscal Year 2018). Similarly, in calendar year 2018 the Board adopted (i) rates and charges to be effective October 1, 2018 (Fiscal Year 2019) and (ii) rates and charges to be effective October 1, 2019 (Fiscal Year 2020). The benefits of the multi-year rate setting include: greater revenue certainty, increased budget discipline, and better alignment between revenues and expenditures. The retail rates and charges are expected to change each year. See "– Historical and Projected Retail Rates" and "THE AUTHORITY – Authority's Relationship to the District." If the Authority determines that revenues are materially less than expected and/or debt service or operating expenses are materially higher than budgeted, the Authority has the ability to adjust its retail rates and charges during the Fiscal Year. Historically, there has been no need for the Authority to make such changes during a Fiscal Year.

The total revenues and revenue requirements remain unchanged for Fiscal Year 2020 from the budget adopted by the Board in calendar year 2018. In calendar year 2019, however, the Authority modified the adopted wastewater rate and the CRIAC. As described herein, the wastewater rate for Fiscal Year 2020 increased from the adopted rate and the CRIAC decreased from the adopted rate, with the resulting revenues being relatively unchanged.

The Authority receives annual grant funding under the Clean Water Act which requires the maintenance of wastewater charges sufficient to defray costs of operation, maintenance and replacement and surcharges for industrial discharges into the System's sewers levied in conformity with formulas set forth in the Clean Water Act and regulations thereunder. See "CAPITAL IMPROVEMENT PROGRAM - CIP Financing Sources."

Federal Government Charges

The Authority's forecasted water and wastewater charges for the federal government are prepared and included in the federal budget 18 months in advance of the commencement of the Authority's Fiscal Year based on the prevailing consumption estimates, projected retail rate increases as included in the current ten-year financial plan and adjustments for prior year true-ups. The federal government budgets for and pays its bills quarterly directly from the U.S. Treasury based on the estimates provided by the Authority in advance. Under the current billing process, any differences between the projected and the actual charges are netted against a future year's billing. Federal government revenues are expected to constitute approximately 11.8% of the Authority's total annual revenues during Fiscal Year 2019 through Fiscal Year 2023 (excluding the PILOT/ROW Fee).

Water consumption billed to Federal accounts in recent years has shown significant year to year fluctuation and an overall reduction compared to prior years. The Authority has adjusted its future forecasts for federal revenue primarily due to four factors:

i. A previous executive order created a requirement for federal agencies to reduce potable water and landscaping use water by 2% annually through conservation measures until 2020; Authority conversations and investigations with federal property managers show that significant progress is being made toward this goal through plumbing fixture replacement.

ii. In the District, the Telework Enhancement Act (the "Telework Act") has resulted in a significant shift to employees working from home, reducing water used at the workplace, and, pursuant to the Telework Act, GSA has strategically reduced the number of buildings it owns and operates in the District in favor of placing employees in shared rental spaces. In the latter case, the water reduction observed in federal buildings is partially made up in the commercial customer billing of the Authority.

iii. There have been significant adjustments made to federal bills as a result of property sales and transfers between the federal and District governments.

iv. The Authority accelerated a testing and calibration program on large capacity meters installed at federal properties and observed that some of the meters had degraded and were measuring less water than was actually being consumed. Where possible, the Authority is retroactively billing for the difference in consumption.

Wholesale Customer Charges

The Authority provides wholesale wastewater treatment services to User Jurisdictions at Blue Plains. Each wholesale customer's share of operating costs at Blue Plains is recovered in accordance with the Blue Plains Intermunicipal Agreement of 1985, the 2012 IMA, the Potomac Interceptor Agreements and the Loudoun County Sanitation Authority Agreement (as discussed in more detail in "THE SYSTEM – The Wastewater System"), and is based on actual costs of operating and maintaining the plant and the collection facilities, prorated to each User Jurisdiction based on its respective actual share of wastewater flows. A User Jurisdiction's share of capital costs is based on its share of capacity allocations in the plant. Both operating and capital payments are made on a quarterly basis. Wholesale customer revenues are expected to constitute approximately 11.5% of the Authority's total annual revenues during Fiscal Year 2019 through Fiscal Year 2023 (excluding the PILOT/ROW Fee).

Wholesale customers are billed based on the adopted budget for that Fiscal Year. Capital-related charges are billed quarterly with payments due on the 15th day of the second month following the end of the quarter. The operating and maintenance-related charges are billed annually by mid-October and payments are due each November, February, May and August. Following each Fiscal Year, the Authority prepares a reconciliation that determines the actual costs and each wholesale customer's appropriate share of such costs. Adjustments are then billed or credited to the wholesale customers in the first quarter of the subsequent Fiscal Year.

Components of Retail Rates and Charges

The primary retail rates and fees include water and wastewater charges, the clean rivers impervious area charge, the PILOT/ROW Fee and the stormwater fee.

Water and Wastewater Charges

Water and Wastewater Consumption Rates. Water and wastewater consumption rates are based on metered water usage and are stated in terms of hundred cubic feet ("Ccf"). Through Fiscal Year 2015, each of the Authority's three customer classes (i.e., Residential, Multi-Family and Non-Residential) were charged the same consumption rates. In Fiscal Year 2015, the Authority retained Raftelis Financial Consultants, Inc. ("RFC") to analyze the allocation of costs between the water and wastewater rates, as well as the peak demand factors of its various customer classes, and to prepare a cost of service study (the "2015 COS Study"). Based on the findings of the 2015 COS Study, the Authority's management recommended a restructuring of the rates, charges and fees to the Board to include water rate classes for Residential, Multi-Family and Non-Residential customers. Wastewater rates remain uniform for all customers. The Board adopted this new rate structure for Fiscal Year 2016, effective October 1, 2015. Water and wastewater consumption rates increased 5.0% in each of Fiscal Years 2017 and 2018.

The Authority undertakes a cost of service study every three years to ensure that its rates are appropriately capturing actual expenditures. The cost of service study prepared by RFC in 2018 (the "2018 COS Study") recommended no changes to the water rate structure and classes in Fiscal Year 2019, but did recommend decreases in water rates, an increase to the wastewater rate and a reduction in the CRIAC to better align rates and revenues with the cost of providing services. The estimated overall increase in water and wastewater consumption-based rates for Fiscal Year 2019 is 13.0% and Fiscal Year 2020 is 11.5%. The CRIAC was reduced by 8.7% and 9.0%, respectively.

Customer Metering Fee. The Authority assesses a metering fee to recover costs associated with installing, operating and maintaining meters and the AMR system. The metering fee is charged as a separate line item on retail customer bills and varies by meter size. The metering fee is assumed to remain unchanged in Fiscal Years 2019 through 2023, providing $11.5 million in Fiscal Year 2019 and $10.8 million in revenue per year each year after.

Water System Replacement Fee. The Authority implemented the meter-based Water System Replacement Fee in Fiscal Year 2016 in order to recover the cost of the renewal and replacement program for water infrastructure. The Water System Replacement Fee is assumed to remain unchanged in Fiscal Years 2019 through 2023. It is anticipated that the Water System Replacement Fee will generate $40.5 million in Fiscal Year 2019 and $39.7 million in revenue per year from Fiscal Years 2020 through 2023.

Clean Rivers Impervious Area Charge

Overview. In Fiscal Year 2009, the Authority approved the development and implementation of the CRIAC to recover the costs of the DC Clean Rivers Project, mandated by the EPA Region III pursuant to the 2005 LTCP Consent Decree. The DC Clean Rivers Project will be implemented over a 25-year period at a total cost of $2.8 billion. See "THE SYSTEM – Wastewater Regulation and Permits – *NPDES Permit*." For an explanation of the different term contemplated for the DC Clean Rivers Project in the CIP and under the 2005 LTCP Consent Decree, see "CAPITAL IMPROVEMENT PLAN – Categories of CIP Projects – Combined Sewer Overflow Projects." Prior to the implementation of the CRIAC, the DC Clean Rivers Project cost was bundled in the wastewater rate based on the amount of water consumed.

The CRIAC is based on the amount of impervious area on a property, rather than on the amount of water consumption, which is a more equitable method of recovering the DC Clean Rivers Project costs. It allows the Authority to expand its customer base by charging all properties that generate stormwater, including those that may not use water (e.g., parking lots). An impervious area is a man-made surface that cannot be easily penetrated by water, such as a rooftop, a paved driveway, a patio, a swimming pool or a parking lot that impedes the percolation of water into the subsoil and plant growth. The Authority maintains a database in which it classifies each parcel located within the District as pervious or impervious. This database and the classifications therein provide the basis for the District's billing of the CRIAC.

All residential customers are charged Equivalent Residential Units ("ERUs") based upon six tiers that reflect the amount of impervious surface area on each residential lot. The tiers and the number of properties within each tier are shown as of September 30, 2018 in Table 11.

Table 11. Equivalent Residential Unit Tiers

Tiers	Size of Impervious Area (square feet)	Equivalent Residential Unit	No. of Properties (as of August 2019)
Tier 1	100 – 600	0.6	18,799
Tier 2	700 – 2,000	1.0	81,034
Tier 3	2,100 – 3,000	2.4	6,255
Tier 4	3,100 – 7,000	3.8	2,796
Tier 5	7,100 – 11,000	8.6	146
Tier 6	11,100 and more	13.5	68

Source: Authority records.

The CRIAC is applied to all lots, parcels, properties and private streets throughout the District that are greater than 100 square feet, except for District or federally owned rights-of-way. The CRIAC is added to the customer's metered service bill and billed monthly unless the property is impervious only and has no other metered water or wastewater service. The CRIAC will be reviewed regularly and adjusted as appropriate by the Board.

CRIAC rates in Fiscal Year 2020 are expected to be lower than in the prior year and wastewater rates are expected to be higher due to both: a) increases in the cost of service, and b) an allocation of a portion of the costs of the LTCP to wastewater charges in lieu of the CRIAC. The allocation of a portion of LTCP costs to wastewater charges is based on an analysis prepared by the Authority which estimates that sanitary sewage comprises 37% of combined wastewater and stormwater. DC Water expects to allocate a portion of the LTCP costs to wastewater charges in three stages, beginning with an 18% allocation in Fiscal Year 2020. In Fiscal Years 2021 and 2022, the allocated portions will be 28% and 37%, respectively. Allocated LTCP costs in Fiscal Year 2023 are expected to remain at the 37% level. Amawalk reviewed the Authority's analysis and found it to be reasonable and consistent with industry practice. As a result of the changes in LTCP cost allocation, the CRIAC rate in Fiscal Year 2020 is expected to be $20.94 per ERU, a decrease of 9.0% from the prior year. In Fiscal Years 2021 and 2022, with an increasing share of LTCP costs being assigned to the wastewater rate instead of the CRIAC, the projected CRIAC rates are $20.95 and $19.85 per ERU, respectively. In Fiscal Year 2023, the projected CRIAC rate is $21.45 per ERU.

CRIAC Incentive Program. The Water and Sewer Authority Equitable Ratemaking Amendment Act of 2008 (the "2008 Amendment Act"), approved by the Council in 2008, and signed by the Mayor of the District on January 23, 2009, amended the Act to authorize the Authority's CEO to restrict combined sewer flow into the District from Maryland and Virginia and to require the Authority to, among other things, offer financial assistance programs to mitigate the impact of any increases in retail water and wastewater rates on low-income residents of the District, including a low-impact design incentive program. The 2008 Amendment Act also amended the District of Columbia Public Works Act of 1954 to broaden the bases for the determination of sanitary sewer service charges to include impervious surface area and to provide for an appeal process for the assessment of an impervious surface fee.

The 2008 Amendment Act requires the Authority, together with the DOEE, to establish an incentive program to institute certain eligible best management practices that reduce the amount of stormwater runoff generated from a property. In 2013, the Authority created the CRIAC Incentive Program, which provides a 4% maximum incentive credit. In 2019, the Authority strengthened the CRIAC Incentive Program to provide a 20% maximum incentive credit. The actual credit amount is calculated based upon a formula provided by the DOEE.

CRIAC Credit. In Fiscal Year 2016, the Board asked management to evaluate and propose recommendations for expansion of the Customer Assistance Program ("CAP") to include fees assessed for the CRIAC. The staff evaluated the three options for CRIAC credit: (i) dollar credit, (ii) ERU credit, and (iii) percent of CRIAC credit (25%, 50%, 75%). Based on the detailed analysis, the management made recommendations to the Board to expand the CAP to low-income customers to include a CRIAC credit in the monthly bills. On December 1, 2016, the Board adopted the expansion of the CAP for eligible single-family residential accounts and individually metered accounts to include a fifty percent (50%) credit of the monthly billed CRIAC. The CRIAC credit was implemented in Fiscal Year 2017. See "– Customer Assistance Programs" below.

PILOT/Right of Way Occupancy Fee

These fees recover the cost of the PILOT and Right of Way fees (collectively, the "PILOT/ROW Fee"), which are charges levied by the District for payments in lieu of taxes and occupancy or use of public spaces or rights of way including that used by the Authority for its underground infrastructure. The Authority passes the PILOT/ROW Fee through to retail customers based on metered water consumption as a separate line item on the bills. Effective October 1, 2018 (i.e., for Fiscal Year 2019), the Authority's PILOT/ROW Fee is $0.68 per Ccf. The PILOT/ROW Fee is expected to increase to $0.70 per Ccf effective October 1, 2019 (Fiscal Year 2020) and then increase gradually each year through Fiscal Year 2023.

Stormwater Fee

The Authority's retail water and wastewater bills also include a stormwater fee levied on behalf of the District government, which the Authority transfers to DOEE on a pass-through basis. The stormwater fee is charged as a separate line item on retail customer bills. The DOEE has rate-setting authority for stormwater services provided by the District and the Authority expects to work collaboratively with the DOEE to set future rates. See "THE AUTHORITY – Authority's Relationship to the District." The stormwater fee charged to retail customers is $2.67 per ERU, which rate has been in effect since October 1, 2016. The stormwater fee is expected to remain the same for Fiscal Years 2020 through 2023.

Although the Authority no longer administers the program, pursuant to the July 25, 2008 MOU with DOEE, the Authority retains a portion of the stormwater fee revenues to cover its share of District stormwater expenditures. See "THE AUTHORITY – Authority's Relationship to the District – *Memoranda of Understanding*" and "FINANCIAL OPERATIONS – System Revenues – *Stormwater Revenues*." The stormwater fees that are transferred to the District do not constitute Revenues under the Indenture, however, the stormwater fee revenues that are retained by the Authority to cover its share of stormwater expenditures are considered non-operating revenues of the Authority and do constitute Revenues under the Indenture.

Historical and Projected Retail Rates

The Board approves the Authority's retail water and wastewater rates as part of the ten-year financial plan, which includes annual rate increases, in line with the Board's policy of implementing rate increases in a gradual and predictable manner.

Table 12 sets forth historical water and wastewater rates and the CRIAC of the Authority. Table 13 sets forth the adopted and projected water consumption and wastewater usage rates as well as the CRIAC of the Authority for Fiscal Years 2019 through 2023. Revenue resulting from the CRIAC will recover the majority of the cost of the LTCP for the period of Fiscal Year 2019 through Fiscal Year 2023.

Federal government customers in Virginia pay the Arlington County retail rate, which is currently $3.52 per Ccf for water. Federal government customers in Maryland pay according to the WSSC rates, which include a fixed charge and a consumption-based charge that increases with higher levels of usage.

Table 12. Historical Water and Wastewater Retail Rates and Charges[1]

($ per Ccf for Water and Wastewater, Other Charges are $ Per Unit as Noted)

Fiscal Year	Water Consumption Rate	Wastewater Usage Rate	Combined Rate	Water and Wastewater Percent Increase	CRIAC Rate (Per ERU)	Meter Charge (Per 5/8" Meter)[3]	Water System Replacement Fee (Per 5/8" Meter)[3]
2014	3.61	4.41	8.02	5.5%	11.85	3.86	
2015	3.88	4.74	8.62	7.5	16.75	3.86	
2016[2]							
Residential – 0-4 Ccf	3.08	5.44	8.52	6.5	20.30	3.86	6.30
Residential - >4 Ccf	3.87	5.44	9.31				
Multi-Family	3.45	5.44	8.89				
Non-Residential	3.99	5.44	9.43				
2017[2]							
Residential – 0-4 Ccf	3.23	5.71	8.94	5.0	22.24	3.86	6.30
Residential - >4 Ccf	4.06	5.71	9.77				
Multi-Family	3.62	5.71	9.33				
Non-Residential	4.19	5.71	9.90				
2018[2]							
Residential – 0-4 Ccf	3.39	6.00	9.39	5.0	25.18	3.86	6.30
Residential - >4 Ccf	4.26	6.00	10.26				
Multi-Family	3.80	6.00	9.80				
Non-Residential	4.40	6.00	10.40				

1 Rates and charges are billed monthly.
2 Percent increase reflects the overall average increase for all customers; the increases for individual customers vary by customer class and consumption.
3 The Meter Charge and the Water System Replacement Fee as shown reflect a customer with a 5/8" meter. The Charge and the Fee vary by the size of the meter.

Source: Authority records.

Table 13. Current and Projected Retail Rates and Charges[1]

($ per Ccf for Water and Wastewater, Other Charges are $ Per Unit as Noted)

		Current	Proposed[2]	Projected[2]		
	Units	2019	2020	2021	2022	2023
Water Rates						
Residential - 0-4 Ccf	Ccf	2.91	3.06	3.44	3.84	4.17
Residential - >4 Ccf	Ccf	3.90	4.10	4.61	5.14	5.58
Multi-Family	Ccf	3.37	3.54	3.98	4.44	4.82
Non-Residential	Ccf	4.05	4.25	4.78	5.33	5.78
Wastewater Rates	Ccf	7.75	8.89	10.00	11.15	12.10
Water & Wastewater % Change[3,4,5]	%	13.0%	11.5%	12.5%	11.5%	8.5%
CRIAC	ERU	23.00	20.94	20.95	19.85	21.45
Meter Charge[6]	5/8" Meter	3.86	3.86	3.86	3.86	3.86
Water System Replacement Fee[6]	5/8" Meter	6.30	6.30	6.30	6.30	6.30

1 Rates and charges are billed monthly.

2 Rates for Fiscal Years 2020 through 2023 are projected and subject to change.

3 Water and wastewater percent change reflects the overall average increase for all customers; the increases for individual customers will vary by customer class and consumption.

4 In Fiscal Year 2019, the decrease in water rates and the CRIAC and the increase in wastewater rates is based on adjustments recommended by the Cost of Service Study. See "Components of Retail Rates and Charges." The net increase in total charges (i.e., water, sewer, CRIAC, Meter Charge, WSRF) relative to Fiscal Year 2018 for an average residential customer is expected to be 5.9%.

5 In Fiscal Year 2020 through 2022, an increasing percentage of the cost of the LTCP is recovered through wastewater rates, resulting in higher wastewater rates and a decrease in the CRIAC compared to Fiscal Year 2019. The net increase in total charges (i.e., water, sewer, CRIAC, Meter Charge, WSRF) relative to the prior year for an average residential customer is projected to be 5.7%, 8.5%, and 7.3%, respectively.

6 The Meter Charge and the Water System Replacement Fee as shown reflect a customer with a 5/8" meter. The Charge and the Fee vary by the size of the meter.

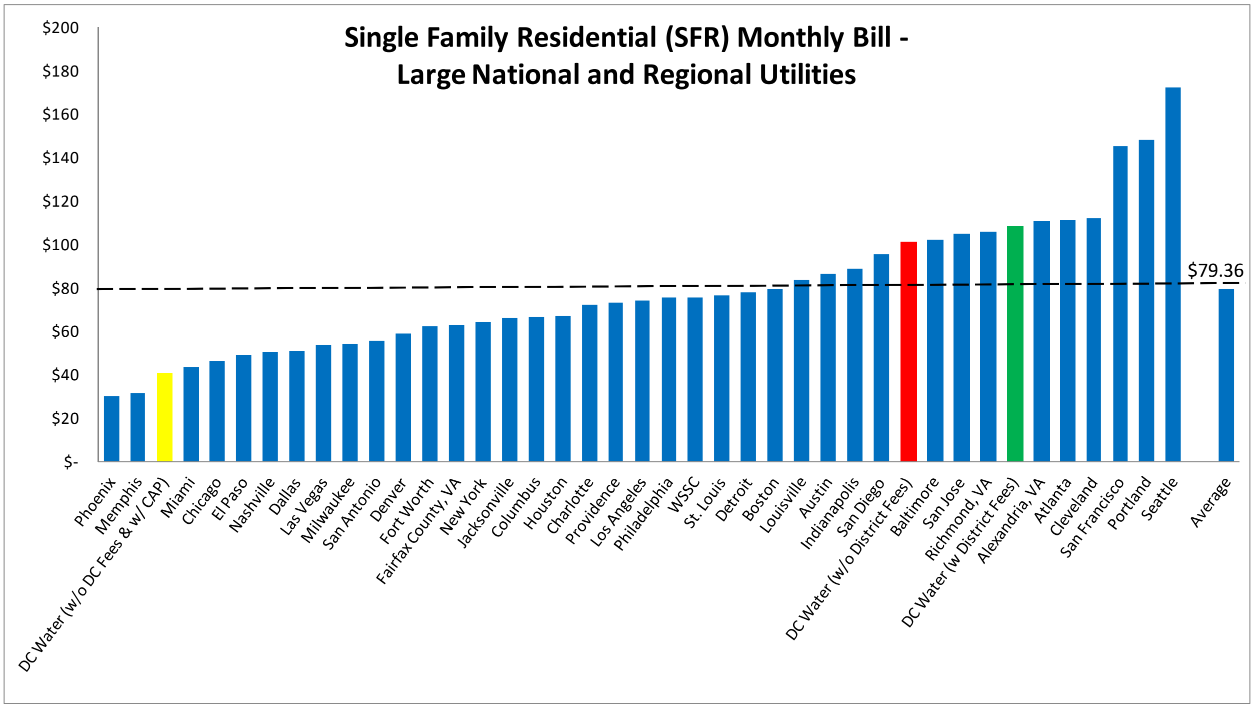
Source: Authority records.

Retail Rate Comparison

The Authority's retail rates are comparable to those of other utilities in the metropolitan Washington, D.C., region and other similar utilities in the eastern United States and nationally. Table 14 compares the Authority's combined water, wastewater and impervious area residential charges to these utilities. The table reflects the Authority's Fiscal Year 2019 rate and fee charges; rates for other utilities are as of July 1, 2019. The Authority's Fiscal Year 2019 rate and fee charges are shown both with and without the pass-through of the District's PILOT/ROW Fee in the amount of $0.68 per Ccf, and the DOEE residential stormwater rate of $2.67 per ERU per month.

The Authority offers assistance to qualifying low income ratepayers through its Customer Assistance Program (CAP). Table 14 also illustrates the monthly bill for a CAP customer with average Single Family Residential characteristics.

Table 14. Comparison of Average Authority Water and Wastewater Bill to Bills of Other Utilities[1,2]



1 Assumes average residential consumption of 6.20 Ccf, or 4,638 gallons, per month.

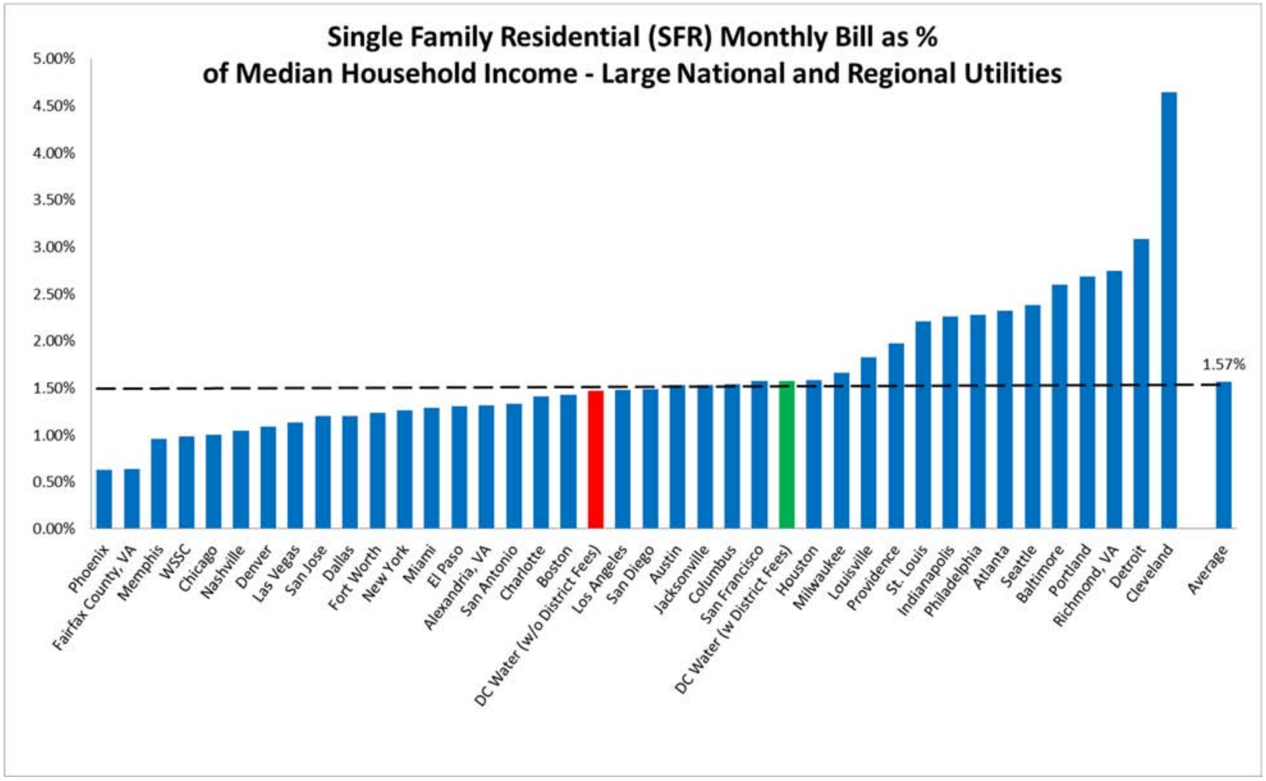
2 User charges are based upon information provided by the identified cities and standardized assumptions regarding water consumption, wastewater discharge, stormwater drainage area and other factors. Actual charges in each city will vary in accordance with local usage patterns. There may be significant differences in typical single family residential usage among cities which results in charges that are different than shown above. Some cities bill for sewer use on the basis of winter water consumption which could affect sewer billings if a customer's use was not uniform throughout the year. Wastewater charges include stormwater charges in those cities where separate stormwater fees are assessed. Some cities use property tax revenue or other revenues to pay for part of the cost of water, wastewater or stormwater services. In such situations, the user charges will not reflect the full cost of water, wastewater or stormwater services. Some cities impose charges that become part of the cost of water/wastewater services. Water/wastewater bills in some cities are subject to sales taxes, gross receipts taxes and/or other fees. Affordability programs are used by many cities to reduce the annual charges to eligible customers.

3 Charges for all cities reflect rate schedules in effect on July 1, 2019.

Source: Amawalk

The median income in the District is competitive with the median income in many other jurisdictions. Table 15 illustrates the Authority's charges for a single family residential customer as a percentage of median income compared to similar data for other water and wastewater utilities.

Table 15. Comparison of Average Authority Water and Wastewater Bill (As Percentage of Median Income) to Bills of Other Utilities [1,2]



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[1] Assumes average residential consumption of 6.20 Ccf, or 4,638 gallons, per month.
[2] Reflects rates and fee in place as of July 1, 2019.

Source: Amawalk

Collections

The Authority has implemented policies and business practices intended to optimize the collection of customer billings. Measures are taken, including cross checks with property records, to ensure that all users of the Authority's system are being billed. With the implementation of the AMR system, the Authority can access customer usage data at any time and can alert customers to apparent leaks promptly. In September 2013, the Authority achieved the lowest 90-day receivable balance in the Authority's history at $4.9 million. The Authority typically maintains a 90-day receivable balance of less than 2.0% of Operating Reserves. This is the result of a comprehensive strategy that integrates several consumer services functions along with an aggressive customer contact process that addresses collections issues early when outstanding balances are within the range of customers' ability to pay, improved lien processing for delinquent accounts, and enhanced coordination efforts with other District agencies.

The Authority's collection program includes: (i) assessing customers a 10% late fee if their bill is not paid by day 31 after the date of billing, and sending customers a friendly reminder notice; (ii) placing a call to the customer using an automatic notification call program on day 34; (iii) sending the customer notice of intent to disconnect service on day 39 (which, in accordance with District laws and regulations gives customer 15 days to pay the delinquent bill and maintain service); (iv) mailing to the owner of the property an intent to place a lien on the property on day 65 (which gives the owner 10 additional days to pay the bill before a lien is placed on their property) and imposing an additional 1% penalty per month on all delinquent balances after 60 days; (v) placing a call to the customer on day 67 to inform him/her of the Authority's intent to place a lien on the property if the delinquent bill is not paid; and (vi) placing a lien on the property on day 80. The lien becomes a part of the public record and appears on the owner's credit report and adversely affects their FICO score. The Authority will remove a lien only if the delinquent account balance is paid in full, and/or if the lien was placed in error. Once paid, the lien is removed and reflected as "satisfied" on the credit report but the customer's FICO score is not changed unless the customer contacts the credit bureau. The Authority's liens are continuous, which entitles the Authority to collect the current outstanding balance owed by a customer regardless of the balance at the time the lien was placed.

The Authority utilizes collection analysts who make calls to owners of delinquent accounts with a focus on the top 250 delinquent accounts. The Authority also takes legal action to have delinquent multi-family apartment building owners placed in receivership. This may result in the Authority receiving a percentage of the tenants' rent that is collected by a court-appointed Receiver before the owner can collect any rent. The account stays in receivership until paid in full.

After all efforts to collect have been exhausted, and as a last resort, the Authority will disconnect service for non-payment and not restore it until the delinquent bill is paid. The AMR system allows the Authority to know if water is being used after service has been disconnected due to non-payment. If this occurs, the meter will be removed or locked and service will not be restored until the delinquent amount, plus any applicable fees, are paid in full.

Table 16 shows the cumulative retail (including commercial) customer balances that were delinquent more than 90 days. There is one government delinquency to report, which is related to DC Government/Municipal property. It is noted that collection efforts were suspended in October 2017 in preparation for the implementation of the new Customer Information System. Collection efforts resumed in July 2018. The receivable balances have declined during the first six months of Fiscal Year 2019 as shown in Table 16.

Table 16. Retail Customer Cumulative Delinquent Balances
($ in millions)

As of September 30,	Amount[1]	Percent of Operating Revenue
2014	5.3	1.1
2015	6.5	1.2
2016	7.7	1.3
2017	8.4	1.4
2018	13.4	2.1
2019 (Q2 YTD March)	11.8[2]	1.7[3]

[1] Amounts shown are as of the end of each Fiscal Year for amounts delinquent more than 90 days and do not include previously disputed amounts for Howard University (now resolved) and the Soldiers' Home discussed below.

[2] Amount shown is from October 2018 Finance & Budget Committee - through September 30, 2018 and April 2019 Finance & Budget Committee - through March 31, 2019.

[3] This percentage is for the projected revenue of FY 2019.

Source: Authority records.

Special Accounts

The Authority has historically provided some U.S. Soldiers and Airmen's Home ("Soldiers' Home") accounts with free water service in exchange for the use of certain parcels of Soldiers' Home property to maintain a reservoir that provides water to the District. The Authority contends that the Soldiers' Home is required to pay for sewer service and impervious area fees, as well as water services for certain accounts, and has sought payment for these services and fees since 2010. The parties were unable to resolve this matter over the years, and in January 2018, the Authority filed a lawsuit against the Soldier's Home to recover payments for sewer service charges from 2010 to present. The amount of unpaid charges sought is $13.7 million. Other than the free water service provided to the Soldier's Home, there are no other exempt accounts, nor does the Authority anticipate the addition of any new exempted accounts.

Customer Assistance Programs

The Authority sponsors two programs to assist low income customers in paying their water bills: Customer Assistance Program and Serving People by Lending A Supporting Hand ("S.P.L.A.S.H.").

Customer Assistance Program. The Authority implemented the CAP in 2001 providing a discount of up to 4 Ccf per month of water service for single family residential homeowners that meet income eligibility guidelines. The CAP has been enhanced in subsequent years, as summarized below. Enhancements were effective either on the first day of the Fiscal year or during the year shown.

Fiscal Year	CAP Enhancement
2004	Include tenants who meet the financial eligibility requirements and whose primary residence is separately metered by the Authority
2009	Provide a discount of 4 Ccf per month of water and sewer services
2011	Provide a discount of the first 4 Ccf of PILOT/ROW Fee
2016	Provide a 100% discount of the new Water System Replacement Fee (WSRF)
2017	Provide a 50% credit on the billed Clean Rivers Impervious Area Charge (CRIAC)
2018	Provide a discount of 3 Ccf per month of water and sewer services (excluding PILOT/ROW) for expanded income guidelines
2018	Provide a 50% credit on the billed Clean Rivers Impervious Area Charge (CRIAC) for expanded income guidelines
2018	Provide a 75% credit on the billed Clean Rivers Impervious Area Charge (CRIAC) for eligible customers under expanded income guidelines (excludes water and sewer services credits)
2018	Provide up to 90% credit on the billed Clean Rivers Impervious Area Charge (CRIAC) for eligible non-profit organizations
2019	Enacted CAP II and CAP III program for customers not eligible for the CAP program

Table 17A sets forth the number of customers assisted and the total discount provided through the CAP discount since Fiscal Year 2015. The projected revenues of the Authority take into consideration the discounts provided to low-income customers under the CAP. As of Fiscal Year 2019, DC Water enacted an expanded program (CAP II) for low-income residential customers who do not qualify for CAP with a household income up to 80% of the Area Median Income (AMI). Eligible customers receive a discount of up to 3 Ccf per month for water and sewer services and a 50% discount for the CRIAC. Additionally, a new District-funded program (CAP III) will provide benefits to DC Water customers with household income greater than 80% and up to 100% Area Median Income (AMI) who do not qualify for CAP or CAP II. An eligible customer under CAP III receives a 75% discount for the CRIAC. Table 17B sets for the number of customers assisted and the total discount provided through the CAP II and CAP III discount for Fiscal Year 2019. The District also funded the CRIAC Nonprofit Relief Program in 2019, which is designed to provide CRIAC credits to nonprofit organizations as determined by the District Department of the Environment. An eligible customer under the Nonprofit Relief Program receives up to a 90% discount for CRIAC.

Table 17A. Customer Assistance Program Discount

Fiscal Year	Customers Assisted	Water/Wastewater PILOT/ROW ($)	WSRF Discount ($)[1]	CRIAC Credit ($)[1]	Total Amount
2015	4,498	1,207,986	-	-	1,207,986
2016	4,379	808,797	185,013	-	993,810
2017	4,244	810,295	195,328	129,674	1,135,297
2018	4,324	737,199	176,403	274,972	1,188,574
2019[2]	3,846	279,430	61,706	91,299	432,435

1 The CAP data for 2016 and 2017 reflect partial-year benefits for the WSRF discount and CRIAC credit, as they became effective on May 1, 2017. Benefits provided in Fiscal Year 2018 and future Fiscal Years will include the full effect of the WSRF discount and the CRIAC credit.

2 Q2 YTD March

Source: Authority records.

Table 17B. Customer Assistance Program II and III Discount

Fiscal Year	Customers Assisted	Water/Wastewater PILOT/ROW ($)	WSRF Discount ($)	CRIAC Credit ($)	Total Amount ($)
2019 – CAP II[1]	66	9,252	-	3,936	13,187
2019 – CAP III[1]	27	-	-	4,716	4,716

[1] Q2 YTD March

Source: Authority records

S.P.L.A.S.H. Through the S.P.L.A.S.H. program, the Authority offers assistance to families in need so that they can receive critical water services. S.P.L.A.S.H. is funded solely by contributions from the community, customers and from the Authority employees. The Authority has redesigned its water and sewer bills to make it easier for its customers to make contributions to S.P.L.A.S.H. The Authority pays all administrative costs of this program, which is administered directly by the Greater Washington Urban League (GWUL). All contributions are deposited in a bank account from which the (GWUL) makes payments on behalf of eligible customers. Every dollar received by the Authority is distributed to eligible customers. Table 18 shows the number of customers assisted by the Authority and the total amount distributed through the S.P.L.A.S.H. program since Fiscal Year 2015.

Table 18. S.P.L.A.S.H Program Distribution

Fiscal Year	Participating Customers	S.P.L.A.S.H Value
2015	351	115,684
2016	309	101,098
2017	331	103,283
2018	212	104,361
2019[1]	155	52,454

[1] Q2 YTD March

Source: Authority records.

Customer Service Operations

The Department of Customer Services reports to the Assistant General Manager of Customer Care and Operations and is responsible for meter installations, meter reading, meter testing, billing and collections. The Authority continuously evaluates its customer service offerings to ensure that customers receive the best possible service.

FINANCIAL OPERATIONS

Historical Financial Operations

The Authority derives its revenues primarily from retail customer payments for water, wastewater and stormwater services, which account for 82.0% of total revenues, and wholesale customer payments for wastewater treatment services, which account for 11.5% of total revenues (excluding the PILOT/ROW Fee for Fiscal Years 2019 through 2023). The Authority's operating revenues have steadily increased since its creation, due largely to rate and fee increases approved by the Board, which are discussed in more detail in the section entitled "RATES AND CHARGES – Historical and Projected Water and Wastewater Retail Rates."

The Authority is committed to optimizing the cost of service it offers and as a result places emphasis on managing its expenses. The Authority's Budget Department closely monitors spending to ensure compliance with approved operating and capital budgets. This includes preparation of daily and monthly management reports for each operating unit and financial system controls that prevent overspending. The Authority's Finance Department provides detailed monthly reports on cash and investments, revenues, operating budget and capital spending to the Board's

Finance and Budget Committee. In addition, the Authority's Department of Engineering and Technical Services provides quarterly updates on the CIP status to the Board's Environmental Quality and Sewerage Services and Water Quality and Water Services Committees, as well as to the Finance and Budget Committee.

Table 19A presents historical revenues, expenses and changes in net position using information contained in the audited financial statements for Fiscal Years 2014 through 2018. Table 19B presents historical revenues, expenses and changes in net position for the first six months of Fiscal Year 2018 and the first six months of Fiscal Year 2019. The Authority's complete financial statements for the Fiscal Years ended September 30, 2018, and 2017, are attached hereto as APPENDIX B.

Table 19A. Historical Revenues, Expenses and Change in Net Position
($ in thousands)

	Fiscal Year Ended September 30				
	2014	**2015**	**2016**	**2017**	**2018**
Operating revenues					
Residential, commercial and multi-family customers	$295,209	$335,711	$382,552	$401,246	$425,492
Federal government	39,001	54,274	63,417	67,672	73,551
District government and DC Housing Authority	28,852	32,948	38,185	40,683	42,710
Charges for wholesale wastewater treatment	96,845	112,522	91,873	101,619	121,961
Other	13,917	14,460	19,762	32,149	20,788
Total Operating Revenues	473,824	549,915	595,789	643,169	684,502
Operating expenses					
Personnel services	108,467	115,233	124,239	132,124	142,342
Contractual services	68,172	66,241	74,086	72,611	74,627
Chemicals, supplies and small equipment	31,748	32,935	29,524	33,381	31,152
Utilities and rent	29,939	30,848	23,934	24,262	26,163
Depreciation and amortization	77,833	83,857	89,512	97,900	115,453
Water purchases	28,407	29,109	26,345	26,796	28,357
Payment in lieu of taxes and right of way fee	11,458	20,437	20,744	21,057	21,376
Total operating expenses	356,024	378,660	388,384	408,131	439,470
Operating income	117,800	171,255	207,405	235,038	245,032
Nonoperating revenue (expenses)					
Interest income	977	1,316	2,629	3,740	5,866
Interest expense and fiscal charges	(69,288)	(61,409)	(69,118)	(68,293)	(93,956)
Total nonoperating revenue (expenses)	(68,311)	(60,093)	(66,489)	(64,553)	(88,090)
Change in net position before Federal grants and contributions	49,489	111,162	140,916	170,485	156,942
Contributions of capital from Federal government	94,690	67,965	32,431	24,066	30,419
Change in net position	144,179	179,127	173,347	194,551	187,361
Net position, beginning of year	$1,206,636	$1,350,815	$1,529,942	$1,703,289	$1,897,840
Net position, end of year	$1,350,815	$1,529,942	$1,703,289	$1,897,840	$2,085,201

Source: Authority records.

Table 19B. Statements of Revenues, Expenses and Changes in Net Position
For the six months ended March 31, 2019 and March 31, 2018

($ in thousands)

	2019	2018
Operating revenues		
Residential, commercial and multi-family customers	$212,473	$194,218
Federal government	35,513	33,372
District government and DC Housing Authority	22,222	20,955
Charges for wholesale wastewater treatment	58,556	61,433
Other	13,555	9,061
Total Operating Revenues	342,319	319,039
Operating expenses		
Personnel services	74,779	74,351
Contractual services	33,652	34,509
Chemicals, supplies and small equipment	17,525	16,734
Utilities and rent	13,500	13,525
Depreciation and amortization	72,596	52,458
Water purchases	14,905	12,439
Payment in lieu of taxes and right of way fee	10,851	10,688
Total operating expenses	237,781	214,704
Operating income	104,538	104,335
Nonoperating revenue (expenses)		
Interest income	4,861	1,656
Interest expense and fiscal charges	(31,499)	(31,561)
Total nonoperating revenue (expenses)	(26,638)	(29,905)
Change in net position before Federal grants and contributions	77,900	74,430
Contributions of capital from Federal government	6,622	7,739
Change in net position	84,522	82,169
Net position, beginning of period	$2,085,201	$1,897,840
Net position, end of period	$2,169,723	$1,980,009

Source: Unaudited Quarterly Authority records.

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Historical Debt Service Coverage

The Authority has exceeded the Rate Covenant requirement of 1.20x Senior Debt service coverage set forth in the Indenture and the Authority's policy goal of 1.40x Senior Debt service coverage in each of the last five Fiscal Years, as shown in Table 20.

Table 20. Historical Debt Service Coverage[1]
($ in thousands)

	Fiscal Year ended September 30				
	2014	**2015**	**2016**	**2017**	**2018**
Revenues:					
Retail	$351,148	$382,012	$451,467	$474,462	$498,394
Wholesale	70,763	81,230	79,784	81,136	81,022
Other Non-Operating	56,082	75,354	58,078	61,419	51,756
(Contributions to/Transfers from Rate Stabilization Fund)	6,500	(10,000)	(19,000)	(10,000)	-
Total Revenues (A)	$484,493	$528,596	$570,329	$607,017	$631,172
Operating Expenses (B)	281,918	273,486	298,452	292,812	298,761
Revenues Less Operating Expenses (C=A-B)	$202,575	$255,109	$271,877	$314,205	$332,411
Debt Service:					
Senior Debt Service (D)	$42,041	$55,746	$46,829	$51,945	$67,296
Subordinate Debt Service (E)	78,124	84,925	105,252	109,263	111,104
Total Outstanding and Projected Debt Service (F=D+E)	$120,165	$140,671	$152,081	$161,208	$178,400
Calculation of Net Revenues Available for Senior Debt Service:					
Revenues Less Operating Expenses (C)	$202,575	$255,109	$271,877	$314,205	$332,411
Prior Year Federal Billing Reconciliation	(6,000)	(5,053)	(11,679)	(19,201)	(9,019)
(Refund to)/Payment from wholesale customers	(10,069)	(2,483)	(13,017)	(10,906)	8,987
(Additions to)/Transfers from DC PILOT Fund	(7,676)	-	-	-	-
Customer Rebate	(5,100)	-	-	-	-
Net Revenues Available for Senior Debt Service (G)	$173,730	$247,574	$247,181	$284,098	$332,379
Senior Debt Service Coverage (G/D)	**4.13x**	**4.44x**	**5.28x**	**5.47x**	**4.94x**
Calculation of Subordinate Debt Service Coverage:					
Net Revenue Available for Senior Debt Service	$173,730	$247,574	$247,181	$284,098	$332,379
Less Senior Debt Service (D)	(42,041)	(55,746)	(46,829)	(51,945)	(67,296)
Net Revenues Available for Subordinate Debt Service (G-D)	$ 131,689	$191,827	$200,352	$232,153	$265,083
Subordinate Debt Service Coverage ((G-D)/E)	**1.69x**	**2.26x**	**1.90x**	**2.12x**	**2.39x**
Combined Debt Service Coverage (G/F)	**1.45x**	**1.76x**	**1.63x**	**1.76x**	**1.86x**

[1] Prepared in accordance with the Indenture, which closely corresponds to cash basis accounting. Debt service on the Series 2010A Bonds (which is included in Subordinate Debt Service above) reflects the Direct Payments the Authority receives from the U.S. Treasury. The Authority has agreed to deposit the Direct Payments related to the Series 2010A Bonds directly into the Series 2010A Interest Account of the Subordinate Lien Bond Fund to pay interest when due on the Series 2010A Bonds. With respect to the effect of Sequestration on the receipt by the Authority of Direct Payments on its Series 2010A Bonds, see "SECURITY FOR THE SERIES 2019A/B/D BONDS – Direct Payments – Sequestration."

Source: Authority records.

Annual Budget

Annual Budget Process

The Authority's budgetary process is based on an integrated approach that links its operating and capital requirements to its ten-year financial plan. Preparation of the Authority's budget begins with the preparation of the ten-year financial plan in the spring of each year. The Authority's operating budgets and the CIP are developed based on the financial parameters laid out in the financial plan and in Board policy. Management presents its proposed operating budgets, the CIP and the ten-year financial plan to the Board's Environmental Quality and Sewerage Services, Water Quality and Water Services, and Finance and Budget Committees for their review, with final action by the full Board typically scheduled for January of each year. Upon final approval by the Board, the Authority's budget is forwarded to the District for inclusion in its submission to the President as described below.

Under the Act and the Federal Act, the Authority is required to prepare and annually submit to the Mayor of the District for inclusion in the annual budget of the District estimates of the expenditures and appropriations necessary for the operation of the Authority for each Fiscal Year. All such estimates are required to be forwarded by the Mayor to the Council for its action without revision. The Council may comment or make recommendations concerning such annual estimates but has no authority to revise such estimates. Such annual estimates constitute a part of the annual budget of the District required to be submitted by the Mayor to the President of the United States for transmission by the President to the U.S. Congress. In accordance with the District's Home Rule Act, except as noted below, no amount may be obligated or expended by any officer or employee of the District, including the Authority, unless such amount has been approved by act of Congress and then only according to such act. Pursuant to the Federal Act, the limitation described in the preceding sentence is not applicable to expenditures by the Authority for any of the following purposes: (i) any amount obligated or expended from the proceeds of any revenue bonds of the Authority; (ii) any amount obligated or expended for debt service on such revenue bonds; (iii) any amount obligated or expended to secure any revenue bonds of the Authority; or (iv) any amount obligated or expended for repair, maintenance, or capital improvement to the System facilities financed by any revenue bonds of the Authority. In addition, pursuant to Public Law 105-33 (D.C. Code Section 1-204.45a(b)), if the Authority has excess revenues, such excess revenues may be obligated or expended for capital projects.

The Approved Fiscal Year 2019 and Fiscal Year 2020 Budgets

The Board adopted the Fiscal Year 2019 operating budget (the "Fiscal Year 2019 Budget") on March 1, 2018 and the Fiscal Year 2020 operating budget (the "Fiscal Year 2020 Budget") on April 4, 2019.

The Fiscal Year 2019 Budget for operating expenditures totals $582.8 million, which is $20.8 million or 3.7% higher than the Approved Fiscal Year 2018 Budget, primarily due to the increase in debt service cost associated with the Authority's CIP. The Fiscal Year 2020 Budget for operating expenditures totals $614.5 million, which is $31.7 million or 5.4% higher than the Approved Fiscal Year 2019 Budget, primarily due to increase in debt service cost associated with the Authority's CIP and an increase to the Professional Services in the Operations and Maintenance budget.

The Authority anticipates that the difference between actual and budgeted operating expenses will be less than in previous years due to budget planning that focuses on having actual expenses more closely aligned with budgeted expenses. Beginning in Fiscal Year 2015, the Authority includes a separate line item in its operating budget to provide funds for additional cash-financed capital construction, the defeasance of debt, or other uses at the discretion of the Authority. The amounts in this line item could alternatively be used by the Authority to help address potential shortfalls in cash receipts or increases in expenses, should the need arise. In addition, the Authority has the ability to adjust its rates, as necessary, to provide the required revenues in each year.

Projected Financial Operations

Table 21 was prepared by Amawalk in its capacity as the financial feasibility consultant to the Authority, and it shows (i) the actual cash flows, cash reserves and debt service coverage for Fiscal Year 2018 and (ii) projected cash flows, cash reserves and debt service coverage for Fiscal Years 2019 through 2023. The projected revenues reflect the increases in rates and charges adopted by the Authority for Fiscal Year 2019 and the anticipated increases in rates and charges for Fiscal Years 2020 through 2023.

The projected financial results for Fiscal Years 2019 through 2023 incorporate assumptions as of the date of this Official Statement. The projected debt service requirements include anticipated debt service on the Series 2019A/B/D Bonds and the Series 2019C Subordinate Bonds. The first payment of debt service for the Series 2019A/B/D Bonds and the Series 2019C Subordinate Bonds is expected to be made in Fiscal Year 2020. Excluding the issuance of the Series 2019A/B/D Bonds and the Series 2019C Subordinate Bonds, the Authority anticipates issuing approximately $731.6 million of new money bonds from Fiscal Year 2021 through and including Fiscal Year 2023. There are no deposits to the debt service reserve fund assumed for the Series 2019A/B/D Bonds, and any anticipated future bonds; the Authority may decide to make contributions to the debt service reserve fund in the future at its discretion.

The Authority has the option to issue future bonds as either Senior Debt or Subordinate Debt. The combined debt service coverage would remain the same if the Authority were to elect to issue Senior Debt in lieu of Subordinate Debt or vice versa in a given year. Decisions regarding the issuance of future debt as Senior Debt will be made by the Authority at the time of debt issuance.

For more information in respect of Amawalk's analysis, see "FINANCIAL FEASIBILITY OPINION LETTER" in Appendix A.

Table 21. Analysis of Actual and Projected Financial Results

Fiscal Years ended/ending September 30
($ in thousands)

	Actual	Projected				
	2018 [2]	2019	2020	2021	2022	2023
Revenues and Payment Obligations						
Revenues						
Retail Revenues [1]	$498,394	$530,984	$538,362	$589,407	$629,329	$672,857
Wholesale Revenues	81,022	82,992	79,224	81,600	84,048	86,570
Other Non-Operating Revenues	51,756	62,361	62,886	69,183	74,083	76,885
Transfer from RSF	0	6,000	0	0	0	0
(Contributions to RSF)	0	(6,000)	0	0	0	0
Total Revenues	631,173	676,337	680,472	740,191	787,461	836,313
Prior Year Federal Billing Reconciliation	(9,019)	(5,821)	1,317	2,233	0	0
Projected Billing Refunds	0	(11,000)	(4,000)	(4,000)	0	0
(Refund to)/Payment from IMA	8,987	(15,446)	(3,448)	0	0	0
Transfer to CAP Fund	0	(10,246)	0	0	0	0
Curing Pad + ERP	0	0	(4,316)	0	0	0
Net Revenues (A)	631,141	633,825	670,025	738,424	787,461	836,313
Operating Expenses (B)	298,761	311,166	325,847	335,892	346,249	356,928
Net Revenues Available for Debt Service (C=A-B)	332,380	322,659	344,178	402,533	441,212	479,385
Total Senior Debt Service (D) [3,4,5]	67,296	75,609	76,385	76,386	76,386	84,239
Total Subordinate Debt Service (E) [3,4,5,6,7,8]	111,104	118,412	136,826	151,236	168,964	178,835
Total Outstanding & Projected Debt Service (F=D+E)	178,399	194,021	213,211	227,622	245,350	263,074
Debt Service Coverage						
Calculation of Net Revenues Available for Senior Debt Service						
Senior Debt Service Coverage (C/D)	**4.94x**	**4.27x**	**4.51x**	**5.27x**	**5.78x**	**5.69x**
Calculation of Subordinate Debt Service Coverage						
Net Revenue Available for Senior Debt Service (C)	332,380	322,659	344,178	402,533	441,212	479,385
Less Senior Debt Service (D)	(67,296)	(75,609)	(76,385)	(76,386)	(76,386)	(84,239)
Net Revenue Available for Subordinate Debt Service (C-D)	265,084	247,049	267,793	326,146	364,826	395,146
Subordinate Debt Service Coverage [(C-D)/E]	**2.39x**	**2.09x**	**1.96x**	**2.16x**	**2.16x**	**2.21x**
Combined Debt Service Coverage (C/F)	**1.86x**	**1.66x**	**1.61x**	**1.77x**	**1.80x**	**1.82x**
Subordinated Payment Obligations						
Payment In Lieu of Taxes/Right of Way Fee (G)	21,376	21,702	22,034	22,372	22,718	23,070
Defeasance/Cash Financed Capital Construction (H) [9]	35,260	26,999	28,556	30,589	39,123	48,715
Revenues Less Disbursements (I=A-B-F-G-H)	97,344	79,937	80,378	121,949	134,021	144,525
Reserve Balances						
Beginning Cash Reserve Balance (J)	147,212	166,796	171,342	180,000	185,000	194,000
Cash Reserve Balance Breakdown						
Beginning Undesignated Reserve Balance	63,078	80,091	86,548	93,139	95,692	103,018
Additions to/(Transfers from) Undesignated Reserve						
Annual Balance from Operations	97,376	122,450	90,825	123,715	134,021	144,525
Prior Year Federal Billing Reconciliation	(9,019)	(5,821)	1,317	2,233	0	0
Projected Billing Refunds	0	(11,000)	(4,000)	(4,000)	0	0
(Refund to)/Payment from IMA	8,987	(15,446)	(3,448)	0	0	0
Transfer to CAP Fund	0	(10,246)	0	0	0	0
Curing Pad + ERP	0	0	(4,316)	0	0	0
Pay-Go Capital Financing	(77,761)	(75,391)	(71,720)	(116,949)	(125,021)	(137,525)
(Transfers to)/Transfers from 60-Day Reserve	(2,571)	1,912	(2,067)	(2,447)	(1,674)	(1,726)
Ending Undesignated Reserve Balance	80,091	86,548	93,139	95,692	103,018	108,292
Beginning 60-Day Operating Reserve Balance	49,134	51,705	49,794	51,861	54,308	55,982
Additions to/(Transfers from) 60-Day Reserve	2,571	(1,912)	2,067	2,447	1,674	1,726
60-Day Operating Reserve Balance	51,705	49,794	51,861	54,308	55,982	57,708
Beginning Renewal & Replacement Balance	35,000	35,000	35,000	35,000	35,000	35,000
Additions to/(Transfers from) Renewal & Replacement Reserve	0	0	0	0	0	0
Renewal & Replacement Balance	35,000	35,000	35,000	35,000	35,000	35,000
Ending Balance Cash Reserve	166,796	171,342	180,000	185,000	194,000	201,000

District Stormwater Fee - DC Water Share (K)	1,247	1,263	1,000	1,000	1,000	1,000
Cash Reserve Requirement Per Board Policy [Maximum of (B-K)*(120/365) or $125.5 Million] [10]	125,500	125,500	125,500	125,500	125,500	125,500
Beginning Rate Stabilization Fund Balance	61,450	61,450	61,450	61,450	61,450	61,450
Transfers from Operations (Additions to Rate Stabilization Fund)	0	6,000	0	0	0	0
Additions to Operations/(Transfers from) Rate Stabilization Fund	0	(6,000)	0	0	0	0
Rate Stabilization Fund Balance	61,450	61,450	61,450	61,450	61,450	61,450

1 Includes retail revenue from water and wastewater charges as well as the Clean Rivers Impervious Area Charge.

2 Preliminary results, unaudited.

3 Debt service is shown on a cash basis, and may differ from the CAFR.

4 Anticipated future bonds in Fiscal Year 2023 are currently assumed to be issued on a senior lien basis. Anticipated future bonds in Fiscal Years 2019, 2021, and 2022 are currently assumed to be issued on a subordinate lien basis. The Authority may decide in the future to issue bonds on a senior or subordinate basis. Debt service for the anticipated Fiscal Year Series 2019A/B/D Bonds is calculated based on an assumed annual true interest cost of 3.34%, a term of 30 years and level debt service. Debt service for the anticipated 2019 Series C Bonds is based on an assumed annual true interest cost of 3.09%, a term of 35 years and with no principal payments during the period of Fiscal Year 2019 through Fiscal Year 2023. Debt service for anticipated future bonds starting in Fiscal Year 2020 is calculated based on a term of 35 years and level annual debt service and assumed annual interest rates of 5.50% in Fiscal Year 2020, and 6.00% in Fiscal Year 2021 and all subsequent years.

5 Total Senior Debt Service (D) and Total Subordinate Debt Service (E) includes debt service payments on anticipated future bonds of the Authority, based on the terms noted in footnote 4 above. The Authority has applied for loans to finance a portion of its CIP pursuant to the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA), a federal credit program administered by EPA for eligible water and wastewater infrastructure projects. The application amount is a total of $144 million to be disbursed over multiple years. If such loans are approved, it is anticipated that: a) the amount of the bonds issued in future years by DC Water will be reduced by the principal amount of the loans received from the WIFIA program; and b) the annual debt service payments on such loans will be approximately equal to or less than the debt service that would be required if the Authority issued bonds in lieu of accepting the loan proceeds.

6 The Total Subordinate Debt Service is net of the Build America Bonds (BABs) subsidies the Authority expects to receive from the United States Treasury equal to approximately 32% of the interest payable on the Series 2010A Bonds. It reflects the reduction in BABs subsidy payments due to expected effects of sequestration. See "SECURITY FOR THE SERIES 2019A/B/D BONDS - Direct Payments – Sequestration."

7 Subordinated debt service includes an allowance in each year for the interest costs of both Commercial Paper and Extendible Maturity Commercial Paper. See "DEBT SERVICE REQUIREMENTS."

8 The Series 2016B Bonds are designated as environmental impact bonds and, as such, include provisions for the possibility of an outcome payment by the Authority to the original purchasers of the Series 2016B Bonds, and for the possibility of a risk share payment by such original purchasers to the Authority depending upon the results achieved by the green infrastructure financed with the proceeds of the Series 2016B Bonds. The Series 2016B Bonds are subordinate, multimodal variable rate bonds, initially issued bearing a 3.43% fixed rate through the mandatory tender date, April 1, 2021 (Fiscal Year 2021). The subordinate debt service shown above includes principal and interest payments through Fiscal Year 2021 and assumes that no outcome payment is payable by the Authority. In the event that an outcome payment is necessary, the Authority estimates that its maximum obligation would be $3.3 million, payable in full in Fiscal Year 2021. Any outcome payment up to and including the maximum obligation would not be material to the annual cash flows of the Authority. In the event that the maximum obligation amount has to be paid in Fiscal Year 2021: a) the projected Senior Debt Service Coverage does not change, b) the projected Subordinate Debt Service Coverage would be 2.12, and c) the Projected Combined Coverage would be 1.75.

9 Beginning in Fiscal Year 2016, the Authority included funds in its annual budget that are intended to be used to defease outstanding debt or pay for construction on a cash basis. These funds are separate from the Pay-Go Capital Financing amounts referenced under Reserve Funds above and are presently assumed to be added to the Pay-Go amounts and deposited in total as a source of funds for the CIP. Alternatively, these funds could be used to cover unexpected declines in revenues or increases in expenses. The Authority reserves the right to modify the amount of the funds and the usage of funds during each year.

10 Board financial policy requires the maintenance of a cash equivalent to 120 days of operating costs less District stormwater revenues, but not less than a cash balance of $125.5 million. Actual results are projected to be higher than required under Board policy; see the explanation provided herein.

Source: Amawalk (Totals may not add due to rounding.)

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System Revenues

The Authority collects revenues from retail and wholesale customers as well as other sources that include fees paid by developers and interest earnings on available funds. Authority revenues also include transfers from the Rate Stabilization Fund. Table 22 shows historical revenues of the Authority for Fiscal Year 2018, and the projected revenues for Fiscal Years 2019 through 2023.

Table 22. Historical and Projected Revenue on a Cash Basis

Fiscal Years ended/ending September 30

($ in thousands) [1]

	Actual[2]	Projected[3]				
	2018	2019	2020	2021	2022	2023
Retail Revenue						
Residential, Commercial, Multi-Family	$260,495	$299,698	$321,081	$361,757	$399,734	$429,339
D.C. Municipal Government	10,979	7,066	10,000	11,114	12,263	13,172
Federal Government	39,552	41,525	47,940	56,031	60,915	65,432
D.C. Housing Authority	7,137	9,269	9,720	10,828	11,973	12,860
Groundwater [4]	0	0	5	5	5	5
Metering Fee	11,745	11,544	10,776	10,776	10,776	10,776
Water System Replacement Fee [5]	40,896	40,527	39,717	39,717	39,717	39,717
CRIAC	127,591	121,356	99,123	99,179	93,946	101,556
Total Retail Revenue	**$498,394**	**$530,984**	**$538,362**	**$589,407**	**$629,329**	**$672,857**
Wholesale Revenue						
Loudoun County & Potomac Interceptor	$9,942	$10,257	$10,203	$10,509	$10,825	$11,149
WSSC	57,210	58,335	54,520	56,155	57,840	59,575
Fairfax County	13,870	14,401	14,501	14,936	15,384	15,845
Total Wholesale Revenue	**$81,022**	**$82,992**	**$79,224**	**$81,600**	**$84,048**	**$86,570**
Other Revenues						
District Stormwater Fee – D.C. Water Share	$1,247	$1,263	$1,000	$1,000	$1,000	$1,000
Transfer from Rate Stabilization Fund	0	6,000	0	0	0	0
Miscellaneous Revenues	26,881	36,719	35,615	36,836	36,928	37,108
Aqueduct Debt Service Revenue from Falls Church and Arlington	193	193	193	193	193	193
Interest Income	2,200	3,151	3,966	8,782	13,244	15,514
PILOT/D.C. Right of Way Occupancy Fee	21,236	21,035	22,113	22,372	22,718	23,070
Total Other Revenue	**$51,756**	**$68,361**	**$62,886**	**$69,183**	**$74,083**	**$76,885**
Total Operating Cash Receipts	$631,173	$682,337	$680,472	$740,191	$787,461	$836,313
Less: Contributions to Rate Stabilization Fund	0	(6,000)	0	0	0	0
Total Operating Cash Receipts with RSF Transfers	$631,173	$676,337	$680,472	$740,191	$787,461	$836,313

1 All figures are presented on a cash receipt basis. Totals may not add due to rounding.
2 Preliminary results, unaudited.
3 Fiscal Year 2019 - 2023 revenue projections are based on the Authority's financial plan.
4 Groundwater revenue refers to receipts from customers that pump groundwater into the sewer system.
5 The meter-based Water System Replacement Fee to recover the cost of the 1% renewal and replacement program for water service lines was implemented beginning in Fiscal Year 2016.

Source: Amawalk.

An overview of the revenue components on a cash basis is provided below.

Retail Water and Wastewater Revenues

Retail revenues comprise the vast majority of all System revenues. In Fiscal Years 2014 through 2018, retail revenues accounted for approximately 78.6% of total revenue (excluding the PILOT/ROW Fee and the effects of withdrawals from the Rate Stabilization Fund), wholesale customer payments represented about 14.4% of total revenues, with the remaining 7.0% coming from a variety of sources, such as interest income, the District fire protection fee, IMA contributions for indirect costs and fees from service installations. Retail revenues are derived primarily from water and wastewater service charges of the Authority that are based on water consumption as described earlier in this Official Statement. Other sources of retail revenue include the customer metering fee, CRIAC, and Water System Replacement Fee. See "CUSTOMER BASE, RATES AND CHARGES – Components of Retail Rates and Charges."

The Authority has projected that revenues from retail customers, excluding the PILOT/ROW Fees, will be $531.0 million in Fiscal Year 2019, or 81% of the Authority's total revenues (excluding the PILOT/ROW Fee and transfers from the Rate Stabilization Fund). This amount includes approximately $121.4 million from the CRIAC and $40.5 million from the Water System Replacement Fee. Without the CRIAC and the Water System Replacement Fee, Fiscal Year 2019 projected revenue is expected to be $39.2 million, or 11.9%, higher than the Fiscal Year 2018 revenues from retail customers. The projected increase in retail revenue assumes the consumption of retail customers will be lower in Fiscal Year 2019 compared to Fiscal Year 2018. Cash Receipts for the first nine months of Fiscal Year 2019 (through March 31, 2019) (excluding the PILOT/ROW Fee) were slightly higher than budget for this period. As of the date of this Official Statement, it is not possible to predict whether full-year cash receipts will be higher, lower or the same as the budgeted receipts.

Revenues from retail customers are projected to be $538.4 million in Fiscal Year 2020. This amount includes approximately $99.1 million from the CRIAC and $39.7 million from the Water System Replacement Fee and excludes the PILOT/ROW Fee. Without the effects of the CRIAC and the Water System Replacement Fee, the Fiscal Year 2020 projected revenue represents an increase of $30.4 million or 8.2% compared to the projected Fiscal Year 2019 revenues.

Revenues from retail customers are projected to be $589.4 million in Fiscal Year 2021. This amount includes approximately $99.2 million from the CRIAC and $39.7 million from the Water System Replacement Fee and excludes the PILOT/ROW Fee. Without the effects of the CRIAC and the Water System Replacement Fee, the Fiscal Year 2020 projected revenue represents an increase of $51.0 million or 12.8% compared to the projected Fiscal Year 2020 revenues.

Retail revenues in Fiscal Years 2022 and 2023 are anticipated to increase in each year reflecting both the effects of anticipated changes in rates (as illustrated in Table 13) as well as the expectation that water demand will decrease by 1% annually.

Clean Rivers Impervious Area Charge Revenues

The revenues from the CRIAC were $127.6 million in Fiscal Year 2018. CRIAC revenues are projected to decrease to $121.4 million in Fiscal Year 2019 due to a rate adjustment. Rates and revenues from the CRIAC in Fiscal Year 2020 are expected to be lower than in the prior year and rates and revenues from wastewater charges are expected to be higher due to both: a) increases in the cost of service, and b) an allocation of a portion of the costs of the LTCP to wastewater charges in lieu of the CRIAC. The allocation of a portion of LTCP costs to wastewater charges is based on an analysis prepared by the Authority which estimates that sanitary sewage comprises 37% of combined wastewater and stormwater. DC Water expects to allocate a portion of the LTCP costs to wastewater charges in three stages, beginning with an 18% allocation in Fiscal Year 2020. In Fiscal Years 2021 and 2022, the allocated portions are expected to be 28% and 37%, respectively. Allocated LTCP costs in Fiscal Year 2023 are expected to remain at the 37% level. Amawalk reviewed the Authority's analysis and found it to be reasonable and consistent with industry practice. The expected reduction in Fiscal Year 2020 CRIAC revenue of $22.2 million represents a decrease of 18.3% from the prior year. The revenues from the CRIAC in Fiscal Year 2023 are expected to increase reflecting the effects of projected rate increases.

Water System Replacement Fee

The revenues from Water System Replacement Fee were $40.9 million in Fiscal Year 2018. It is anticipated that the Water System Replacement Fee will generate $40.5 million in Fiscal Year 2019 and $39.7 million in revenue per year from Fiscal Years 2020 through 2023.

Stormwater Revenues

In Fiscal Year 2018, the Authority collected $1.2 million in stormwater fees from its retail accounts to cover its share of District stormwater expenditures, and it anticipates that it will collect $1.3 million in Fiscal Year 2019. The Authority assumes that it will continue collecting $1.0 million in stormwater fees in each of the Fiscal Years

2020 through 2023. The District Council has stormwater rate-setting authority for stormwater services provided by the District. The projected revenue from stormwater fees that are payable to the District are based on the current stormwater rate. For more information regarding the stormwater fee, see "CUSTOMER BASE, RATES AND CHARGES – Components of Retail Rates and Charges – Stormwater Fee."

Wholesale Revenues

The Authority's wholesale revenues for wastewater operations are stable and reflect modest increases in the cost of service and changes in the volumes of wastewater flow from suburban customers. In Fiscal Year 2018, the Authority received $81.0 million in revenue from its wholesale customers pursuant to the IMA. Revenues from wholesale customers are expected to increase to $83.0 million in Fiscal Year 2019 and then decrease to $79.2 million in Fiscal Year 2020. The revenues from the wholesale customers in Fiscal Years 2021 through 2023 are projected to increase reflecting the effects of projected rate increases as well as the expectation that water demand will decrease by 1% annually.

Loan Repayment from Arlington County and Falls Church

The Authority provided a loan to the Aqueduct to finance certain improvements at the Aqueduct. This loan is repaid to the Authority by Arlington County, Virginia, and Falls Church, Virginia, as Aqueduct Customers, in the form of a credit that is issued to the Authority on the monthly water bills generated by the Aqueduct. The amount of the credit is determined by the Aqueduct in accordance with the Water Sales Agreement, and the annual amount is expected to be $193,246 from Fiscal Year 2019 through Fiscal Year 2023.

Interest Income on Reserve Funds

Interest income is earned on the available funds of the Authority and a portion of the interest earnings may be used to pay operating and maintenance expenses or capital costs of the Authority.

Interest earnings will fluctuate from year to year based on changes in cash flow, reserve requirements, fund balances and market conditions affecting interest rates and other investment terms. The Authority has projected interest earnings of $3.2 million in Fiscal Year 2019, $4.0 million in Fiscal Year 2020, $8.8 million in Fiscal Year 2021, $13.2 million in Fiscal Year 2022 and $15.5 million in Fiscal Year 2023, including interest earned from the bond reserves. The assumed annual interest earnings rates for the funds are 1.5% in Fiscal Year 2019, 2.0% in Fiscal Year 2020, 3.0% in Fiscal Year 2021 and 4.0% in Fiscal Years 2022 and 2023. Projected fund balances and interest rate assumptions are reviewed annually as part of the Authority's budget process. The Authority assumes for forecasting purposes that interest earnings rates will increase over time while simultaneously assuming that borrowing rates for future Authority debt will be higher than the assumed rates for Fiscal Year 2019.

Miscellaneous Revenue

The Authority realizes revenue from several sources classified as miscellaneous, such as charges for late payments by customers, service installation charges, service line repairs, engineering reviews, the sale of manuals, the District fire protection fee, and fees charged to commercial waste haulers. Miscellaneous revenues in Fiscal Year 2018 were $26.9 million. Revenues from these sources are expected to increase to $36.7 million in Fiscal Year 2019. Miscellaneous revenues are expected to total $35.6 million per year in Fiscal Year 2020, $36.8 million in Fiscal Year 2021, $36.9 million in Fiscal Year 2022, and $37.1 million in Fiscal Year 2023.

These amounts also include payments for various development-related services provided by the Authority and charges to the District for fire protection services. The Authority's annual investments (operating and capital) in fire protection assets and services increased significantly following the execution of the Memorandum of Understanding between the Authority and the District of Columbia Fire and EMS Department (FEMS) on October 25, 2007. The fees charged by the Authority are intended to recover the costs incurred by the Authority related to fire protection services provided by the water system including, but not limited to, the ability to deliver water for firefighting as well as maintaining and upgrading fire hydrants. The Authority's investments will continue in future years but at a pace that is much lower than the peak years of Fiscal Year 2008 and Fiscal Year 2009. The projected miscellaneous revenues assume that the District will make such payments in each year or that a combination of payments and credits against Authority payments to the District will result in the Authority receiving the full amounts expected from the District.

PILOT/ROW Fee

The total combined revenues from the PILOT/ROW Fee are assumed in the financial forecast to total $21.7 million in Fiscal Year 2019, and increase to $23.1 million in Fiscal Year 2023. The Authority and the District have negotiated new MOUs for both the PILOT and the ROW (see "THE AUTHORITY – Authority's Relationship to the District").

System Expenditures

Operating Expenses

Table 23 presents the historical Operating and Maintenance ("O&M") expenses of the Authority for Fiscal Year 2018, and the projected O&M expenses for Fiscal Years 2019 through 2023 on a cash disbursement basis.

The projected expenses for Fiscal Year 2019 reflect the current adopted budget of the Authority which represents a 4.2% increase over the expenses for Fiscal Year 2018, excluding the PILOT/ROW Fee payments to the District. The anticipated expenses for Fiscal Year 2020 reflect an annual increase of 4.7% over the projected expenses for Fiscal Year 2019, excluding the PILOT/ROW Fee payments to the District.

Table 23. Historical and Projected Operation and Maintenance Costs on a Cash Disbursement Basis
Fiscal Years ended/ending September 30
($ in thousands) [1]

	Actual [2]	Projected[3]				
	2018	2019	2020	2021	2022	2023
Personnel Services	$138,993	$137,253	$147,932	$152,370	$156,941	$161,649
Contractual Services	73,404	78,725	81,886	84,343	86,873	89,479
Water Purchases	27,665	32,617	34,929	35,977	37,056	38,168
Chemical & Supplies	34,679	35,738	33,158	34,153	35,177	36,233
Utilities & Rent	23,414	25,966	26,953	28,031	29,152	30,318
Small Equipment	606	867	989	1,019	1,049	1,081
Total O&M Expenses	298,761	311,166	325,847	335,892	346,249	356,928
PILOT/D.C. ROW Occupancy Fee	$21,376	$21,702	$22,034	$22,372	$22,718	$23,070
Total Expenses	$320,137	$332,868	$347,881	$358,264	$368,967	$379,998

1 All figures are presented on a cash disbursement basis. Totals may not add due to rounding.
2 Preliminary results; unaudited.
3 Fiscal Year 2019 - 2023 cost projections are based on the Authority's financial plan.

Source: Amawalk

Table 24 provides a comparison of the budgeted versus actual costs for Fiscal Years 2017 and 2018 as well as the first six months of Fiscal Year 2019 on an accrual basis. As illustrated in Table 24, the Authority has historically under-spent its annual budget as a whole as well as its O&M expenses as one component of the budget. Individual line items of expense may be higher or lower in a given year but aggregate expenses are historically less than budgeted.

Table 24. Budget to Actual Expense Comparison
Fiscal Years Ended September 30
($ in thousands)[1]

Category	2017 Approved Budget	2017 Actual Cost	2017 Variance	2018 Approved Budget	2018 Actual Cost	2018 Variance	2019 (YTD March Actual Cost) Approved Budget	2019 (YTD March Actual Cost) Actual Cost	2019 (YTD March Actual Cost) Variance
Personnel Service	$144,761	$149,293	$(4,532)	$149,193	$157,635	$(8,442)	$162,620	$75,717	$86,903
Contractual Service	82,760	72,951	9,809	79,354	74,914	4,440	81,679	38,012	43,667
Water Purchase	29,278	26,796	2,482	30,156	28,357	1,799	30,520	14,737	15,783
Chemical & Supplies	34,709	31,373	3,336	30,658	30,482	176	32,082	17,523	14,559
Utilities & Rent	28,670	24,260	4,410	29,399	26,158	3,241	26,915	12,909	14,006
Small Equipment	1,230	1,178	52	1,071	700	371	1,240	177	1,063
Debt Service	169,346	165,836	3,510	185,480	178,399	7,081	199,025	95,937	103,088
Cash Financed Capital Improvements	24,014	24,199	(185)	35,260	35,260	0	26,999	-	26,999
PILOT/ROW	21,057	21,057	-	21,376	21,376	(0)	21,702	10,851	10,851
Total Budgetary Basis Expenditures	$535,825	$516,943	$23,510	$561,947	$553,280	$17,108	$582,781	$265,863	$316,919

[1] All figures are presented on an accrual basis.
Source: Authority records.

Several factors affecting future expenses are described herein. The Authority has undertaken long-term initiatives to optimize the cost of service. Management's forecast of operations and maintenance expenses reflects continued emphasis on managing such expenses. Examples of historical and ongoing initiatives are outlined in the description of the major categories of expense. Management continually monitors expenditures and reports the results monthly to the Board's Finance and Budget Committee. The Authority also has the option, in any given year, to defer certain expenses in order to stay within its budget and conform to Board policy requirements.

Labor-Related Expenses

Personnel costs are directly affected by staffing levels, salaries and wages, fringe benefits including retirement contributions, overtime expenditures and other factors.

Certain individuals at the Authority are responsible for planning and implementing the CIP. The salaries, wages and fringe benefits of such personnel are charged to capital projects and are paid for through the sources of funds for the CIP.

Salaries and Fringe Benefits. The Authority provides its employees with a comprehensive fringe benefit package, including coverage for health insurance, group term life insurance, dental care, vision care, disability coverage and retirement plans. The fringe benefit component of total labor costs in recent years has been impacted by the increasing cost of health care coverage. Fringe benefits are budgeted to be 22% of the total personnel services budget in Fiscal Year 2019 and 23% of the total personnel services budget in Fiscal Year 2020.

While employed by the Authority, employees contribute to a retirement fund and the Authority contributes a proportional match. Once an employee retires, the Authority has no further financial obligations relating to those employees. Some retired employees may be eligible to receive a federal pension. In addition, the federal government also may assume the employer portion of the healthcare coverage for eligible employees. The Authority is and expects to continue to remain current with its benefit payments.

See "THE AUTHORITY – Employees and Labor Relations" herein for further information regarding the Authority's labor force and the status of collective bargaining agreements.

Overtime Expenses. The Authority uses overtime work by its employees to address unplanned repairs and service needs (e.g., to repair water main breaks that occur outside of normal business hours) as well as to provide resources to offset unfilled positions and to reduce the need for contractual labor. Overtime expenses in Fiscal Year 2018, including an allowance for fringe benefits, totaled $42.8 million, or about 27.2% of total personnel services costs.

Total Personnel Expenses. On an accrual basis, the Authority's personnel costs increased at an annual average of 5.8% per year from Fiscal Year 2014 through Fiscal Year 2018. Budgeted personnel expenses for Fiscal Year 2019 are $162.6 million, a 3.2% increase over Fiscal Year 2018. In Fiscal Year 2020, personnel expenses are expected to increase 5.0% from the prior year. Beginning in Fiscal Year 2021, personnel expenses are projected to increase at an average annual rate of 3.0%. The projected rate of increase is supported by the Authority's demonstrated ability to maintain adequate staffing levels and reduce overtime costs through improvements in its facilities and business practices, as well as the expectation that new employees in the upcoming years will have lower salaries and benefits compared to the employees who will retire during that same period.

Non-Labor Operating Expenses

There are four major categories of non-labor related operating expenses: contractual services (which includes the processing and disposal of biosolids), water purchases, chemicals and supplies, and utilities and rent (which includes electricity needed to operate the Authority facilities). A brief overview of the four major categories of non-labor expenses is provided below.

Contractual Services. Contractual services include the outside services necessary for the Authority to operate and maintain facilities, including the hauling of biosolids from the Blue Plains treatment facility to the disposal location, building maintenance and repair, the maintenance of certain machinery, equipment and vehicles, and other contractual or professional services.

The actual costs on an accrual basis for contractual services in FY 2019 (Q2) were $38.0 million. The budgeted amounts for contractual services in Fiscal Year 2019 and Fiscal Year 2020 are $81.7 million and $81.9 million, respectively. Contractual services expenses are assumed to increase at the average annual rate of 3.0% for Fiscal Years 2021 through 2023.

Also included within contractual services is the Authority's purchase of annual insurance policies. The policies cover property, equipment, worker's compensation, umbrella and excess liability, crime and fidelity, public officials' liability, and fiduciary liability.

Water Purchases. The Authority purchases all of its treated drinking water from the Aqueduct on the basis of a 1997 agreement between the Authority and the Corps of Engineers, the operator of the Aqueduct. Under the terms of the agreement and based on its usage in relation to the other Aqueduct Customers, the Authority pays an average of approximately 75% of the Aqueduct's operating costs. The Authority's share of Aqueduct capital costs is reflected in the Authority's CIP.

On an accrual basis, the actual operating costs for water purchases in Fiscal Year 2019(Q2) were $14.7 million. The budgeted amount for water purchases in Fiscal Year 2019 and Fiscal Year 2020 is $30.5 million and $34.9 million, respectively. An average annual increase in water supply costs is assumed at approximately 3.0% in Fiscal Years 2021 through 2023.

Chemicals and Supplies. The chemicals and supplies component of the Authority's operating and maintenance expenses includes, but is not limited to, office, laboratory, custodial and maintenance supplies, automotive supplies, uniforms, and chemicals. Chemicals are the largest portion of this component. The Authority continues to implement a QA/QC program for managing dry polymer selection, procurement, and use. The most cost effective dry polymer products, for different process applications at Blue Plains, are selected based on laboratory and full scale tests. The selected products are "fingerprinted" to verify the consistency in the quality of future deliveries.

The actual expenses for chemicals and supplies in Fiscal Year 2019(Q2), on an accrual basis, were $17.5 million. The budgeted expenses for chemicals and supplies in Fiscal Year 2019 and Fiscal Year 2020 are $32.1 million and $33.2 million, respectively. The average annual increase of costs for chemicals and supplies is assumed at 3.0% in Fiscal Years 2021 through 2023.

Utilities and Rent. The Authority is a major user of energy, primarily for the operation of the Blue Plains Wastewater Treatment Facilities. In Fiscal Year 2018, approximately 63% of the expenses associated with utilities and rent were attributable to the cost of power. The combined heat and power facility provides over 23% of the plant's energy needs. See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Blue Plains – Wastewater Treatment Projects." The Authority has taken a proactive approach to the procurement of power and it's pricing. On October 1, 2014, the Authority entered into a five-year full service electricity contract, with five optional years, to purchase power from Constellation New Energy, Inc., previously ConEdision Solutions. As part of its power purchasing strategy in the deregulated environment, this contract allows the Authority to lock in blocks of power at a fixed price when futures pricing meets budget targets. To the extent that the Authority has power needs that exceed the locked in fixed price blocks, the price of the additional power would be established each day at market rates with direct pass-through of all costs. This contract includes an enhanced process for block power purchases that gives the Authority access to the wholesale market. The Authority's Department of Finance, Accounting and Budget monitors the energy market on a continuous basis. The contract was modified and extended through September 30, 2020.

The Authority has also entered into a Solar Power Purchase Agreement ("Solar PPA") with Marbury Point Solar LLC ("Marbury") on June 14, 2018, under which Marbury will engineer, design, permit, construct, install, finance, own, operate and maintain a solar photovoltaic power generation system at Blue Plains in order to provide a portion of the electricity necessary for the operation of Blue Plains. The Solar PPA has an initial term of 20 years, renewable at the discretion of the Authority. The Authority has agreed to purchase all of the energy output from the project contemplated under the Solar PPA. The Authority may terminate the Solar PPA at any time, but is obligated to pay a termination value which is a sliding scale from the first year valued at $24,972,127 through the twentieth year valued at $1,048,575. Upon expiration of the Solar PPA, the Authority may purchase the subject solar system from Marbury at fair market value.

Reserve Funds

The Authority maintains various reserve funds as previously described herein. See "SECURITY FOR THE SERIES 2019A/B/D BONDS – Certain Reserve Funds – Discretionary Reserves; – Operating Reserve Fund; – Rate Stabilization Fund; and – Renewal and Replacement Reserve Fund."

Financial Policies

The Authority has developed a ten-year financial plan to ensure compliance with certain Indenture requirements and the Board's financial policies. This plan is updated annually, taking into account revisions to the CIP, current and prior year financial performance and other changes. The Board adopted a series of financial policies in 1997 that the Authority utilizes to develop its ten-year financial plan, operating budgets and rate proposals. The policies summarized below reflect revisions adopted by the Board and effective September 30, 2018.

Capital Financing Policy

In order to secure the lowest practical cost of capital to finance the Authority's long-term capital program, the Authority will aim to achieve the following goals:

i. Maintain Senior Debt service coverage of 1.40x.*

ii. Maintain cash reserves equivalent to 120 days of budgeted operations and maintenance costs calculated on an average daily balance basis with the objective of maintaining at least $125.5 million in operating reserves. The annual reserve amount will be formally approved by the Board as part of its annual approval of the operating and capital budgets. The operating reserve requirement will be evaluated every five years by the Authority's independent rate consultant in conjunction with the Indenture-required system assessment. At a minimum include in the operating reserve any reserve requirements contained in the Indenture, excluding any debt service reserve funds and the rate stabilization fund.

iii. Utilize operating cash in excess of the Board's reserve requirement and any other significant one-time cash infusions for capital financing or for repayment of higher cost debt.

iv. Whenever possible, use the least costly type of financing for capital projects, based on a careful evaluation of the Authority's capital and operating requirements and financial position for each year.

v. Attempt to match the period of debt repayment, in total, with the lives of the assets financed by any such debt.

vi. Finance its capital equipment needs (e.g., computer equipment and systems; minor utility equipment such as pumps, motors, etc.) and certain taxable costs of the Aqueduct with operating cash or short-term financing instruments with the same or shorter average lives as the related assets.

Rate-Setting Policies

The Authority's rate-setting policies are based on the following principles:

i. Rates and fees will be based on the actual cost to deliver each service.

ii. Current rates must be sufficient to cover current costs and to meet all bond covenants.

iii. The Authority will achieve a positive net income and cash flow each year.

iv. Rates will be based on an annually updated ten-year financial plan (both operating and capital).

v. Rate increases will be implemented in a gradual and predictable manner, avoiding large one-time rate increases.

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*This policy goal exceeds the Rate Covenant requirement of 1.20x as provided in the Indenture.

vi. Contributions to and usage of the Rate Stabilization Fund as needed to avoid "rate shock." Each year, after reviewing financing improvements from cash and any other non-recurring financing uses of excess operating cash, the annual Rate Stabilization Fund deposit, if any, is determined.

Debt Policy

On October 1, 2015, the Board adopted a revised debt policy. This policy provides detailed guidelines that the Authority's management applies to the Authority's current and future debt portfolio. The goals of this policy are to ensure compliance with all laws, legal agreements, contracts and adopted policies related to debt issuance and management; to promote cooperation and coordination with all stakeholders in the financing and delivery of services; to promote sound financial management to maximize and best utilize future debt capacity; and to ensure that the duties and responsibilities of those charged with the implementation of the Debt Policy are clearly conveyed and understood.

Cash Management and Investment Policies

In May 2014, the Board amended its comprehensive Statement of Investment Policy. The statement outlines broad investment policies to include delegation of certain authority to the CEO, investment objectives, collateralization of deposits, selection of financial institutions, protection of funds, permitted investments, limits on maturities, investment of bond proceeds and investment reporting.

The Office of Treasury and Debt produces daily and monthly internal reports on all cash management and investment activities, with significant peer oversight within the Chief Financial Officer's office, monthly reports to the CEO and quarterly reports to the Board's Finance and Budget Committee that enables them to monitor compliance with Board policies.

Extendable Municipal Commercial Paper Policy

On October 1, 2015, the Board adopted a formal policy relating to the Authority's EMCP Notes. The goal of this policy is to ensure that the Authority is able to pay (either from its own funds, the proceeds of a new issuance of Series A Notes, or a new issue of bonds or Commercial Paper Notes) the principal of and interest on any outstanding EMCP Notes on the original maturity date or extended maturity date thereof, as the case may be.

ENGINEERING FEASIBILITY REPORT

The Authority retained Johnson, Mirmiran & Thompson, Inc. ("JMT") to prepare the Independent Engineering Inspection of the DC Water Wastewater and Water Systems dated March 25, 2018 (the "Independent Engineering Inspection"), a copy of which is available on the Authority's website at www.dcwater.com. Pursuant to the Indenture requirement for an inspection of the System at least once every five years, an independent engineering inspection reviews the Authority's progress in implementing capital projects and its plans to initiate additional capital improvements. The inspection evaluates the adequacy of the Authority's CIP to maintain its water and wastewater infrastructure and to continue providing reliable service of a high quality to its customers.

The Engineering Feasibility Opinion Letter summarizes the findings and conclusions from the Independent Engineering Inspection, which are based upon information provided by the Authority or others which is summarized or referred to therein. JMT's principal findings and conclusions are set forth below. The Engineering Feasibility Opinion Letter should be read in combination with the Independent Engineering Inspection. The Independent Engineering Inspection should be read in its entirety for a complete understanding of the assumptions, considerations, estimates and calculations upon which these conclusions are based.

- The Authority has continued implementing its vision and strategic plan, focusing on increasing the operational efficiency of the Water and Wastewater Systems and providing satisfactory service to its customers.

- The Authority staff, including both management and key operations and maintenance personnel, is well qualified, effectively organized, and is staffed at a sufficient level to meet the mission of providing a safe and dependable drinking water and sanitary sewer service while striving to sustain the environment.

- The existing Water and Wastewater Systems appear to be effectively maintained and operated.

- The Authority has priorities establishing best management practices to maintain all of its assets with the goal to maximize service life while minimizing costs and ensuring sustainability.

- The Authority has developed and continues to implement thorough capital programs for ensuring the integrity of the Water and Wastewater Systems.

- Through appropriate management, operational practices, technology, staffing, tools and equipment and selective outsourcing, the Authority has developed capital, operations and maintenance programs that should ensure the continued effective operation of the systems for the foreseeable future. The systems should continue to provide high levels of service with minimal disruption.

- The Authority's wastewater and drinking water facilities are in material compliance with all applicable permits and regulations and continue to provide uninterrupted service to its wholesale and retail customers. Such compliance is anticipated to continue through the foreseeable future without any identified negative impacts.

- Substantial progress has been made by the Authority in improving the operating condition of existing facilities. The CIP is structured to provide a systematic program to replace and rehabilitate aging infrastructure on a priority basis.

- Implementation of the Authority's CIP is intended to address identified system needs and priorities and within a controlled budgetary process.

FINANCIAL FEASIBILITY OPINION LETTER

The Authority retained Amawalk Consulting Group LLC as its financial feasibility consultant, in which capacity Amawalk prepared the Financial Feasibility Opinion Letter dated September 27, 2019, which is attached hereto as APPENDIX A. Amawalk provides financial and management consulting services to water and wastewater utilities, local governments and other organizations. Examples of the consulting services offered by the firm include: cost of service and rate studies; financial modeling; feasibility studies to support the issuance of debt; competitive assessments, including benchmarking and implementation of best practices; analyses supporting the consolidation of services; and the formation/start-up of public authorities including transition planning.

The conclusions set forth in the Financial Feasibility Opinion Letter reflect Amawalk's analysis of the Authority's anticipated financial results for Fiscal Years 2019 to 2023. Amawalk has assisted the Authority in preparing certain portions of this Official Statement relating to historical and projected financial performance of the Authority. The Financial Feasibility Opinion Letter has not been updated to reflect any changes occurring after the date of the Financial Feasibility Opinion Letter. The Financial Feasibility Opinion Letter presents findings and conclusions based upon the analysis of financial statements and reports prepared by or for the Authority and other information provided by the Authority or others which is summarized or referred to therein, including conclusions, assumptions, considerations and recommendations regarding the operation of the System, the necessary improvements and betterments thereto and the steps that should be taken to assure adequate reliable bulk power supply at reasonable cost. Set forth below are Amawalk's principal conclusions. The Financial Feasibility Opinion Letter and this Official Statement should be read in its entirety for a complete understanding of the assumptions, considerations, estimates and calculations upon which these conclusions are based.

Amawalk concluded that the Authority has the ability to effectively execute its mission, operate its System to provide uninterrupted service, maintain regulatory compliance, and finance and implement its CIP within the parameters set forth in the Indenture and the applicable Board policies. In addition, Amawalk makes the following observations:

- The Authority's financial forecast is viable, consistent with industry standards, and its projections are expected to meet the Board's debt service coverage and reserve requirements and targets.

- Revenues of the Authority (including projected revenue increases resulting from anticipated future rate increases to be implemented by the Authority) in the Reporting Period will be sufficient to pay: (i) the actual Operating Expenses; (ii) Annual Debt Service on Senior Debt; (iii) any amount necessary to be deposited in any Account in the Debt Service Reserve Fund relating to a Series of Bonds to restore the amount on deposit therein to the Series Debt Service Reserve Requirement; (iv) the amount required to pay Annual Debt Service on the Subordinate Debt (including any reserves in connection therewith and the restoration thereof); (v) any amount necessary to be deposited in the Operating Reserve Fund and the Renewal and Replacement Reserve Fund to maintain the required balances therein; and (vi) any amount necessary to make any payments in lieu of taxes in such Fiscal Years. Sufficient funds are projected to be on deposit in each of the required reserve funds during the Reporting Period.

- Pursuant to Board policy, the Authority maintains operating reserves that are greater than $125.5 million or 120 days of budgeted operation and maintenance expenses. This policy requirement exceeds the minimum Operating Reserve fund requirements set forth in the Indenture. The Authority's actual cash on hand has exceeded the levels required by Board policy in recent years. Amawalk reviewed the operating reserve policies of the Authority in 2018 and concluded that the current Board policy provides for an appropriate level of reserves. Amawalk further recommended that the Board consider amending its policy to a minimum of $140.0 million or 140 days of budgeted operation and maintenance expenses which would be consistent with the projected balances in the Authority's Financial Plan. In January 2019, Authority staff recommended to further enhance the Authority's cash position and maintain a target of 250 days of cash on hand. There can be no assurance that the Board will maintain or modify its current financial policy.

- The water and wastewater rates, fees and charges of the Authority, including projected increases for FY 2020 through FY 2023, are somewhat higher than the average of other utilities. Relative to median household income, the single family residential charges of the Authority are reasonable and affordable compared to the charges of other major cities as well as utilities in the region. In addition, the Authority utilizes its well-established affordability programs to assist low income customers in paying their bills.

In the analysis of the forecast of future operations summarized in this Official Statement, Amawalk has reviewed certain assumptions with respect to conditions, events and circumstances which may occur in the future. These assumptions are reasonable and attainable as of the date of the Financial Feasibility Opinion Letter, although actual results may differ from those forecast as influenced by the conditions, events and circumstances which actually occur.

INDEPENDENT SUSTAINABILITY CONSULTANT OPINION LETTER

The Authority retained Vigeo to prepare an Independent Sustainability Consultant Opinion on the Series 2019A Project based on issuer, project and reporting standards and commitments described in an Opinion Letter dated September 27, 2019, which is attached hereto as APPENDIX G. Vigeo is a research agency that provides non-financial ratings and research on issuers – of equity and debt – environmental, social and governance performance to investors (through the business brand of Vigeo Rating) and sustainability consulting services to organizations (through the business brand of Vigeo Enterprise). Vigeo provides an opinion based solely on the environmental, social and governance criteria and assessment. Vigeo is not and does not purport to be a financial advisor or financial analyst or to express any opinion on the quality of the security or sources of payment for the Series 2019A Bonds. Accordingly, no financial evaluations, positive or negative, should be attributed to Vigeo. Vigeo does not guarantee that the Authority will honor the current and future commitments to standards and reporting identified in its Opinion Letter.

The Opinion of the Independent Sustainability Consultant presents findings and conclusions based upon the analysis of the Authority's environmental, social and governance policies, guidelines and results according to criteria aligned with public international standards, in compliance with the ISO 26000 guidelines, and organized in 6 domains: Environment, Human Resources, Human Rights, Community Involvement, Business Behavior and Corporate Governance. Vigeo's review uses information provided by the Authority or others and from internal interviews with department managers and representatives.

The Opinion of the Independent Sustainability Consultant should be read in its entirety for a complete understanding of the assumptions, considerations, estimates and calculations upon which these conclusions are based.

TAX MATTERS

Series 2019A/B Bonds

In the opinion of Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP, Co-Bond Counsel, under existing law: (i) interest on the Series 2019A/B Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and is not an item of tax preference for purposes of the federal alternative minimum tax; and (ii) the Series 2019A/B Bonds and the interest thereon are exempt from District taxation, except estate, inheritance and gift taxes. Co-Bond Counsel expresses no opinion as to any other tax consequences regarding the Series 2019A/B Bonds.

The opinion on federal tax matters will be based on and will assume the accuracy of certain representations and certifications, and continuing compliance with certain covenants of the Authority contained in the transcript of proceedings, and that are intended to evidence and assure the foregoing, including that the Series 2019A/B Bonds are and will remain obligations the interest on which is excluded from gross income for federal income tax purposes. Co-Bond Counsel will not independently verify the accuracy of the Authority's certifications and representations or the continuing compliance with the Authority's covenants.

The opinion of Co-Bond Counsel is based on current legal authority and covers certain matters not directly addressed by such authority. It represents Co-Bond Counsel's legal judgment as to exclusion of interest on the Series 2019A/B Bonds from gross income for federal income tax purposes but is not a guaranty of that conclusion. The opinion is not binding on the Internal Revenue Service ("IRS") or any court. Co-Bond Counsel expresses no opinion about (i) the effect of future changes in the Code and the applicable regulations under the Code or (ii) the interpretation and the enforcement of the Code or those regulations by the IRS.

The Code prescribes a number of qualifications and conditions for the interest on state and local government obligations to be and to remain excluded from gross income for federal income tax purposes, some of which require future or continued compliance after issuance of the obligations. Noncompliance with these requirements by the Authority may cause loss of such status and result in the interest on the Series 2019A/B Bonds being included in gross income for federal income tax purposes retroactively to the date of issuance of the Series 2019A/B Bonds. The Authority has covenanted to take the actions required of it for the interest on the Series 2019A/B Bonds to be and to remain excluded from gross income for federal income tax purposes, and not to take any actions that would adversely affect that exclusion. After the date of issuance of the Series 2019A/B Bonds, Co-Bond Counsel will not undertake to determine (or to so inform any person) whether any actions taken or not taken, or any events occurring or not occurring, or any other matters coming to Co-Bond Counsel's attention, may adversely affect the exclusion from gross income for federal income tax purposes of interest on the Series 2019A/B Bonds or the market value of the Series 2019A/B Bonds.

Interest on the Series 2019A/B Bonds may be subject to a federal branch profits tax imposed on certain foreign corporations doing business in the United States and to a federal tax imposed on excess net passive income of certain S corporations. Under the Code, the exclusion of interest from gross income for federal income tax purposes may have certain adverse federal income tax consequences on items of income, deduction or credit for certain taxpayers, including financial institutions, certain insurance companies, recipients of Social Security and Railroad Retirement benefits, those that are deemed to incur or continue indebtedness to acquire or carry tax-exempt obligations, and individuals otherwise eligible for the earned income tax credit. The applicability and extent of these and other tax consequences will depend upon the particular tax status or other tax items of the owner of the Series 2019A/B Bonds. Co-Bond Counsel will express no opinion regarding those consequences.

Payments of interest on tax-exempt obligations, including the Series 2019A/B Bonds, are generally subject to IRS Form 1099-INT information reporting requirements. If a Series 2019A/B Bond owner is subject to backup withholding under those requirements, then payments of interest will also be subject to backup withholding. Those requirements do not affect the exclusion of such interest from gross income for federal income tax purposes.

Co-Bond Counsel's engagement with respect to the Series 2019A/B Bonds ends with the issuance of the Series 2019A/B Bonds, and, unless separately engaged, Co-Bond Counsel is not obligated to defend the Authority or the owners of the Series 2019A/B Bonds regarding the tax status of interest thereon in the event of an audit examination by the IRS. The IRS has a program to audit tax-exempt obligations to determine whether the interest thereon is includible in gross income for federal income tax purposes. If the IRS does audit the Series 2019A/B Bonds, under current IRS procedures, the IRS will treat the Authority as the taxpayer and the beneficial owners of the Series 2019A/B Bonds will have only limited rights, if any, to obtain and participate in judicial review of such audit. Any action of the IRS, including but not limited to selection of the Series 2019A/B Bonds for audit, or the course or result of such audit, or an audit of other obligations presenting similar tax issues, may affect the market value of the Series 2019A/B Bonds.

Prospective purchasers of the Series 2019A/B Bonds upon their original issuance at prices other than the respective prices indicated on the inside cover of this Official Statement, and prospective purchasers of the Series 2019A/B Bonds at other than their original issuance, should consult their own tax advisors regarding other tax considerations such as the consequences of market discount, as to all of which Co-Bond Counsel expresses no opinion.

Risk of Future Legislative Changes and/or Court Decisions

Legislation affecting tax-exempt obligations is regularly considered by the United States Congress. Court proceedings may also be filed, the outcome of which could modify the tax treatment of obligations such as the Series 2019A/B Bonds. There can be no assurance that legislation enacted or proposed, or actions by a court, after the date of issuance of the Series 2019A/B Bonds will not have an adverse effect on the tax status of interest on the Series 2019A/B Bonds or the market value or marketability of the Series 2019A/B Bonds. These adverse effects could result, for example, from changes to federal or state income tax rates, changes in the structure of federal or state income taxes (including replacement with another type of tax), or repeal (or reduction in the benefit) of the exclusion of interest on the Series 2019A/B Bonds from gross income for federal or state income tax purposes for all or certain taxpayers.

For example, federal tax legislation that was enacted on December 22, 2017 reduced corporate tax rates, modified individual tax rates, eliminated many deductions, repealed the corporate alternative minimum tax, and eliminated the tax-exempt advance refunding of tax-exempt bonds and tax-advantaged bonds, among other things. Additionally, investors in the Series 2019A/B Bonds should be aware that future legislative actions might increase, reduce or otherwise change (including retroactively) the financial benefits and the treatment of all or a portion of the interest on the Series 2019A/B Bonds for federal income tax purposes for all or certain taxpayers. In all such events, the market value of the Series 2019A/B Bonds may be affected and the ability of holders to sell their Bonds in the secondary market may be reduced.

Investors should consult their own financial and tax advisors to analyze the importance of these risks.

Original Issue Premium

Certain of the Series 2019A/B Bonds ("Premium Bonds") were offered and sold to the public at a price in excess of their stated redemption price at maturity (the principal amount). That excess constitutes bond premium. For federal income tax purposes, bond premium is amortized over the period to maturity of a Premium Bond, based on the yield to maturity of that Premium Bond (or, in the case of a Premium Bond callable prior to its stated maturity, the amortization period and yield may be required to be determined on the basis of an earlier call date that results in the lowest yield on that Premium Bond), compounded semiannually. No portion of that bond premium is deductible by the owner of a Premium Bond. For purposes of determining the owner's gain or loss on the sale, redemption (including redemption at maturity) or other disposition of a Premium Bond, the owner's tax basis in the Premium Bond is reduced by the amount of bond premium that is amortized during the period of ownership. As a result, an owner may realize taxable gain for federal income tax purposes from the sale or other disposition of a Premium Bond for an amount equal to or less than the amount paid by the owner for that Premium Bond. A purchaser of a Premium Bond in the initial public offering who holds that Premium Bond to maturity (or, in the case of a callable Premium Bond, to its earlier call date that results in the lowest yield on that Premium Bond) will realize no gain or loss upon the retirement of that Premium Bond.

Owners of Premium Bonds should consult their own tax advisors as to the determination for federal income tax purposes of the existence of bond premium, the determination for federal income tax purposes of the amount of bond premium properly amortizable in any period with respect to the Premium Bonds, other federal tax consequences in respect of bond premium, and the treatment of bond premium for purposes of state and local taxes on, or based on, income.

Series 2019D Bonds

In the opinion of Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP, Co-Bond Counsel, under existing law, the Series 2019D Bonds and the interest thereon are exempt from District taxation, except estate, inheritance and gift taxes. Co- Bond Counsel expresses no opinion as to any other tax consequences regarding the Series 2019D Bonds. INTEREST ON THE SERIES 2019D BONDS IS NOT EXCLUDED FROM GROSS INCOME FOR FEDERAL INCOME TAX PURPOSES. THE LEGAL DEFEASANCE OF THE SERIES 2019D BONDS MAY RESULT IN A DEEMED SALE OR EXCHANGE OF THE SERIES 2019D BONDS UNDER CERTAIN CIRCUMSTANCES; OWNERS OF THE SERIES 2019D BONDS SHOULD CONSULT THEIR TAX ADVISORS AS TO THE FEDERAL INCOME TAX CONSEQUENCES OF SUCH AN EVENT. PROSPECTIVE PURCHASERS OF THE SERIES 2019D BONDS SHOULD CONSULT THEIR TAX ADVISORS AS TO THE FEDERAL, STATE AND LOCAL, AND FOREIGN TAX CONSEQUENCES OF THEIR ACQUISITION, OWNERSHIP AND DISPOSITION OF THE SERIES 2019D BONDS.

The following discussion is generally limited to "U.S. owners," meaning beneficial owners of Series 2019D Bonds that for United States federal income tax purposes are individual citizens or residents of the United States, corporations or other entities taxable as corporations created or organized in or under the laws of the United States or any state thereof (including the District of Columbia), and certain estates or trusts with specific connections to the United States. Partnerships holding the Series 2019D Bonds, and partners in such partnerships, should consult their tax advisors regarding the tax consequences of an investment in the Series 2019D Bonds (including their status as U.S. owners).

Prospective purchasers of the Series 2019D Bonds upon their original issuance at prices other than the respective prices indicated on the inside cover of this Official Statement, and prospective purchasers of the Series 2019D Bonds at other than their original issuance, should consult their own tax advisors regarding other tax considerations such as the consequences of market discount, as to all of which Co-Bond Counsel expresses no opinion.

Payment of Interest

In general, interest paid or accrued on the Series 2019D Bonds, including qualified stated interest on Discount Series 2019D Bonds (as defined below), if any, will be treated as ordinary income to U.S. owners. A U.S. owner using the accrual method of accounting for U.S. federal income tax purposes must include interest paid or accrued on the Series 2019D Bonds in ordinary income as the interest accrues, while a U.S. owner using the cash receipts and disbursements method of accounting for U.S. federal income tax purposes must include interest in ordinary income when payments are received or constructively received by the owner.

Sale, Exchange, Retirement or Other Taxable Disposition of Series 2019D Bonds

Upon the sale, exchange, retirement or other taxable disposition of a Series 2019D Bond, a U.S. owner will recognize gain or loss equal to the difference between the amount realized from the sale, exchange, retirement or other disposition and the owner's adjusted basis in the Series 2019D Bond or applicable portion of the adjusted basis. The owner's adjusted basis generally will equal the cost of the Series 2019D Bond to the owner, increased by any OID includible in the owner's ordinary income for the Series 2019D Bond and reduced by any principal payments on the Series 2019D Bond previously received by the owner (including any other payments on the Series 2019D Bond that are not qualified stated interest payments) and by any amortizable bond premium allowed as a deduction as described above under the section entitled "Original Issue Discount and Original Issue Premium." Any gain or loss recognized upon a sale, exchange, retirement or other disposition of a Series 2019D Bond (excluding amounts attributable to accrued interest or OID) will generally be capital gain or loss and will be long-term capital gain or loss if the U.S. owner's holding period in the Series 2019D Bond exceeds one year. Long-term capital gains of individuals are currently eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

General information reporting requirements will apply to payments of principal and interest made on Series 2019D Bonds and the proceeds of the sale of Series 2019D Bonds to non-corporate holders of the Series 2019D Bonds, and "backup withholding," currently at a rate of 24%, will apply to such payments if the owner fails to provide an accurate taxpayer identification number in the manner required or fails to report all interest required to be shown on its federal income tax returns. A beneficial owner of Series 2019D Bonds that is a U.S. owner generally can obtain complete exemption from backup withholding by providing a properly completed IRS Form W-9 (Request for Taxpayer Identification Number and Certification).

Medicare Tax Affecting U.S. Owners

A U.S. owner that is an individual or estate, or a trust not included in a special class of trusts that is exempt from such tax, is subject to a 3.8% Medicare tax on the lesser of (1) the U.S. owner's "net investment income" for the taxable year and (2) the excess of the U.S. owner's modified adjusted gross income for the taxable year over a certain threshold (which in the case of individuals is between $125,000 and $250,000, depending on the individual's circumstances). A U.S. owner's net investment income generally includes interest income on, and net gains from the disposition of, Series 2019D Bonds, unless such interest income or net gains are derived in the ordinary course of a trade or business (other than a trade or business that consists of certain passive or trading activities). A U.S. owner that is an individual, estate, or trust, should consult its tax advisor regarding the applicability of the Medicare tax.

Non-U.S. Owners

Under the Code, interest and OID on any Series 2019D Bond whose beneficial owner is not a U.S. owner is generally not subject to United States income tax or withholding tax (including backup withholding) if the non-U.S. owner provides the payor of interest on the Series 2019D Bonds with an appropriate statement as to its status as a non-U.S. owner. This statement can be made on IRS Form W-8BEN or a successor form. If, however, the non-U.S. owner conducts a trade or business in the United States and the interest or OID on the Series 2019D Bonds held by the non-U.S. owner is effectively connected with such trade or business, that interest or OID will be subject to United States income tax but will generally not be subject to United States withholding tax (including backup withholding). The foregoing is a brief summary of certain federal income tax consequences to a non-U.S. owner. *Non-U.S. owners should consult their tax advisors regarding the tax consequences of an investment in the Series 2019D Bonds.*

Foreign Account Tax Compliance Act

The Foreign Account Tax Compliance Act ("FATCA") generally imposes a 30% withholding tax on interest payments to (i) certain foreign financial institutions (including certain investment funds) that fail to certify their FATCA status and (ii) non-financial foreign entities if certain disclosure requirements related to direct and indirect United States shareholders are not satisfied. Proposed Treasury Regulations, which may be relied upon until final Treasury Regulations are promulgated, suspend the requirement to apply the 30% withholding tax to gross proceeds from the sale or other disposition of Series 2019D Bonds. This requirement otherwise would have applied to a sale or other disposition of Series 2019D Bonds made on or after January 1, 2019.

In the case of payments made to a "foreign financial institution" (generally including an investment fund), as a beneficial owner or as an intermediary, the FATCA withholding tax generally will be imposed, subject to certain exceptions, unless such institution (i) enters into (or is otherwise subject to) and complies with an agreement with the U.S. government (a "FATCA Agreement") or (ii) is required by and complies with applicable foreign law enacted in connection with an intergovernmental agreement between the United States and a foreign jurisdiction (an "IGA"), in either case to, among other things, collect and provide to the U.S. or other relevant tax authorities certain information regarding U.S. account holders of such institution. In the case of payments made to a foreign entity that is not a financial institution (as a beneficial owner), the FATCA withholding tax generally will be imposed, subject to certain exceptions, unless such entity either provides the withholding agent with a certification that it does not have any "substantial" U.S. owner (generally, any specified U.S. person that directly or indirectly owns more than a specified percentage of such entity) or identifies its "substantial" U.S. owners.

If Series 2019D Bonds are held through a foreign financial institution that enters into (or is otherwise subject to) a FATCA Agreement, such foreign financial institution (or, in certain cases, a person paying amounts to such foreign financial institution) generally will be required, subject to certain exceptions, to withhold the 30% FATCA tax on payments of dividends or the items described above made to (i) a person (including an individual) that fails to comply with certain information requests or (ii) a foreign financial institution that has not entered into (and is not otherwise subject to) a FATCA Agreement and that is not required to comply with FATCA pursuant to applicable foreign law enacted in connection with an IGA. Coordinating rules may limit duplicative withholding in cases where the withholding described above in "Non-U.S. Owners" or "Information Reporting and Backup Withholding" also applies.

If any amount of, or in respect of, U.S. withholding tax were to be deducted or withheld from payments on Series 2019D Bonds as a result of a failure by an investor (or by an institution through which an investor holds the Series 2019D Bonds) to comply with FATCA, none of the Authority, any paying agent or any other person would, pursuant to the terms of the Series 2019D Bonds, be required to pay additional amounts with respect to any Series 2019D Bond as a result of the deduction or withholding of such tax. *Non-U.S. owners should consult their tax advisors regarding the application of FATCA to the ownership and disposition of Series 2019D Bonds.*

COVENANT BY THE DISTRICT OF COLUMBIA

Under the Act, the District pledges to the Authority and any holders of the bonds that, except as provided under the Act, the District will not limit or alter rights vested in the Authority to fulfill agreements made with holders of the bonds, or in any way impair the rights and remedies of the holders of the bonds until the bonds, together with interest thereon, with interest on any unpaid installments of interest and all costs and expenses in connection with any action or proceedings by or on behalf of the holders of the bonds, are fully met and discharged.

LITIGATION

There is not now pending or, to the best of the Authority's knowledge, threatened any litigation restraining or enjoining the issuance or delivery of the Series 2019A/B/D Bonds or questioning or affecting the validity of the Series 2019A/B/D Bonds, the proceedings and authority under which they are to be issued, nor is the creation, organization, or existence of the Authority being contested. Nor is there any litigation pending or, to the best of the Authority's knowledge, threatened which (i) in any manner questions the right of the Authority to operate the System or its right to conduct its activities in accordance with the provisions of the Act and of the Indenture or (ii) if determined adversely to the Authority, would have a material adverse impact on the financial condition of the Authority.

The Authority is subject to a variety of suits and proceedings arising out of its ordinary course of operations, some of which may be adjudicated adversely to the Authority. Any such litigation is of a routine nature which does not affect the right of the Authority to conduct its business or the validity of its obligations.

LEGAL MATTERS

Certain legal matters relating to the issuance of the Series 2019A/B/D Bonds are subject to the approving opinions of Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP, Co-Bond Counsel, which will be furnished upon delivery of the Series 2019A/B/D Bonds, substantially in the form set forth as APPENDIX F. Squire Patton Boggs (US) LLP and Parker Poe Adams & Bernstein LLP also serve as Co-Disclosure Counsel to the Authority in connection with the preparation of this Official Statement. Certain legal matters will be passed upon for the Authority by its General Counsel, and for the Underwriters by their co-counsel, Orrick, Herrington & Sutcliffe LLP and McKenzie & Associates.

INDEPENDENT AUDITORS

The financial statements of the Authority for Fiscal Years ended September 30, 2018 and 2017 included in this Official Statement have been audited by KPMG LLP ("KPMG"). KPMG has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. KPMG also has not performed any procedures relating to this Official Statement.

VERIFICATION OF MATHEMATICAL COMPUTATIONS

Prior to the delivery of the Series 2019D Bonds, Samuel Klein and Company, Certified Public Accountants, an independent accounting firm, as Verification Agent, will deliver a report on the mathematical accuracy of certain computations contained in schedules relating to the refunding of the Refunded Bonds provided to them by the Representative (as defined below). These computations will relate to the adequacy of the money and maturing principal amounts of the securities on deposit in the Series 2019D Escrow Account for the payment, when due, of principal of and interest on the Refunded Bonds. The Verification Agent will express no opinion on the assumptions provided to it, nor as to the exclusion from gross income for federal income tax purposes of the interest on the Series 2019D Bonds.

THE TRUSTEE

The Authority has appointed Wells Fargo Bank, N.A., a national banking association organized under the laws of the United States, to serve as Trustee. The Trustee is to carry out those duties assignable to it under the Master Indenture. Except for the contents of this section, the Trustee has not reviewed or participated in the preparation of this Official Statement and assumes no responsibility for the nature, contents, accuracy or completeness of the information set forth in this Official Statement or for the recitals contained in the Indenture or the Series 2019A/B/D Bonds, or for the validity, sufficiency, or legal effect of any of such documents.

Furthermore, the Trustee has no oversight responsibility, and is not accountable, for the use or application of the proceeds of such Series 2019A/B/D Bonds by the Authority. The Trustee has not evaluated the risks, benefits, or propriety of any investment in the Series 2019A/B/D Bonds and makes no representation, and has reached no conclusions, regarding the value or condition of any assets or revenues pledged or assigned as security for the Series 2019A/B/D Bonds, the technical or financial feasibility of the Project, or the investment quality of the Series 2019A/B/D Bonds, about all of which the Trustee expresses no opinion and expressly disclaims the expertise to evaluate.

RATINGS

Standard & Poor's Global Ratings Services ("S&P"), Moody's and Fitch Ratings ("Fitch") have assigned long-term municipal bond ratings of "AA+," "Aa2" and "AA" respectively, to the Series 2019A/B/D Bonds. A securities rating is not a recommendation to buy, sell or hold the Series 2019A/B/D Bonds and may be subject to revision or withdrawal at any time. A rating reflects only the view of the rating agency giving such rating. An explanation of the significance of the ratings may be obtained from: S&P at 55 Water Street, New York, New York 10041; from Moody's at 7 World Trade Center, New York, New York 10007; and from Fitch Ratings at 300 West 57th Street New York, New York 10019. There is no assurance that a rating will apply for any given period of time, or that a rating will not be revised or withdrawn. A revision or withdrawal of a rating may have an effect on the market price of or the market for the Series 2019A/B/D Bonds.

CONTINUING DISCLOSURE

In accordance with the requirements of the Rule promulgated by the SEC, the Authority will enter into the Continuing Disclosure Agreement dated the date of delivery of the Series 2019A/B/D Bonds, which will constitute a written undertaking for the benefit of the Owners of the Series 2019A/B/D Bonds, solely to assist the Underwriters in complying with subsection (b)(5) of the Rule. Pursuant to the Continuing Disclosure Agreement, the Authority has covenanted to provide certain financial information on an annual basis and to provide notice of certain enumerated events. See APPENDIX D – "Form of the Continuing Disclosure Agreement" for detailed provisions of the Continuing Disclosure Agreement.

FINANCIAL ADVISOR

PFM Financial Advisors LLC has served as financial advisor (the "Financial Advisor") to the Authority with respect to the issuance of the Series 2019A/B/D Bonds.

UNDERWRITING

Siebert Cisneros Shank & Co., L.L.C., on behalf of itself and as representative (the "Representative") of the underwriters identified on the front cover of this Official Statement (collectively, the "Underwriters"), has agreed to purchase from the Authority the Series 2019A/B/D Bonds at an aggregate purchase price equal to $542,035,736.63 (which amount constitutes the aggregate principal amount of the Series 2019A/B/D Bonds of $505,490,000.00, plus original issue premium of $38,679,664.40, less the Underwriters' discount of $2,133,927.77).

A Bond Purchase Agreement by and among the Authority and the Representative, on behalf of itself and as representative of the Underwriters dated October 8, 2019 (the "Series 2019A/B Bond Purchase Agreement"), provides that the Underwriters will purchase all of the Series 2019A/B Bonds, if any are purchased, and the obligation to make such purchases is subject to certain terms and conditions set forth in the Series 2019A/B Bond Purchase

Agreement, the approval of certain legal matters by counsel and certain other conditions. A Bond Purchase Agreement by and among the Authority and the Representative, on behalf of itself as representative of the Underwriters dated October 8, 2019 (the "Series 2019D Bond Purchase Agreement"), provides that the Underwriters will purchase all of the Series 2019D Bonds, if any are purchased, and the obligation to make such purchases is subject to certain terms and conditions set forth in the Series 2019D Bond Purchase Agreement, the approval of certain legal matters by counsel and certain other conditions.

The Series 2019A/B/D Bonds may be offered and sold to certain dealers (including dealers depositing the Series 2019A/B/D Bonds into investment trusts) at prices lower than the public offering prices and such public offering prices may be changed from time to time by the Underwriters.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the Underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the Authority and to persons and entities with relationships with the Authority, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the Authority (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the Authority. The Underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

In addition, certain of the Underwriters have entered into distribution agreements with other broker-dealers (that have not been designated by the Authority as Underwriters) for the distribution of the Series 2019A/B/D Bonds at the original issue prices. Such agreements generally provide that the relevant Underwriter will share a portion of its underwriting compensation or selling concession with such broker-dealers.

On October 3, 2019, Siebert Cisneros Shank & Co., L.L.C. and The Williams Capital Group, L.P. announced their plan to merge, with an expected effective date of early-November 2019 (the "Effective Date"). As of the Effective Date, Siebert Cisneros Shank & Co., L.L.C. will change its name to Siebert Williams Shank & Co., LLC.

FTN Financial Capital Markets ("FTN Financial"), an underwriter of the Bonds, anticipates in late October 2019 it will be changing its name from FTN Financial to FHN Financial, pending regulatory approval. The name change is being made in connection with the overall rebranding by its parent company, First Horizon National Corporation (NYSE: FHN), to align the branding of all of its divisions and subsidiaries around the First Horizon name. When the change occurs, FTN Financial's legal name will become "FHN Financial Capital Markets, a division of First Horizon Bank.

LEGALITY FOR INVESTMENT

The Act provides that the bonds of the Authority are legal instruments in which public officers and public bodies of the District, insurance companies, insurance company associations and other persons carrying on an insurance business, banks, bankers, banking institutions, including savings and loan associations, building and loan associations, trust companies, savings banks, savings associations, investment companies and other persons carrying on a banking business, administrators, guardians, executors, trustees and other fiduciaries and other persons authorized to invest in bonds or in other obligations of the District, may legally invest funds, including capital, in their control.

The bonds are also, by the Act, securities which legally may be deposited with, and received by, public officers and public bodies of the District or any agency of the District for any purpose for which the deposit of bonds or other obligations of the District is authorized by law.

RELATIONSHIP OF PARTIES

In addition to representing the Authority as Co-Bond Counsel and Co-Disclosure Counsel, Squire Patton Boggs (US) LLP from time to time represents the Authority in other matters, including environmental, regulatory and personnel matters. From time to time, Squire Patton Boggs (US) LLP also represents one or more members of the underwriting group as its or their counsel in municipal bond transactions and other matters, but not in any matters related to the Authority.

MISCELLANEOUS

All estimates, assumptions, statistical information and other statements contained herein, while taken from sources considered reliable, are not guaranteed. To the extent that any statements herein include matters of opinion, or estimates of future expenses and income, whether or not expressly so stated, they are intended merely as such and not as representations of fact.

The agreement of the Authority with the holders of the Series 2019A/B/D Bonds is fully set forth in the Indenture. Neither any advertisement of the Series 2019A/B/D Bonds nor this Official Statement is to be construed as constituting an agreement with the purchasers of the Series 2019A/B/D Bonds.

The information contained herein should not be construed as representing all conditions affecting the Authority or the Series 2019A/B/D Bonds. The foregoing statements relating to the Act, the Federal Act, the Indenture and other documents are summaries of certain provisions thereof, and in all respects are subject to and qualified in their entirety by express reference to the provisions of such documents in their complete forms.

The attached Appendices A through F are integral parts of this Official Statement and should be read in their entirety, together with all of the foregoing statements.

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

By: /s/ Matthew T. Brown
Matthew T. Brown
Chief Financial Officer and Executive Vice
President, Finance and Procurement

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APPENDIX A

FINANCIAL FEASIBILITY OPINION LETTER OF
AMAWALK CONSULTING GROUP LLC
DATED SEPTEMBER 27, 2019

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Amawalk
Consulting Group LLC

90 Broad Street, Suite 707A, New York, NY 10004 • Tel: 212.361.0050 • Fax: 212.361.0055

September 27, 2019

Mr. Matthew T. Brown
Chief Financial Officer and Executive Vice President, Finance and Procurement
District of Columbia Water and Sewer Authority
5000 Overlook Avenue, SW
Washington, D.C. 20032

Subject: Financial Feasibility for the District of Columbia Water and Sewer Authority's Public Utility Subordinate Lien Revenue Bonds, Series 2019 A/B/D

Dear Mr. Brown:

The purpose of this letter is to summarize the conclusions of the independent analysis of the financial forecast (the "Financial Forecast") for the District of Columbia Water and Sewer Authority ("DC Water" or the "Authority") for its Fiscal Years ending September 30, 2019 through 2023 (the "Reporting Period") prepared by the Amawalk Consulting Group LLC ("Amawalk") in connection with the issuance by DC Water of Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds) (the "Series 2019A Bonds"), the Public Utility Subordinate Lien Revenue Bonds, Series 2019B (the "Series 2019B Bonds") and the Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable) (the "Series 2019D Bonds") and, together with Series 2019A Bonds, and the Series 2019B Bonds, (the "Series 2019 A/B/D Bonds"). Proceeds of the Series 2019A Bonds will be used to pay: (i) a portion of the costs of the Authority's DC Clean Rivers Project (the "Series 2019A Project") and (ii) the cost of issuing the Series 2019A Bonds. The proceeds of the Series 2019B Bonds will be used to pay: (i) a portion of the costs of certain capital improvements to the System (the "Series 2019B Project") and (ii) the cost of issuing the Series 2019B Bonds. The proceeds of the Series 2019D Bonds will be used to: (i) refund all or a portion of the Authority's outstanding Public Utility Subordinate Lien Revenue Bonds, Series 2013A (the "Series 2013A Bonds") and (ii) pay the cost of issuing the Series 2019D Bonds.

The Series 2019 A/B/D Bonds will constitute Subordinate Debt as defined under the Master Indenture of Trust (the "Indenture") between the Authority and Wells Fargo Bank N.A. as trustee, dated as of April 1, 1998, as supplemented and amended, including by the Twenty-Fourth Supplemental Indenture, with respect of the Series 2019 A/B/D Bonds.

The Financial Forecast includes provisions for the financing of improvements to the Water and Sewer System of DC Water (the "System") as reflected in the Current Capital Improvement Program (the "Current CIP"). The Financial Forecast sets forth the ability of the System to meet the operating costs, working capital needs and other financial requirements of the System, including the debt service requirements associated with the Outstanding Senior Debt and Subordinate Debt issued under the Indenture and the additional Senior Lien Debt and Subordinate Lien Debt that is expected to be issued by the Authority during the period ending September 30, 2023.

The term "Revenues," as defined by the Indenture, includes, but is not limited to, all moneys received as income, rates, fees, charges, receipts, profits and other moneys derived by the Authority operation and maintenance of the System, and for the use of and for the services furnished by the System, including Connection Fees, transfers from the Rate Stabilization Fund ("RSF") to the Revenue Fund, proceeds of any business interruption insurance, and investment earnings on all of the funds held by the Trustee under the Indenture and by the Authority, except any rebate fund that may be created under the Indenture. Revenues shall not include refundable customer deposits, the Inter-Municipal Agreement ("IMA") Capital Payments or other payments solely in aid of construction, the U.S. Environmental Protection Agency ("US EPA") Grants or similar payments, or the proceeds resulting from the sale of all or a portion of the System. For purposes of determining the total amount of Revenues in any year, there shall be deducted an amount equal to the amount transferred from the System Fund to the RSF pursuant to the Indenture.

The Financial Forecast summarizes the anticipated financial results of the Authority for the Reporting Period. The Authority's fiscal year ends on September 30. All references in the Official Statement to a fiscal year ("Fiscal Year" or "FY") relate to the 12 month period ending September 30 of the year shown.

Methodology

Amawalk has reviewed the Authority's books, records, financial reports, and statistical data to the extent practicable to assemble and evaluate the forecast of revenues, revenue requirements, and debt service coverage for the Reporting Period. Analyses have been performed to support the findings and conclusions presented herein. Our independent assessment of the Financial Forecast included the following steps:

- Communicating with key Authority staff to review: 1) current policies of DC Water's Board of Directors (the "Board") and anticipated changes (if any), 2) assumptions underpinning the Authority's financial forecast, 3) billing and collection experience, 4) factors affecting the cost of Authority operations and the implementation of capital projects, and 5) other matters that could affect System revenues and costs.
- Reviewing documents prepared by the Authority including the Current CIP for FY 2019 – 2028; the Revised FY 2018 Operating Budget and the Approved FY 2019 Operating Budget; the Approved FY 2020 Budget Summary; the Comprehensive Annual Financial Report ("CAFR") for the Fiscal Years ending September 30, 2016, September 30, 2017, and September 30, 2018; Official Statements for Authority Bonds issued in FY 2014 through 2018; reports to the Board and its Committees; and other information.
- Reviewing documents prepared by consultants to the Authority including: the recommendations and the proposed rate structure changes as result of the 2018 Cost of Service and Rate Structure Study prepared by Raftelis Financial Consultants, Inc. ("Raftelis") and presented to the Authority Retail Rates Committee; the Findings and Recommendations for the Independent Consulting Engineering Assessment of the Authority's Water and Sewer System prepared by Johnson, Mirmiran & Thompson ("JMT"), dated March 28, 2018, to reflect their findings on data as of March 2018; the Independent Engineering Review of DC Clean Rivers Project Memorandum for 100-Year Service Life of Assets prepared by JMT, dated May 2, 2014; and the Financial Feasibility Reports prepared by Amawalk in connection with the issuance of DC Water Bonds in Fiscal Years 2014 through 2018.
- Evaluating historical revenues for the period of FY 2014 through FY 2018, year-to-date estimates of revenues for FY 2019 and factors affecting revenues including the rate structure, timing and amounts of rate increases, consumption trends and billing and collection of the Clean River Impervious Area Charge ("CRIAC") and the Water System Replacement Fee ("WSRF").
- Evaluating historical expenses from FY 2014 through FY 2018 and year-to-date estimates of expenses for FY 2019 and factors affecting operating costs including staffing levels, labor agreements, pension and fringe benefit contributions, utilities, chemicals, biosolids and other components of expenses.
- Reviewing the Authority's regulatory requirements and the impact of those requirements on the cost of the Current CIP and the expenses for operation and maintenance of the System.
- Drawing upon results of prior studies to compare the efficiency and effectiveness of the Authority in managing the System with the performance of other comparable water and wastewater utilities.
- Considering the results of our recent review of the reserve funds of the Authority.
- Reviewing the Authority's financial plan for FY 2019 through FY 2023 and the data and assumptions used in preparing the plan.

In conducting our analysis, we have used original source documents and first-person interviews whenever possible. We have relied upon the accuracy of the information provided by the Authority – both written and oral. Amawalk is responsible for the interpretation of data used for this analysis.

Findings and Conclusions

In our opinion, the Authority has the ability to effectively execute its mission, operate its System to provide uninterrupted service, maintain regulatory compliance, and finance and implement its Current CIP within the Indenture and Board policy requirements. In addition to this general conclusion, we offer the following specific observations:

The members of the Board continue to play an important role in setting policy direction. The Board has adopted and acted on financial and rate-setting policies that allow the Authority to accomplish its mission to provide reliable and cost-effective water and wastewater services to its customers in accordance with best practices in the water and wastewater industry. The Board adopted its Blueprint Strategic Plan that updated prior planning efforts and guides DC Water in setting priorities, focusing energy and resources, and strengthening operations. The strategic plan ensures employees and stakeholders are working towards common goals and aiming to accomplish their vision. The Plan identified six values that guide actions and decision making: accountability, trust, teamwork, customer focus, safety and well-being.

The effectiveness of the Authority's governance structure has been confirmed by independent study. The Authority's enabling legislation required that a study be performed by the year 2000 regarding the feasibility of regionalizing some or all of the operations of the Authority. The 2000 study concluded that the Authority's governance structure was working well, and suggested no changes in governance and a further review in five years.

In FY 2006, the Authority's Governance Committee engaged the services of a multi-disciplinary consulting team comprised of Municipal and Financial Services Group, LeBoeuf, Lamb, Greene, and MacRae, LLP, and Tatum and Associates, LLC to examine a variety of issues concerning the governance of the Authority. The 2006 governance study endorsed the then existing structure. The structure has not been changed since 2006.

The Authority's organization and management continue to support successful implementation of its mission. The Authority's policies, financial position, planning, capital improvements, operations and customer service reflect the strengths of its organization and competent senior management. The Authority has improved the efficiency and effectiveness of its operations in recent years and is focusing attention on additional opportunities to optimize its performance. The successful operation of the biosolids processing facilities is one example of the Authority's efforts, resulting in a significant reduction in biosolids production, hauling and disposal expenses as well as the production of a substantial amount of energy for the Blue Plains Wastewater Treatment Plant ("Blue Plains").

A second illustration is the Authority's investment in green infrastructure ("GI"). Under the terms of a 2015 modification to the legal agreement for the Clean Rivers Project, DC Water eliminated the previously-planned underground tunnel for Rock Creek and will instead build GI and targeted sewer separation. GI offers environmental, social, and economic benefits that would not be realized under the previous plan. The revised schedule allows for an additional five years to complete portions of the Clean Rivers Project; this additional time will spread out annual expenditures and help ratepayers. Additionally, DC Water and the Water Environment Federation ("WEF") have signed an agreement to develop a National GI Certification Program aimed at promoting skilled individuals who will install, inspect, and maintain GI systems.

The Authority financed part of its GI investments with its September 2016 issuance of $25 million of tax-exempt Public Utility Subordinate Lien Revenue Bonds, Series 2016B (Environmental Impact Bonds) (the "Series 2016B Bonds"). The Series 2016B Bonds are designated as environmental impact bonds and, as such, include provisions for the possibility of an outcome payment by the Authority to the original purchasers of the Series 2016B Bonds, and for the possibility of a risk share payment by such original purchasers to the Authority depending upon the results achieved by the GI project financed with the proceeds of the Series 2016B Bonds. The net proceeds of the issuance are being used for construction of GI for the Rock Creek Project A (RC-A). The GI practices are designed to mimic natural processes to absorb and slow surges of stormwater during periods of heavy rainfall, reducing the incidence and volume of combined sewer overflows that pollute the District's waterways. In addition, the Authority's January 2017 issuance of $100 million tax-exempt Public Utility Senior Lien Revenue Bonds, Series 2017A, and the April 2018 issuance of $100 million tax-exempt Public Utility Senior Lien Revenue Bonds, Series 2018A, were designated as Green Bonds, as are the anticipated Series 2019A Bonds.

As part of its Clean Rivers Project, DC Water opened the first seven-mile segment of the Anacostia River Tunnel system in March 2018. This massive structure stores combined sewage during rain events, keeping sewage from overflowing to the river. The initial results are substantial: from March through December 31, 2018, the tunnel prevented 4.57 billion gallons of sewage, and nearly 900 tons of trash, solids and debris, from entering the Anacostia. All work was completed on time and within budget.

We also note that the Authority tracks multiple measures of performance to assess its operational and financial results.

The Authority's operations are in material compliance with all applicable permits and regulatory requirements. The Authority continues to operate at or above the requirements of applicable wastewater and drinking water regulations or permits, reflecting the condition of the System components, expertise of operating staff, and the Authority's commitment to install required new processes and technology as well as rehabilitate and replace vital assets. Provided that the Authority continues its planned upgrades, rehabilitation, replacement and other capital improvements, it is expected to remain compliant with current regulatory requirements during the Reporting Period.

The Authority's investment in capital improvements is consistent with maintaining regulatory compliance and enhancing engineering performance. The Current CIP includes capital investments of $4,957 million. The four largest components of the CIP are $1,342 million for the Combined Sewer Overflow ("CSO")/Long-Term Control Plan ("LTCP"), $979 million for wastewater treatment projects at Blue Plains, $957 million for sanitary sewer projects, and $945 million for water system improvements. Important capital initiatives beyond the 10-year planning period may include continued investment in the CSO LTCP and sanitary sewer rehabilitation.

The Authority and the Washington Aqueduct continue to place appropriate emphasis on security. The Authority's security activities are closely coordinated with the Washington Aqueduct as well as the District of Columbia, including the Emergency Management Agency, Metropolitan Police Department, District of Columbia Fire and Emergency Medical Services Department, and federal agencies such as the Department of Homeland Security, the Federal Bureau of Investigation and the Bureau of Alcohol, Tobacco and Firearms.

Revenues are reasonably predictable. Actual cash receipts for the three-year period of FY 2016 – FY 2018 have ranged from 1.5% above budget to 3.7% above budget in a given year. On average, cash receipts were about 2.3% more than the budgeted amounts for the three-year period. This track record indicates that revenue estimates are prudently developed. Actual FY 2019 cash receipts through March 31, 2019 are above DC Water's budget expectations for this six month period. It is not possible at this time to predict whether full-year cash receipts in FY 2019 will be higher, lower or the same as the budgeted receipts. Projected revenue increases from retail customers during the Reporting Period reflect increases in retail rates, a stable number of customer accounts, and an anticipated decline in water consumption.

The Authority successfully implemented a new Customer Information System ("CIS") in the first half of Fiscal Year 2018, and recently completed an upgrade to the CIS. From vendor selection to going live required about one year; the Authority maintained average call times during the entire implementation and the impacts on billings were reasonable. DC Water was recognized as the Level I Best CIS Implementation during CS Week's 2019 Expanding Excellence Awards ceremony. This annual award is given to the utility that achieved a highly successful CIS project implementation during 2017-2018 based upon innovation, improved service levels, budget, schedule adherence and more. DC Water successfully deployed the system on schedule and on budget and estimates that it has achieved a 14-percent reduction in billing-related customer calls.

Every three years DC Water conducts a Cost of Service Study for water, sewer and the CRIAC to ensure these charges and the resulting revenue adequately and appropriately reflect the costs incurred. As recommended by the 2018 Cost of Service Study, the Authority made rate adjustments in FY 2019, resulting in a reduction in the CRIAC and an increase in sewer volumetric charges. In addition, the revenue collected from the WSRF will be used to offset water revenue requirements, resulting in a decrease to water volumetric charges. These two cost reallocations cause shifts in the cost structure, but the aggregate impact to customer billing remains consistent with recent historical experience.

In September 2018, DC Water formed a 19-member Stakeholder Alliance ("DCWSA") to provide independent advice and a diversity of viewpoints to DC Water Management on a variety of programs and policies. At the recommendation of DCWSA, DC Water is proposing a change in its previously approved rates for FY 2020. Under the proposal, a portion of the Clean Rivers Project would be funded by the sewer rates while the majority of the cost would be funded by the CRIAC. It is anticipated that the shift in cost recovery will take place over three years: 18% will be recovered through sewer rates in FY 2020, 28% in FY 2021 and 37% in FY 2022. During these years, sewer rates will increase at a higher rate while the CRIAC will change slightly from year to year. Amawalk reviewed the Authority's analysis and found it to be reasonable and consistent with industry practice.

The amounts due each year from the Federal government and suburban wholesale customers are calculated and billed in advance of each fiscal year. The Authority expects to receive approximately 22% of its total revenue, excluding PILOT/ROW revenues, from the Federal government, suburban wholesale customers, the District Housing Authority and the District government in FY 2019 through FY 2023. Payments from wholesale customers are expected to decline in FY 2019 compared to the prior year due to changes in the allocation methodology but then increase in each year thereafter due to increases in operating costs.

Revenue estimates take into consideration declining consumption. The average annual rate of decline in consumption from FY 2014 through FY 2018 was 0.6%, with decreases in usage every year except in FY 2015 when there was a 5% increase in demand compared to FY 2014. The decrease in consumption in FY 2014 and the majority of the increase in usage in FY 2015 was attributable to the Federal government. Excluding usage by the Federal government, consumption increased by 0.3% in FY 2015. The replacement of old fixtures and appliances with more efficient units and customer water conservation most likely contributes to the long-term decline in water demand. Other large water systems as well as utilities in the region have also experienced declines in usage in recent years. The Authority will continue to monitor consumption patterns closely and adjust projections accordingly. The Authority anticipates that consumption will total 33.02 million hundred cubic feet in Fiscal Year 2019, representing a decrease of 3.0% from the prior year, reflecting the year-to-date consumption experience. The Authority assumes that long-term water consumption will decline at the rate of 1% per year beginning in Fiscal Year 2020, recognizing that weather conditions and other factors may affect water demand in a given year. The projected reduction in consumption anticipates that there will be continuing water conservation measures by customers and fixture replacement.

The Authority continues to effectively manage its annual costs. The actual expenditures of the Authority have been less than the budgeted amounts in each of the recent years. Actual expenditures on a cash basis for FY 2016 – FY 2018 have been lower than the budgeted amounts in each year, with an average of about 1.9% under budget. Underspending can free-up cash which may be used to offset declines in revenue (where applicable), cover unforeseen increases in costs and/or mitigate rate increases. While not a guarantee of future results, this track record offers a degree of comfort that expenditure estimates are prudently developed. Year-to-date FY 2019 cash used as of March 31, 2019 is below the budget amount for this six month period. It is not possible at this time to predict whether full-year cash used will be higher, lower or the same as the budgeted disbursements.

Excluding the changes in the PILOT/ROW payments to the District of Columbia, the anticipated percentage changes in operating costs for FY 2019 through FY 2023 compared to each prior year are summarized below.

Fiscal Year	Change in Operating Costs Per Year (%)
2019	4.2
2020	4.7
2021	3.1
2022	3.1
2023	3.1

In Fiscal Year 2019 and subsequent years, the Authority anticipates that the difference between actual and budgeted operating expenses will not be substantial due to budget planning that focuses on having actual expenses more closely aligned with budgeted expenses. We also note that the Authority utilizes a separate line item in its operating budget to provide funds for additional cash-financed capital construction, the defeasance of debt, or other uses of funds at the discretion of the Authority. The amounts in this line item could alternatively be used by the Authority to help address potential shortfalls in cash receipts or increases in expenses, should the need arise.

The Authority's financial plan is sound, has been appropriately developed, and is supported by adopted and planned rate increases. The Authority's financial forecast is viable and consistent with industry practices. Financial projections were reasonably developed and are expected to meet the Board's debt service coverage and reserve requirements and targets. The Authority is proposing a combined 5.7% increase in retail consumption-based water and sewer rates and the CRIAC for FY 2020, incorporating the decrease in CRIAC from $23.00 per Equivalent Residential Unit ("ERU") per month to $20.94 per ERU. In addition, the Authority is proposing a combined 8.5% increase in retail consumption-based water and sewer rates and CRIAC for FY 2021, incorporating an increase in the CRIAC from $20.94 per ERU per month to $20.95 per ERU. The Authority's financial forecast includes anticipated annual increases in consumption-based retail water and sewer rates of an average of 7.3% annually for FY 2022 through FY 2023. The CRIAC is anticipated to decrease to $19.85 per ERU per month in FY 2022 and then increase in FY 2023.

The Customer Metering Fee and Water System Replacement Fee are each based on meter size. No changes to these Fees are anticipated during the Projection Period.

The water and wastewater rates, fees and charges of the Authority, including projected increases for FY 2021 through FY 2023, are somewhat higher than the average of other utilities. Relative to median household income, the single family residential charges of DC Water are reasonable and affordable compared to the charges of other major cities as well as utilities in the region. Most importantly, DC Water utilizes its well-established affordability programs to assist low income customers in paying their bills.

The Authority's Financial Forecast anticipates that approximately 62.2% of its financing sources for the Current CIP in FY 2019 – 2028 will be cash-based. Sources of cash include $1,803 million from operations, $921 million from wholesale customer contributions, $173 million in federal grants, $69 million from the SAF and $21 million from interest income. The planned use of cash-based sources is expected to reduce the amount of debt that would otherwise be issued as well as the resulting annual debt service.

DC Water maintains significant reserves to support its financial plan. In accordance with Board policy, the Authority maintains operating reserves that are to be funded at the greater of $125.5 million or 120 days of budgeted operation and maintenance expenses. This policy requirement exceeds the minimum Operating Reserve fund requirements set forth in the Indenture. Actual cash on hand has exceeded the levels required by Board policy in recent years, including the amount on hand at the end of FY 2017. Amawalk reviewed the operating reserve policies of the Authority in 2018 and concluded that the current Board policy provides for an appropriate level of reserves. Amawalk further recommended that the Board consider amending its policy to a minimum of $140.0 million or 140 days of budgeted operation and maintenance expenses which would be consistent with the projected balances in the Authority's Financial Plan. In January 2019, management recommended that DC Water strengthen its target for days on cash on hand to 250 days.

In FY 2000, the Authority established and began funding a Rate Stabilization Fund ("RSF") to help manage future rate increases necessitated by the CIP. The balance of funds in the RSF was $61.45 million at the end of FY 2018. A withdrawal of $6.0 million and a deposit in the same amount was made in FY 2019. No additional deposits or withdrawals are expected to be made to the RSF from operating revenues in FY 2019 through FY 2023. The Financial Forecast anticipates that the RSF will continue to have a balance of $61.45 million at the end of FY 2023. The Authority may withdraw funds in the future to reduce rate increases that might otherwise be required.

The Authority's ability to implement the Current CIP and achieve its Financial Forecast assumes that the Authority has reasonable access to credit markets for its planned debt at the assumed interest rates and repayment terms.

If rate increases are implemented as forecast, the Authority's revenues during the Reporting Period will be sufficient to comply with the Rate Covenant set forth in the Indenture. Complying with the Rate Covenant would mean that the Authority is meeting all projected expenses for operations and maintenance, repair and replacement, making reserve fund deposits (as required), and paying all interest and principal on the Authority's current and projected debt obligations, including the proposed Series 2019 A/B/D Bonds. Revenues of the Authority (including projected revenue increases resulting from anticipated future rate increases to be implemented by the Authority) in the Reporting Period will be sufficient to pay: (i) the actual Operating Expenses; (ii) Annual Debt Service on Senior Debt; (iii) any amount necessary to be deposited in any Account in the Debt Service Reserve Fund relating to a Series of Bonds to restore the amount on deposit therein to the Series Debt Service Reserve Requirement; (iv) the amount required to pay Annual Debt Service on the Subordinate Debt (including any reserves in connection therewith and the restoration thereof); (v) any amount necessary to be deposited in the Operating Reserve Fund and the Renewal and Replacement Reserve Fund to maintain the required balances therein; and (vi) any amount necessary to make any payments in lieu of taxes in such Fiscal Years. Sufficient funds are projected to be on deposit in each of the required reserve funds during the Reporting Period.

In addition to the Rate Covenant described above, in 1997 the Authority adopted a financial policy of fixing, charging, revising and collecting rates, fees and other charges for the use of and the services furnished by the System sufficient in each fiscal year so that Net Revenues shall be at least equal to one hundred and forty percent (140%) of the Annual Debt Service on Senior Debt in each such Fiscal Year. Revenues of the Authority (including projected revenue increases resulting from anticipated future rate increases to be implemented by the Authority) in such Fiscal Years will be sufficient to achieve the more stringent financial policy established by the Authority. There can be no assurance that the Authority's Board will not change this additional financial policy.

Amawalk has prepared many of the tables and charts that are included in the Official Statement for the Series 2019 A/B/D Bonds. The firm is referenced as the source for each of the applicable tables and charts.

In the analysis of the forecast of future operations summarized in this Official Statement, Amawalk has reviewed certain assumptions with respect to conditions, events and circumstances which may occur in the future. We are of the opinion that these assumptions are reasonable and attainable as of the date of this report, although actual results may differ from those forecast as influenced by the conditions, events and circumstances which actually occur and such variances may be significant.

The opportunity to be of service to the Authority in this important matter is greatly appreciated.

Very truly yours,

Shan Lin
Amawalk Consulting Group LLC

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APPENDIX B

AUDITED FINANCIAL STATEMENTS OF THE AUTHORITY FOR THE YEARS ENDED SEPTEMBER 30, 2018, AND 2017

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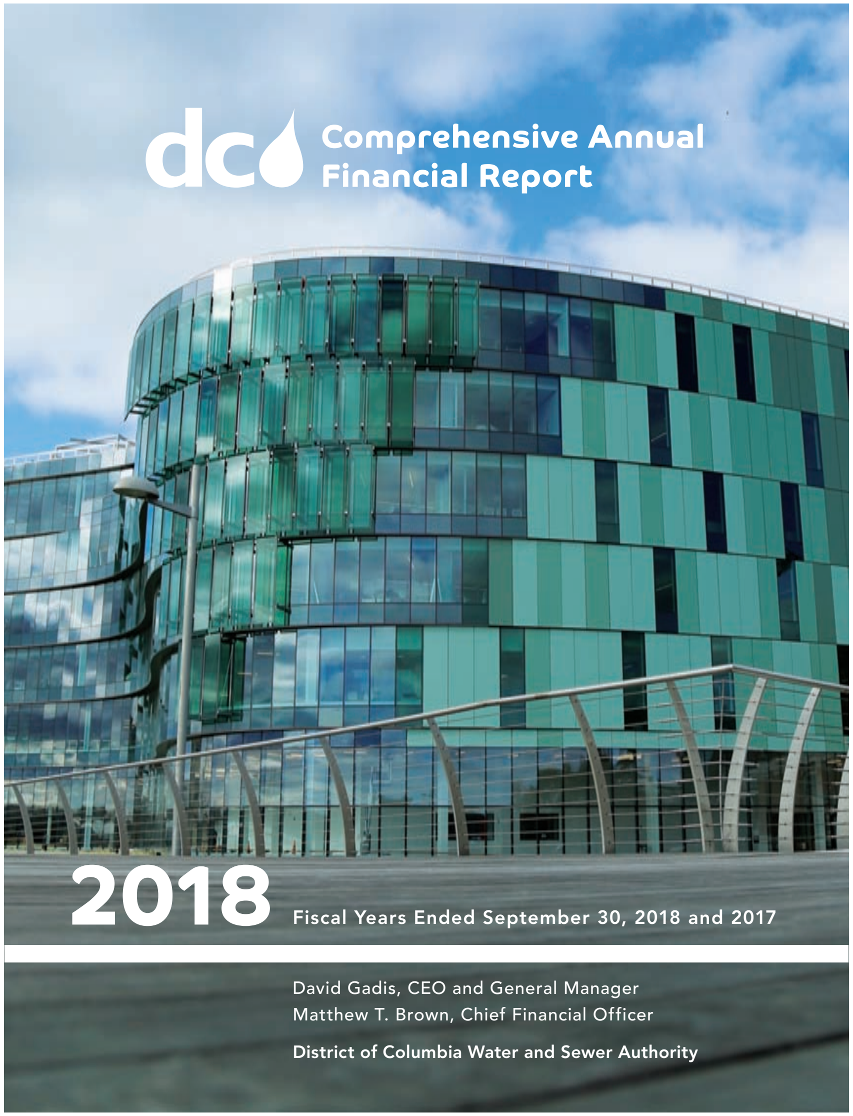

Comprehensive Annual Financial Report

2018

Fiscal Years Ended September 30, 2018 and 2017

David Gadis, CEO and General Manager
Matthew T. Brown, Chief Financial Officer

District of Columbia Water and Sewer Authority

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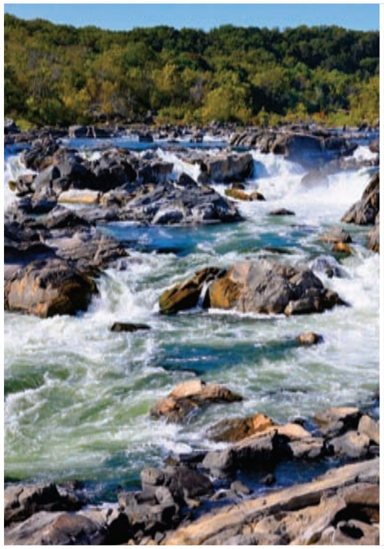
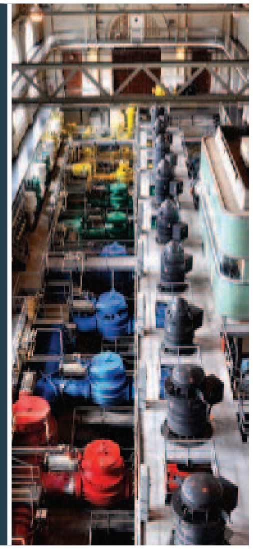
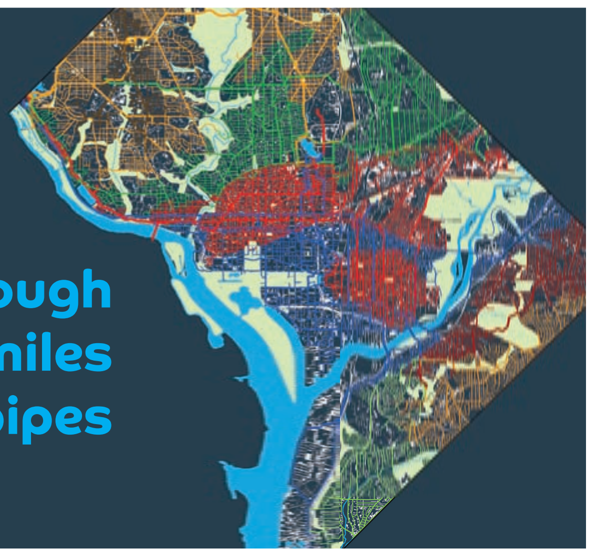


DC Water distributes 99 million gallons of clean drinking water per day . . .



. . . through 1350 miles of pipes



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FY 2018

District of Columbia Water and Sewer Authority

Comprehensive Annual
Financial Report

Fiscal Years
Ended September 30, 2018 and 2017

Prepared by:
Department of Finance, Accounting and Budget

Matthew T. Brown, Chief Financial Officer

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dc clean RIVERS PROJECT

96% reduction
System-wide CSO volume

98% reduction
CSO volume to the Anacostia River

18 miles of tunnels
Over 100 feet below ground

15 year storm conveyance
For areas served by the Northeast Boundary Tunnel

1mil pounds
Reduction of nitrogen to the Chesapeake Bay

Blue Plains Wastewater Treatment Plant

1937 - 2018

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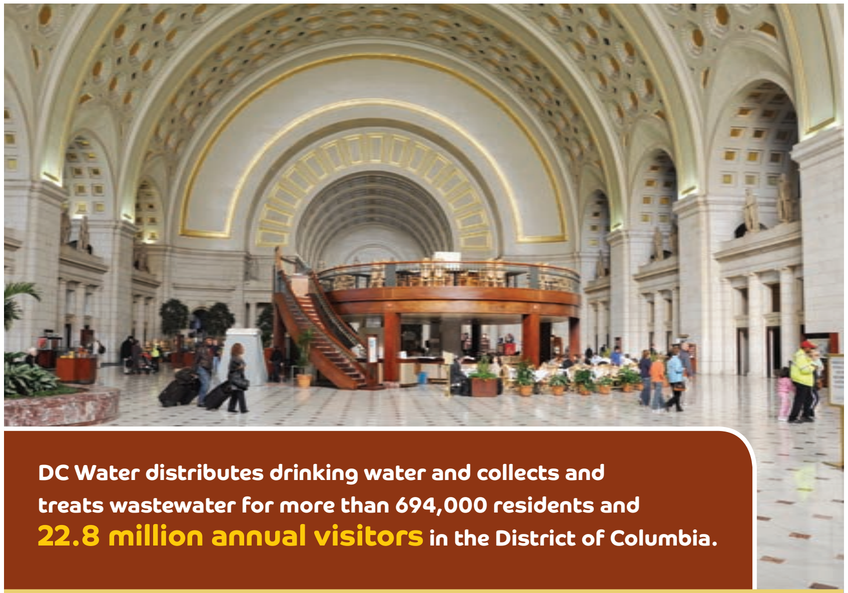

DC Water distributes drinking water and collects and treats wastewater for more than 694,000 residents and **22.8 million annual visitors** in the District of Columbia.

498 ACRES
OF LAND MANAGED BY GREEN INFRASTRUCTURES

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Introductory Section
(Unaudited)

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY | 5000 OVERLOOK AVENUE, SW | WASHINGTON, DC 20032

B-8

January 28, 2019

Board of Directors
District of Columbia Water and Sewer Authority
5000 Overlook Avenue, S.W.
Washington, D.C. 20032

Dear Members of the Board:

I am pleased to present the District of Columbia Water and Sewer Authority's ("DC Water" or the "Authority") Comprehensive Annual Financial Report ("CAFR") for the fiscal year ended September 30, 2018. The Authority's financial statements were prepared in accordance with U.S. generally accepted accounting principles ("GAAP"), as promulgated by the Governmental Accounting Standards Board ("GASB") and audited by a firm of independent certified public accountants retained by DC Water. In accordance with the Authority's enabling legislation, DC Water is required to perform an annual audit of its financial statements and submit it to the District of Columbia's Mayor, Chief Financial Officer, and District Council.

Responsibility for the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with DC Water's management. To the best of my knowledge and belief, the information contained in this report is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the Authority. All disclosures necessary for the reader to gain an understanding of DC Water's financial activity have been included.

DC Water's management is responsible for establishing and maintaining an internal control structure designed to ensure that its assets are adequately safeguarded against loss, theft, or misuse and to maintain accurate and reliable financial records for the preparation of financial statements and the representations made by management. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that: 1) the cost of internal controls should not exceed the benefits derived from the controls; and 2) the evaluation of costs and benefits requires management's exercise of judgment. To the best of my knowledge and belief, DC Water's internal accounting controls adequately safeguard its assets and provide reasonable assurance of the proper recording of financial transactions in accordance with GAAP.

KPMG LLP, Certified Public Accountants, has been retained by DC Water to serve as its independent auditors and has issued an unmodified ("clean") opinion on DC Water's financial statements for the years ended September 30, 2018 and 2017. The independent auditors' report is located at the front of the financial section of this report.

GAAP requires that management provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis ("MD&A"). This letter of transmittal is

designed to supplement the MD&A and should be read in conjunction with it. DC Water's MD&A is located immediately following the independent auditors' report.

Overview of DC Water

The District of Columbia Water and Sewer Enterprise Fund (the "Fund") was established in 1979 and was operated by the Water and Sewer Utility Administration, a division of the Government of the District of Columbia (the "District") Department of Public Works. The Authority, an independent authority of the District, was created in April 1996 and began operating on October 1, 1996 under and pursuant to an act of the Council of the District entitled the "Water and Sewer Authority and Department of Public Works Reorganization Act of 1996 (as amended)", and an Act of the United States Congress entitled the "District of Columbia Water and Sewer Authority Act of 1996". The Authority is considered a related organization of the District for purposes of presentation in the District's financial statements.

DC Water provides retail drinking water distribution and wastewater conveyance and treatment services to approximately 694,000 residential, commercial and governmental customers in the District of Columbia, and wholesale wastewater conveyance and treatment services to approximately 1.6 million users in Montgomery and Prince George's Counties in Maryland, and Fairfax and Loudoun Counties in Northern Virginia.

DC Water is governed by a Board of Directors consisting of eleven principal and eleven alternate members who represent the District of Columbia, Montgomery and Prince George's Counties in Maryland, and Fairfax County in Virginia.

Budgets are prepared annually and reviewed and approved by The Authority's Board of Directors. After approval by the Board, DC Water is required to submit its annual budget to the District for inclusion in the Mayor's annual budget. The District then includes DC Water's budget as an enterprise fund as part of its own budget submission to the U.S. Congress for approval.

Economic Condition

Washington, D.C., is not only known as being the nation's capital, but it is also an international city with a vibrant tourist industry and business climate. The U.S. Census Bureau estimated that there were 693,972 residents in Washington, D.C. in 2017, an increase of 1.9% from the same period of the prior year. The Washington Metropolitan Region has a population of more than 6.2 million individuals and is the sixth largest metropolitan area in the country.

The District's economic base is driven by the federal and local governments as well as diplomatic embassies and international organizations. The federal civilian workforce in the District averaged 236,318 employees, while thousands more are estimated to work elsewhere in the metropolitan area. The District is host to more than 180 foreign embassies and other recognized diplomatic missions. A number of international organizations, such as the International Monetary Fund, World Bank, Inter-American Development Bank and Organization of American States are headquartered in the District. An estimated 22.8 million people visit the Washington Metropolitan Region on an annual basis, not only to do business with the federal government and local firms, but also to visit the national monuments, historic sites, museums and other major cultural attractions.

Income has grown considerably in the District in recent years. The unemployment rate in the District decreased from 10.2% in 2011 to 6.0% in 2018. The District's economy grew consistently faster than the national economy for much of this decade and is expected to continue to grow in 2019. The District's economy is relatively more information and service industry dependent than most states, accounting for the region's relative insulation from the most recent national housing and credit centric recession.

Major Initiatives

Capital Improvement Program

DC Water's ultimate success in achieving its mission of providing world-class water and wastewater services as a leading steward of the environment depends in large part on the implementation of its 10-year $4.0 billion capital improvement program ("CIP"). Approximately 36.0% of the CIP is either federally mandated or required by a court-ordered consent decree, including the Clean Rivers Project. DC Water plans to finance its $4.0 billion capital improvement program from a variety of sources, including the issuance of revenue bonds, grants from the U.S. Environmental Protection Agency ("EPA"), federal appropriations, capital contributions from wholesale customers, and Pay-Go.

Blue Plains and Anacostia River Tunnels

The first phase of the DC Clean Rivers Project Anacostia River Tunnel System, including 7 miles of tunnels, diversions for each of the remaining Anacostia River CSOs, and additional wet weather treatment facilities at Blue Plains, was placed into operation in March 2018 ahead of the consent decree deadline. It is projected that phase of the project will reduce combined sewer overflows into the Anacostia River by approximately 80 percent in an average year of rainfall.

In order to protect DC Water stakeholders, DC Water issued the industry's first Environmental Impact Bond. Similar in nature to "pay for success" bonds, the borrowing is designed to pay bondholders for successful results achieved in the GI projects or pay bondholders less in the event that successful results are not achieved. This historic issuance is expected to introduce the wastewater industry to alternative sources of funding for a national issue regarding EPA required effluent composition reductions to the nation's waterways.

Green Infrastructure

DC Water completed the construction of 79 new green facilities in the Rock Creek Watershed, reaching substantial completion in October 2018. Measurement processes have been established to monitor their effectiveness which data is anticipated to aid in the enterprise's decision whether to continue with green infrastructure to achieve CSO reduction for Rock Creek. Establishment of an innovative certification program to train and hire workers in installation and maintenance of green infrastructure has produced tangible socioeconomic benefit.

Water Meter Rehabilitation Project

The DC Water Meter Rehabilitation Project is focusing on replacing meters and meter transmitting units that are nearing the end of their useful life in various locations throughout the District of Columbia. This project supports

the rehabilitation of DC Water's Automated Meter Reading (AMR) system, which uses radio transmitters wired to water meters to convey data to a network of radio receivers, also referred to as Advanced Metering Infrastructure (AMI). These new meters and transmitting units have improved capabilities compared to the last series of meters and promote timely and accurate monthly bills for customers. As of September 30, 2018, DC Water has installed 79,500 new meters, which increased overall transmissions to 86%. Installment of these meters required cooperation with multiple departments and all costs remain within the approved budget. This project exceeded the contract goal of scheduling 60% of more inside appointments and has maintained a potential claims rate of 0.03%.

Credit Rating Upgrades

In April 2018, DC Water issued $300 million in tax-exempt, fixed rate bonds, including $100 million designated as Green Bonds, leveraging the AAA credit rating upgrade by S&P and its GB1 rating, Moody's highest possible green bond assessment.

Combined, these two ratings made DC Water's bonds highly desirable. Strong credit ratings enable the Authority to issue debt at lower borrowing costs, which in turn reduces ratepayer costs in the long run.

Awards and Acknowledgements

CAFR Award

The Authority's 2017 CAFR received the Government Finance Officers Association's ("GFOA") Certificate of Achievement for Excellence in Financial Reporting. The CAFR was judged based on its conformity to GAAP and its compliance with other financial, legal and contractual provisions. The Certificate of Achievement is the highest form of recognition in governmental accounting and financial reporting, and its attainment represents a significant accomplishment for any municipality or government agency. To date, DC Water has received the GFOA's CAFR award for every year of its existence as an independent Authority, for a total of twenty-one consecutive awards.

Acknowledgements

With deep appreciation, I wish to recognize the outstanding leadership and personal commitment of Controller John Madrid and his dedicated team of professionals for their collective effort in drafting DC Water's FY 2018 Comprehensive Annual Financial Report.

Respectfully submitted,

Matthew T. Brown
Chief Financial Officer

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BOARD OF DIRECTORS

PRINCIPAL MEMBERS

Tommy Wells, Chair, District of Columbia
Ellen O. Boardman, District of Columbia
Rachna Butani, District of Columbia
David Franco, District of Columbia
Emile Thompson, District of Columbia
Vacant, District of Columbia
Timothy L. Firestine, Montgomery County, MD
Bonnie Kirkland, Montgomery County, MD
Nicholas Majett, Prince George's County, MD
Bradley Frome, Prince George's County, MD
James Patteson, Fairfax County, VA

ALTERNATE MEMBERS

Jed Ross, District of Columbia
Howard Gibbs, District of Columbia
Ivan Frishberg, District of Columbia
Rev. Kendrick Curry, District of Columbia
Anthony Giancola, District of Columbia
Krystal Brumfield, District of Columbia
Fariba Kassiri, Montgomery County, MD
Patty Bubar, Montgomery County, MD
Lavinia Baxter, Prince George's County, MD
Adam Ortiz, Prince George's County, MD
Sarah Motsch, Fairfax County, VA

PRINCIPAL STAFF MEMBERS

OFFICE OF THE GENERAL MANAGER

David Gadis, CEO and General Manager
Henderson J. Brown, IV, General Counsel
Biju George, Chief Operating Officer

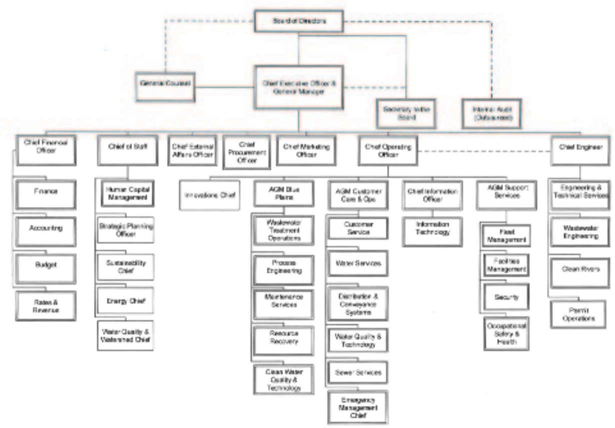
OFFICE OF THE CHIEF FINANCIAL OFFICER

Matthew T. Brown, Chief Financial Officer
John Madrid, Controller
Ivan Boykin, Finance Director
Lola Oyeyemi, Budget Director
Syed Khalil, Director, Rates and Revenue

OPERATIONS AND ADMINISTRATION

Akile Tesfaye, Assistant General Manager Wastewater Treatment
Leonard Benson, Chief Engineer, Engineering and Technical services
Rosalind Inge, Assistant General Manager, Support Services
Charles W. Kiely, Assistant General Manager Consumer Services
Thomas Kuczynski, Chief Information Officer
John Lisle, Chief of External Affairs

Governance and Organizational Structure



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Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

District of Columbia Water and Sewer Authority

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

September 30, 2017

Christopher P. Morrill

Executive Director/CEO

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Financial Section

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KPMG LLP
Suite 12000
1801 K Street, NW
Washington, DC 20006

Independent Auditors' Report

Board of Directors
District of Columbia Water and Sewer Authority

We have audited the accompanying financial statements of the District of Columbia Water and Sewer Authority (the Authority) as of and for the years ended September 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements for the years then ended as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. 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 District of Columbia Water and Sewer Authority as of September 30, 2018 and 2017, and the changes in its financial position and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 15 through 27 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 audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The introductory and statistical sections as listed in the table of contents have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

KPMG LLP

Washington, D.C.
December 20, 2018

This section of the Authority's annual financial report presents our discussion and analysis of the Authority's financial position and changes in financial position as of and for the fiscal years ended September 30, 2018 and 2017. The Management's Discussion and Analysis ("MD&A") should be read in conjunction with the Authority's basic financial statements and the related notes to the financial statements, which immediately follow this section.

Financial Highlights – Fiscal 2018

- In April 2018, the Authority issued $100.0 million of 2018 Series A and $200.0 million of 2018 Series B senior lien revenue bonds with fixed interest rates at 5.0%. The 2018 Series A green bonds and the 2018 Series B bonds mature in 2050. Gross proceeds from the bond issuance totaled approximately $348.6 million, including $48.6 million original issue premium. Approximately $115 million of 2018 Series A was used to fund a portion of the costs of the Authority's DC Clean Rivers Project; $146.6 million of the 2018 Series B was used to fund various capital improvements to the system; $85 million of 2018 Series B was used to pay principal of and interest on all or a portion of the Authority's outstanding commercial paper notes, Series B; and $2 million was used to pay the underwriter's discount and cost of issuance.

- Operating revenues increased by $41.3 million to $684.5 million, or 6.4%, primarily due to the retail rate increase of 5.0%, a 13.2% increase in the Clean Rivers Impervious Area Charge (CRIAC), and a 20.0% increase in wholesale waste water charges offset by a decrease in other revenues.

- Operating expenses increased by $31.3 million to $439.5 million, or 7.7%, due to increases in depreciation expense, personnel services, and contractual services offset by a decrease in chemicals, supplies, and small equipment.

- Capital assets, net of depreciation and amortization, increased by $416.8 million to $7.0 billion, or 6.4%, as a result of capital additions of $556.5 million offset by depreciation and amortization of $115.5 million and capital disposals of $24.3 million. Capital additions incurred in 2018 were in line with the Authority's approved 10-year capital improvement program.

- Current assets increased by $44.3 million to $647.2 million, or 7.3%, primarily due to a $18.5 million increase in restricted cash and investments, a $19.1 million increase in cash and cash equivalents, an $11.8 million increase in customer receivables, and a $3.3 million increase in receivables from the Federal government offset by an $11.4 million decrease in receivables from other jurisdictions.

- The Authority's net position increased by $187.4 million to $2.1 billion, or 9.9%, as a result of current year operations and capital contributions.

- Effective October 1, 2017, the Authority raised its retail water and wastewater rates by 5.0% and its CRIAC by 13.2%.

Financial Highlights – Fiscal 2017

- In January 2017, the Authority issued $100.0 million of 2017 Series A and $200.0 million of 2017 Series B senior lien revenue bonds with fixed interest rates ranging from 4.0% to 5.0%. The 2017 Series A green bonds mature in 2053 and are being used to fund the Clean Rivers Project. The 2017 Series B bonds mature in 2045 and are being used to fund the Authority's various capital improvements to the system. Gross proceeds from the bond issuance totaled approximately $334.3 million, including $34.3 million original issue premium.

- Operating revenues increased by $47.4 million to $643.2 million, or 8.0%, primarily due to the retail rate increase of 5.0%, a 9.6% increase in CRIAC and a 10.6% increase in wholesale waste water charges.

- Operating expenses increased by $19.7 million to $408.1 million, or 5.1%, primarily due to increases in personnel, depreciation expense and chemicals, supplies and small equipment offset by a decrease in contractual services expense.

- Capital assets, net of depreciation and amortization, increased by $547.8 million to $6.5 billion, or 9.1%, as a result of capital additions of $653.4 million offset by depreciation and amortization of $97.9 million. Capital additions incurred in 2017 were in line with the Authority's approved 10-year capital improvement program.

- Current assets increased by $53.5 million to $603.0 million, or 9.7%, primarily due to a $42.2 million increase in restricted cash and investments, and an $18.4 million increase in receivables from other Jurisdictions and the Federal government, offset by a decrease in unrestricted cash and cash equivalents of $7.5 million and a decrease in receivables from the District government of $2.2 million.

- The Authority's net position increased by $194.6 million to $1.9 billion, or 11.4%, as a result of current year operations and capital contributions.

- Effective October 1, 2016, the Authority raised its retail water and wastewater rates by 5.0% and its CRIAC by 9.6%.

Using This Annual Report

This annual report consists of three sections: Management's Discussion and Analysis; the Financial Statements; and Notes to the Financial Statements that explain in more detail some of the information in the Financial Statements.

Required Financial Statements

The Statements of Net Position include the Authority's assets plus deferred outflows of resources and liabilities plus deferred inflows of resources and provides information about the nature and amounts of investments in resources (assets) and nature and extent of obligations (liabilities) with the difference between them being reported as net position. It also provides the basis for computing the rates of return, evaluating the capital structure of the Authority, and assessing the liquidity and financial flexibility of the Authority.

The Statements of Revenues, Expenses, and Changes in Net Position present the changes in net position from one reporting period to another by accounting for revenues and expenses and measuring the financial results of operations. This statement measures the profitability of the Authority's operations over the past year and can be used to determine whether the Authority has successfully recovered all of its costs through its user fees and other charges.

The Statements of Cash Flows provide information about the Authority's cash receipts, cash payments, and net changes in cash and cash equivalents resulting from operating, investing, and capital and non-capital financing activities. It also provides information regarding sources of cash, uses of cash, and changes in cash balances during the reporting period.

Notes to the financial statements include information essential to understand the above statements, such as the Authority's significant accounting policies and information about certain financial statement account balances.

Financial Analysis of the Authority

Net Position

The Authority's total net position at September 30, 2018 was approximately $2.1 billion, a $187.4 million, or 9.9%, increase from September 30, 2017. Total assets increased $557.0 million, or 7.7%, to $7.8 billion and total liabilities increased $366.4 million, or 6.7%, to $5.8 billion.

The Authority's total net position at September 30, 2017 was approximately $1.9 billion, a $194.6 million, or 11.4%, increase from September 30, 2016. Total assets increased $594.1 million, or 8.9%, to $7.3 billion and total liabilities increased $396.3 million, or 7.9%, to $5.4 billion.

Summary of Net Position
($ in 000's)

	Fiscal Year			2018 vs 2017		2017 vs 2016	
	2018	2017	2016	Amount	%	Amount	%
Current assets	$ 647,224	$ 602,959	$ 549,496	44,265	7.3	53,463	9.7
Restricted assets	167,390	61,318	56,992	106,072	173.0	4,326	7.6
Capital assets	6,959,868	6,543,100	5,995,347	416,768	6.4	547,753	9.1
Other noncurrent assets	43,301	53,436	64,920	(10,135)	(19.0)	(11,484)	(17.7)
Total assets	7,817,783	7,260,813	6,666,755	556,970	7.7	594,058	8.9
Deferred outflows of resources	66,734	69,946	73,157	(3,212)	(4.6)	(3,211)	(4.4)
Current liabilities	477,324	461,771	440,888	15,553	3.4	20,883	4.7
Long-term debt outstanding	3,494,610	3,193,727	2,900,329	300,883	9.4	293,398	10.1
Long-term liabilities	1,827,382	1,777,421	1,695,406	49,961	2.8	82,015	4.8
Total liabilities	5,799,316	5,432,919	5,036,623	366,397	6.7	396,296	7.9
Net investments in capital assets	1,808,622	1,655,867	1,491,925	152,755	9.2	163,942	11.0
Restricted	38,907	33,276	33,135	5,631	16.9	141	0.4
Unrestricted	237,672	208,697	178,229	28,975	13.9	30,468	17.1
Total net position	$ 2,085,201	$ 1,897,840	$ 1,703,289	187,361	9.9	194,551	11.4

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Management's Discussion and Analysis (unaudited)

September 30, 2018 and 2017

The following is a discussion of the more significant changes in assets, liabilities and net position in 2018.

- Capital assets, net of depreciation and amortization, increased by $416.8 million to $7.0 billion, or 6.4%, as a result of capital additions of $556.5 million offset by depreciation and amortization of $115.5 million and capital disposals of $24.3 million. Capital additions incurred in 2018 were in line with the Authority's approved 10-year capital improvement program which is discussed in more detail on page 29.

- Current assets increased by $44.3 million to $647.2 million, or 7.3%, primarily due to a $18.5 million increase in restricted cash and investments, a $19.1 million increase in cash and cash equivalents, an $11.8 million increase in customer receivables, and a $3.3 million increase in receivables from the Federal government offset by an $11.4 million decrease in receivables from other jurisdictions.

- Long-term debt, including current maturities, increased by $306.1 million to $3.5 billion, or 9.5%, primarily due to the issuance of $100.0 million of 2018 Series A and $200.0 million of 2018 Series B senior lien revenue bonds for a total of $300.0 million in April 2018.

- Current liabilities increased by $15.6 million to $477.3 million, or 3.4%, primarily due to a $5.6 million increase in accrued interest, a $5.2 million increase in current maturities of long-term debt, a $3.3 million increase in due to jurisdictions, and a $4.3 million increase in compensation payable.

- The Authority's net position increased by $187.4 million to $2.1 billion, or 9.9%, as a result of current year operations and capital contributions.

The following is a discussion of the more significant changes in assets, liabilities and net position in 2017.

- Capital assets, net of depreciation and amortization, increased by $547.8 million to $6.5 billion, or 9.1%, as a result of capital additions of $653.4 million offset by depreciation and amortization of $97.9 million. Capital additions incurred in 2017 were in line with the Authority's approved 10-year capital improvement program which is discussed in more detail on page 29.

- Current assets increased by $53.5 million to $603.0 million, or 9.7%, primarily due to a $42.2 million increase in restricted cash and investments, and an $18.4 million increase in receivables from other Jurisdictions and the Federal government offset by a decrease in unrestricted cash and cash equivalents of $7.5 million and a decrease in receivables from the District government of $2.2 million.

- Long-term debt, including current maturities, increased by $294.9 million to $3.2 billion, or 10.1%, primarily due to the issuance of $100.0 million of 2017 Series A (Green Bonds) and $200.0 million of 2017 Series B senior lien revenue bonds for a total of $300.0 million in January 2017.

- Current liabilities increased by $21.0 million to $462.0 million, or 4.7%, primarily due to a $35.7 million increase in accounts payable and accrued expenses and a $4.9 million increase in accrued interest offset by a $22.6 million decrease in unearned revenue.

- The Authority's net position increased by $194.6 million to $1.9 billion, or 11.4%, as a result of fiscal year 2017 operations and capital contributions.

Changes in Net Position

The increase in net position at September 30, 2018 was $187.4 million, or 9.9%, as compared with September 30, 2017. The Authority's total operating revenues increased by 6.4% to $684.5 million and total operating expenses increased by 7.7% to $439.5 million.

The increase in net position at September 30, 2017 was $194.6 million, or 11.4%, as compared with September 30, 2016. The Authority's total operating revenues increased by 8.0% to $643.2 million and total operating expenses increased by 5.1% to $408.1 million.

Change in Net Position
($ in 000's)

	Fiscal Year			2018 vs 2017		2017 vs 2016	
	2018	2017	2016	Amount	%	Amount	%
Operating revenues	$ 684,502	$ 643,169	$ 595,789	$ 41,333	6.4	$ 47,380	8.0
Operating expenses	439,470	408,131	388,384	31,339	7.7	19,747	5.1
Net non-operating revenues (expenses)	(88,090)	(64,553)	(66,489)	(23,537)	36.5	1,936	(2.9)
Change in net position before capital contributions	156,942	170,485	140,916	(13,543)	(7.9)	29,569	21.0
Capital contributions	30,419	24,066	32,431	6,353	26.4	(8,365)	(25.8)
Change in net position	187,361	194,551	173,347	(7,190)	(3.7)	21,204	12.2
Net position - beginning of year	1,897,840	1,703,289	1,529,942	194,551	11.4	173,347	11.3
Net position - end of year	$ 2,085,201	$ 1,897,840	$ 1,703,289	$ 187,361	9.9	$ 194,551	11.4

The following provides a discussion as to the primary reasons for the more significant fluctuations in the Authority's revenues and expenses between fiscal years 2018 and 2017, and between fiscal years 2017 and 2016, respectively.

Fiscal Year 2018:

- Operating revenues increased by $41.3 million to $684.5 million, or 6.4%, primarily due to a retail rate increase of 5.0%, a 13.2% increase in the CRIAC, and a 20.0% increase in wholesale waste water charges.

- Operating expenses increased by $31.3 million to $439.5 million, or 7.7%, due to increases in depreciation expense, personnel services, and contractual services offset by a decrease in chemicals, supplies, and small equipment.

Fiscal Year 2017:

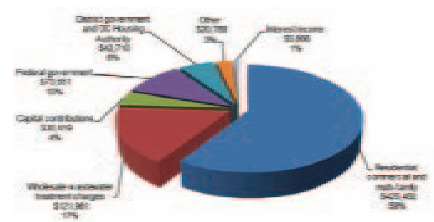
- Operating revenues increased by $47.4 million to $643.2 million, or 8.0%, primarily due to a retail rate increase of 5.0%, a 9.6% increase in CRIAC and a 10.6% increase in wholesale waste water charges offset by decrease in other revenues.

- Operating expenses increased by $19.7 million to $408.1 million, or 5.1%, primarily due to increases in personnel, depreciation expense and chemicals, supplies and small equipment and offset by a decrease in contractual services expense.

2018 Total Revenues

Total revenues increased $49.8 million, or 7.4%, to $720.8 million in fiscal year 2018.

Total Revenues
($ in 000's)



- Revenues from residential, commercial and multi-family customers increased by $24.2 million to $425.5 million, or 6.0%, primarily due to a 5.0% water and wastewater rate increase and a 13.2% increase in the CRIAC offset by a decrease in consumption.

- Revenues from the Federal government increased by $5.9 million to $73.6 million, or 8.7%, primarily due to a 5.0% rate increase and a 13.2% increase in the CRIAC and an increase in consumption offset by lower billing adjustments for several Federal agencies during fiscal year 2018.

- Revenues from the District of Columbia government and the District of Columbia Housing Authority increased by $2.2 million to $42.7 million, or 5.5%, primarily due to a 5.0% rate increase, a 13.2% increase in the CRIAC offset by a decrease in consumption.

- Revenues from wholesale wastewater treatment increased by $20.3 million to $122.0 million, or 20.0%, primarily due to new billings for Multi-Jurisdictional Use Facilities (MJUF) of $12.1 million and a $4.9 million increase in IMA capital reimbursement revenues recognized in fiscal year 2018.

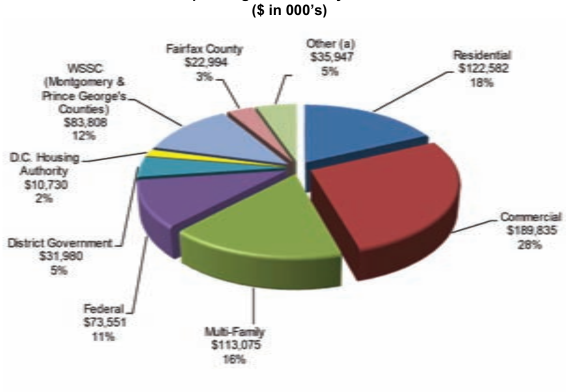
- Other revenues decreased by $11.4 million to $20.8 million, or 35.3%, primarily due to a decrease in miscellaneous revenues from the Authority's other activities such as special projects billings and insurance reimbursements related to claim and litigation expenses.

- Capital contributions increased by $6.4 million to $30.4 million, or 26.4%, primarily due to a $6.1 million increase in federal grants.

Diversity and Stability of Operating Revenues

The Authority's operating revenue base is very diverse, including established customers such as the Federal government, the District government, surrounding jurisdictions in Maryland and Virginia, and commercial and residential customers within the District. As shown on the chart below, no one category accounts for more than 28% of the Authority's total operating revenues of $684.5 million for the fiscal year ended September 30, 2018.

Operating Revenues by Source
($ in 000's)



(a) Other revenues include $12.3 million from Loudoun County and $2.8 million from Potomac Interceptor.

- Revenues from commercial and multi-family customers in the District comprise approximately 44% of the Authority's total operating revenues. Commercial revenues are reliable due to the presence of many national associations, law firms, consulting firms, colleges and universities and foreign embassies in the District. The commercial customer category also includes multi-family dwellings.

- The Authority provides wastewater conveyance and treatment services to Montgomery and Prince George's Counties in Maryland through the Washington Suburban Sanitary Commission ("WSSC") and Fairfax and Loudoun Counties in Northern Virginia. Operating revenues from WSSC and Fairfax County account for 15% of the Authority's revenues and are based on their share of operating costs at Blue Plains. Loudoun County and Potomac Interceptor customers account for an additional 2.2% of the Authority's revenues and are included in other revenues.

- Residential customers in the District account for 18% of total revenues.

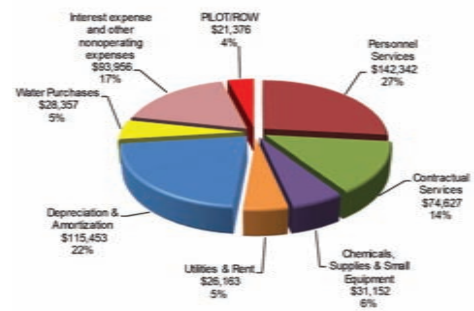
- Revenues from the Federal government comprise 11% of the Authority's total operating revenues and include customers such as the U.S. Congress, the Smithsonian Institution, and a range of federal departments and agencies.

- Revenues from the Government of the District of Columbia and the District of Columbia Housing Authority make up 7% of total operating revenues.

2018 Total Expenses

Total expenses increased by $57.0 million, or 12.0%, to $533.4 million in fiscal year 2018.

Total Expenses
($ in 000's)



- Personnel services increased by $10.2 million to $142.3 million, or 7.7%, primarily due to increases in wages and benefits.

- Contractual services increased by $2.0 million to $74.6 million, or 2.8%, due to an increase in fees for various outside consulting services.

- Chemicals, supplies and small equipment decreased by $2.2 million to $31.2 million, or 6.7%, due to a stabilization in chemical rates, a decline in the use of methanol, and decreased spending on small equipment.

- Utilities and rent increased by $1.9 million to $26.2 million, or 7.8%, primarily due to higher electricity consumption in 2018 compared to 2017.

- Depreciation and amortization increased by $17.6 million to $115.5 million, or 17.9%, primarily due to an increase in capital assets in service.

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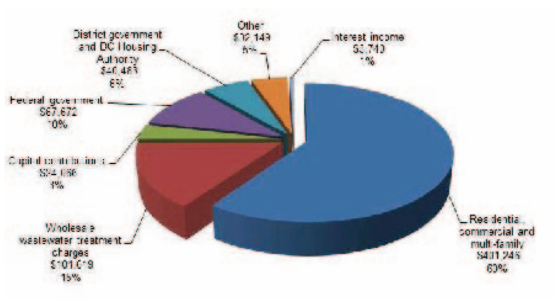
- Water purchases increased by $1.6 million to $28.4 million, or 5.8%, primarily due to a 10.5% increase in the water rate offset by a 4.8% decrease in water consumption in fiscal year 2018 compared to fiscal year 2017.

- Interest expense and other nonoperating expenses increased by $25.7 million to $94.0 million, or 37.6%, primarily due to an increase in the loss on disposal of capital assets of $17.9 million and an increase in interest incurred on long-term debt of $9.2 million, offset by an increase in the amount of capitalized interest related to the Authority's capital improvement program which increased from $77.0 million in fiscal year 2017 to $79.4 million in fiscal year 2018.

2017 Total Revenues

Total revenues increased $40.1 million, or 6.4%, to $670.9 million in fiscal year 2017.

Total Revenues
($ in 000's)



- Revenues from residential, commercial and multi-family customers increased by $18.7 million to $401.2 million, or 4.9%, primarily due to a 5.0% water and wastewater rate increase and a 9.6% increase in the Clean Rivers Impervious Area Charges (CRIAC).

- Revenues from the Federal government increased by $4.3 million to $67.7 million, or 6.7%, primarily due to a 5.0% rate increase, 9.6% increase in the CRIAC and increase in consumption offset by lower billing adjustments for several Federal agencies during fiscal year 2017.

- Revenues from the District government and the District of Columbia Housing Authority increased by $2.3 million to $40.5 million, or 6.0%, primarily due to a 5.0% rate increase, 9.6% increase in CRIAC offset by a decrease in consumption.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Management's Discussion and Analysis (unaudited)

September 30, 2018 and 2017

- Revenues from wholesale wastewater treatment increased by $9.7 million to $101.6 million, or 10.6%, primarily due to an increase in the Intermunicipal Agreement (IMA) shareable operating costs of the Blue Plains Plant and a $4.6 million increase in IMA capital reimbursement revenues recognized in fiscal year 2017.

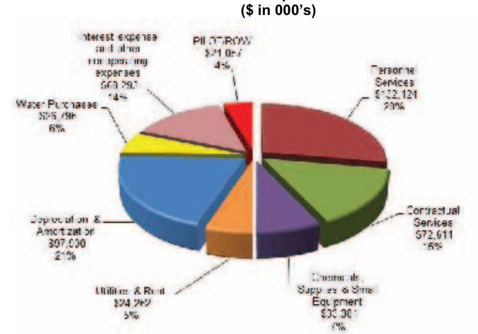
- Other revenues increased by $12.4 million to $32.1 million, or 62.7%, primarily due to an increase in miscellaneous revenues from the Authority's other activities such as special projects billings and insurance reimbursements related to claim and litigation expenses.

- Capital contributions decreased by $8.4 million, or 25.8%, primarily due to a $5.5 million reduction in federal grants and a $2.9 million reduction in capital contributions from the District government.

2017 Total Expenses

Total expenses increased by $18.9 million, or 4.1%, to $476.4 million in fiscal year 2017.

Total Expenses
($ in 000's)



- Personnel services increased by $7.9 million to $132.1 million, or 6.4%, primarily due to increases in wages and benefits.

- Contractual services decreased by $1.4 million to $72.6 million, or 2.0%, due to a decrease in litigation costs and biosolids hauling costs stemming from newly installed digester operations at the Blue Plains facility.

- Chemicals, supplies and small equipment increased by $3.9 million to $33.4 million, or 13.1%, primarily due to higher unit prices in chemicals such as methanol and increase in parts and supplies.

- Utilities and rent increased by $0.3 million to $24.3 million, or 1.4%, primarily due to increase in space rental and water usage to generate steam for Combine Heat Power (CHP) offset by onsite electricity generation from CHP project, which became operational in the summer of 2015.

- Depreciation and amortization increased by $8.4 million to $97.9 million, or 9.4%, primarily due to an increase in capital assets in service.

- Water purchases increased by $0.5 million to $26.8 million, or 1.7%, primarily due to a 4.4% increase in the water rate and offset by a 1.5% decrease in water consumption in fiscal year 2017 compared to fiscal 2016.

- Interest expense and other nonoperating expenses decreased by $0.8 million to $68.3 million, or 1.2%, primarily due to an increase in interest incurred on long-term debt of $1.8 million and an increase in losses on the disposal of capital assets of $7.7 million, offset by an increase in the amount of capitalized interest related to the Authority's capital improvement program which increased from $62.8 million in fiscal year 2016 to $77.0 million in fiscal year 2017.

Capital Assets and Debt Administration

Capital Assets

As of September 30, 2018, 2017 and 2016, respectively, the Authority had $7.0 billion, $6.5 billion and $6.0 billion of capital assets (net of depreciation). This includes wastewater collection, wastewater treatment, water distribution systems, deep tunnel systems, purchased capacity, capital equipment and construction in progress. The Authority's net capital assets increased by approximately $416.8 million, or 6.4%, during fiscal year 2018, and increased by approximately $547.8 million, or 9.1%, during fiscal year 2017, primarily due to continued capital spending in accordance with the Authority's capital improvement program. See note 4 to the financial statements for more information on capital assets.

Capital Assets
Net of Accumulated Depreciation
($ in 000's)

	As of September 30,		
	2018	2017	2016
Wastewater treatment plant	$ 3,213,907	$ 3,010,074	$ 2,383,176
Wastewater collection facilities	858,060	856,859	843,095
Water distribution system	1,125,358	1,112,458	1,095,216
Deep tunnel system	1,171,226	-	-
Purchased capacity	364,211	356,850	349,210
Capital equipment	296,295	253,437	220,584
Construction in progress	1,574,081	2,489,255	2,544,698
Less accumulated depreciation	(1,643,270)	(1,535,833)	(1,440,632)
Net capital assets	$ 6,959,868	$ 6,543,100	$ 5,995,347

The Authority's contractual commitments are primarily associated with the long-term capital improvement program. Outstanding contractual commitments related to the capital improvement program as of September 30, 2018 and 2017 were $879.3 million and $1.1 billion, respectively, which will be financed primarily with unspent bond proceeds, proceeds from future bond issuances, capital contributions from IMA participants, Federal capital contributions and PAY-GO capital contributions from the Authority.

Debt Administration

At the end of fiscal year 2018, the Authority had a total of $3.5 billion in long term debt outstanding, an increase of $306.1 million, or 9.5%, over fiscal year 2017.

At the end of fiscal year 2017, the Authority had a total of $3.2 billion in long term debt outstanding, an increase of $294.9 million, or 10.1%, over fiscal year 2016.

A schedule of long-term debt activity including current year maturities for the year ended September 30, 2018 is shown below:

Description	Balance 9/30/2017	Increases	Decreases	Balance 9/30/2018
Outstanding bonds and notes	$ 3,003,874	$ 300,000	$ (30,840)	$ 3,273,034
Unamortized bond premiums	222,786	48,644	(11,852)	259,578
Unamortized bond discounts	(2,093)	-	129	(1,964)
Total bonds and notes	$ 3,224,567	$ 348,644	$ (42,563)	$ 3,530,648

In April 2018, the Authority issued $100.0 million of 2018 Series A and $200.0 million of 2018 Series B senior lien revenue bonds with fixed interest rates at 5.0%. The 2018 Series A green bonds and the 2018 Series B bonds mature in 2050. Net proceeds from the bond issuance totaled approximately $348.6 million, including $2.0 million of underwriter's discount and cost of issuance. Approximately $115 million of 2018 Series A was used to fund a portion of the costs of the Authority's DC Clean Rivers Project; $146.6 million of the 2018 Series B was used to fund various capital improvements to the system; $85 million of 2018 Series B was used to pay principal of and interest on all or a portion of the Authority's outstanding commercial paper notes; Series B, and $2 million was used to pay the underwriter's discount and cost of issuance.

The increases (decreases) in outstanding bonds and notes payable were related to the new bond issuance and scheduled principal repayments.

A schedule of long-term debt activity including current year maturities for the year ended September 30, 2017 is shown below:

Description	Balance 9/30/2016	Increases	Decreases	Balance 9/30/2017
Outstanding bonds and notes	$ 2,733,191	$ 300,000	$ (29,317)	$ 3,003,874
Unamortized bond premiums	198,677	34,345	(10,236)	222,786
Unamortized bond discounts	(2,222)	-	129	(2,093)
Total bonds and notes	$ 2,929,646	$ 334,345	$ (39,424)	$ 3,224,567

In January 2017, the Authority issued $100.0 million of 2017 Series A and $200.0 million of 2017 Series B senior lien revenue bonds with fixed interest rates ranging from 4.0% to 5.0%. The 2017 Series A green bonds mature in 2053 and are being used to fund the Clean Rivers Project. The 2017 Series B bonds mature in 2045 and are being used to fund the Authority's various capital improvements to the system. Net proceeds from the bond issuance totaled approximately $334.3 million, including $1.9 million of underwriter's discount and cost of issuance.

The increases (decreases) in outstanding bonds and notes payable were related to the new bond issuance and scheduled principal repayments.

Credit Ratings

Long Term Credit Ratings		
Moody's Investors' Service	Aa1	Stable Outlook
Standard & Poor's Corporation	AAA	Stable Outlook
Fitch Ratings	AA	Positive Outlook

Short Term Credit Ratings	
Moody's Investors' Service	P-1
Standard & Poor's Corporation	A-1+
Fitch Ratings	F1+

Rates

Effective October 1, 2017, the Authority raised its retail water and wastewater rates by 5.0%. The Authority's approved ten-year financial plan includes a projected retail water and wastewater annual rate increase of approximately 13.0% for fiscal year 2019 and projected annual rate increases of 5.0% for each year thereafter until 2027. The plan also includes projected revisions to its metering, right-of-way fee and payment-in-lieu of taxes pass-through, the Clean River Impervious Area Charge (CRIAC), and the Water System Replacement Fee (WSRF).

Contacting the Authority's Financial Management

This financial report is designed to provide our customers and other stakeholder with a general overview of the Authority's finances. If you have questions about this report or need additional financial information, contact the Office of the Chief Financial Officer at 5000 Overlook Avenue, S.W., Washington D.C. 20032 or call 202-787-2000. A copy of this report is also available on DC Water's web site at www.dcwater.com.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Statements of Net Position
September 30, 2018 and 2017
(In thousands)

Assets and Deferred Outflows of Resources	2018	2017
Current assets:		
Cash and cash equivalents (note 3)	$ 123,908	$ 104,834
Investments (note 3)	108,048	107,633
Restricted cash and cash equivalents (note 3)	169,339	133,683
Restricted investments (note 3)	86,883	104,035
Customer receivables, net of allowance for doubtful accounts of $20,327 in 2018 and $16,857 in 2017 (note 7)	80,264	68,506
Due from other jurisdictions (note 8)	13,083	24,508
Due from Federal government (note 6)	40,513	37,222
Due from District government (note 13)	4,534	4,235
Inventory	13,304	12,358
Prepaid assets	7,348	5,945
Total current assets	647,224	602,959
Noncurrent assets:		
Restricted assets (note 3):		
Cash and cash equivalents	19,805	8,364
Investments	147,585	52,954
Total restricted cash and cash equivalents and investments	167,390	61,318
Capital assets (note 4):		
In-service	7,029,057	5,589,678
Less accumulated depreciation	(1,643,270)	(1,535,833)
Net capital assets in service	5,385,787	4,053,845
Construction-in-progress	1,574,081	2,489,255
Net capital assets	6,959,868	6,543,100
Other noncurrent assets:		
Due from District government (note 13)	35,148	41,006
Due from other jurisdictions (note 8)	8,153	12,430
Total other noncurrent assets	43,301	53,436
Total noncurrent assets	7,170,559	6,657,854
Total assets	7,817,783	7,260,813
Deferred Outflows of Resources		
Deferred loss on debt refunding	66,734	69,946
Total assets and deferred outflows of resources	7,884,517	7,330,759
Liabilities		
Current liabilities:		
Accounts payable and accrued expenses	193,187	195,720
Unearned revenue	51,101	52,267
Accrued interest	76,162	70,583
Commercial paper notes payable (note 10)	79,200	79,200
Current maturities of long-term debt (note 11)	36,038	30,840
Due to jurisdictions	12,231	8,980
Compensation payable (note 9)	14,847	10,560
Other liabilities (note 12)	14,558	13,621
Total current liabilities	477,324	461,771
Noncurrent liabilities:		
Long-term debt, excluding current maturities (note 11)	3,494,610	3,193,727
Unearned revenue	1,801,135	1,750,789
Other liabilities (note 12)	10,523	9,444
Compensated absences payable (note 9)	15,724	17,188
Total noncurrent liabilities	5,321,992	4,971,148
Total liabilities	5,799,316	5,432,919
Net Position		
Net investments in capital assets	1,808,622	1,655,867
Restricted for debt service	38,907	33,276
Unrestricted	237,672	208,697
Total net position	$ 2,085,201	$ 1,897,840

The notes to the basic financial statements are an integral part of these financial statements.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Statements of Revenues, Expenses and Changes in Net Position
Years Ended September 30, 2018 and 2017
(In thousands)

	2018	2017
Operating revenues:		
Water and wastewater user charges:		
Residential, commercial and multi-family customers	$ 425,492	$ 401,246
Federal government	73,551	67,672
District government and D.C. Housing Authority (note 13)	42,710	40,483
Charges for wholesale wastewater treatment	121,961	101,619
Other	20,788	32,149
Total operating revenues	684,502	643,169
Operating expenses:		
Personnel services	142,342	132,124
Contractual services	74,627	72,611
Chemicals, supplies and small equipment	31,152	33,381
Utilities and rent	26,163	24,262
Depreciation and amortization	115,453	97,900
Water purchases	28,357	26,796
Payment in lieu of taxes and right of way fee (note 13)	21,376	21,057
Total operating expenses	439,470	408,131
Operating income	245,032	235,038
Nonoperating revenues (expenses):		
Interest income	5,866	3,740
Interest expense and other nonoperating expenses	(93,956)	(68,293)
Total nonoperating (expenses)	(88,090)	(64,553)
Change in net position before capital contributions	156,942	170,485
Capital contributions (note 5)	30,419	24,066
Change in net position	187,361	194,551
Net position, beginning of year	1,897,840	1,703,289
Net position, end of year	$ 2,085,201	$ 1,897,840

The notes to the basic financial statements are an integral part of these financial statements.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Statements of Cash Flows
Years Ended September 30, 2018 and 2017
(In thousands)

	2018	2017
Cash flows from operating activities:		
Cash received from customers	$ 638,796	$ 594,592
Cash paid to suppliers for goods and services	(158,209)	(158,530)
Cash paid to employees for services	(139,518)	(131,700)
Cash paid to District for PILOT and ROW	(21,376)	(21,057)
Net cash provided by operating activities	319,693	283,305
Cash flows from capital and related financing activities:		
Proceeds from issuance of revenue bonds	348,644	334,345
Proceeds from other jurisdictions	102,649	113,488
Repayments of bond principal and notes payable to Federal government	(30,840)	(29,317)
Acquisition of capital assets	(492,664)	(546,496)
Payments of interest and fiscal charges	(147,357)	(147,285)
Contributions of capital from Federal and District governments	38,494	28,267
Proceeds from issuance of commercial paper	1,148,200	612,800
Repayments of commercial paper	(1,148,200)	(612,800)
Net cash used in capital and related financing activities	(181,074)	(246,998)
Cash flows from investing activities:		
Cash received for interest	5,446	3,461
Investment purchases	(301,323)	(443,976)
Investment maturities	223,429	413,091
Net cash used in investing activities	(72,448)	(27,424)
Net increase in cash and cash equivalents	66,171	8,883
Cash and cash equivalents at beginning of year	246,881	237,998
Cash and cash equivalents at end of year	$ 313,052	$ 246,881
Operating income	$ 245,032	$ 235,038
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	115,453	97,900
Change in operating assets and liabilities:		
(Increase) decrease in customer and other receivables	(14,925)	933
Increase in inventory and prepaid assets	(2,347)	(304)
Increase in payables and accrued liabilities	10,441	229
Decrease in unearned revenue	(33,961)	(50,491)
Net cash provided by operating activities	$ 319,693	$ 283,305
Noncash Investing, Capital and Financing Activities:		
Capital asset additions included in accounts payable	$ 164,987	$ 169,885
Net decrease in the fair value of investments	(54)	(563)

The notes to the basic financial statements are an integral part of these financial statements.

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(1) Background, Governance, Operations and Reporting Entity

(a) Background

The District of Columbia Water and Sewer Enterprise Fund (the "Fund") was established in 1979 and was operated by the Water and Sewer Utility Administration, a division of the Government of the District of Columbia (the "District") Department of Public Works. The District of Columbia Water and Sewer Authority ("DC Water" or the "Authority"), an independent authority of the District, was created in April 1996 and began operating on October 1, 1996 under and pursuant to an act of the Council of the District entitled the "Water and Sewer Authority and Department of Public Works Reorganization Act of 1996 (as amended)", and an Act of the United States Congress entitled the "District of Columbia Water and Sewer Authority Act of 1996". The Authority is considered a related organization of the District for purposes of presentation in the District's financial statements.

(b) Governance

The Authority is governed by a Board of Directors consisting of eleven principal and eleven alternate members. The Board is composed of six District of Columbia representatives, two each from Montgomery and Prince George's Counties in Maryland, and one from Fairfax County in Virginia. The Mayor of the District of Columbia appoints, and the DC Council confirms, all six District Board members and alternates, including the Chairman. In addition, the Mayor appoints the five principal and alternate members who represent the surrounding jurisdictions based on executive submissions from those jurisdictions.

(c) Operations

The Authority provides water and wastewater services to District residents, businesses, federal and municipal customers, and certain facilities of the Federal government in Virginia and Maryland. DC Water also operates a regional advanced wastewater treatment plant (Blue Plains or, "the Plant") and an interceptor trunk line that carries wastewater primarily from Loudoun and Fairfax Counties and Dulles Airport to the Blue Plains wastewater treatment facility.

The Authority's wastewater service territory includes over 2.1 million people in Montgomery and Prince George's Counties in Maryland, Fairfax and Loudoun Counties in Virginia, and the District. The Blue Plains Intermunicipal Agreement between the Authority; the District; Fairfax County, Virginia; and the Washington Suburban Sanitary Commission ("WSSC"), which comprises Montgomery and Prince George's Counties in Maryland (collectively referred to as the "Participants"), was executed in September 1985 (the "1985 IMA").

The 1985 IMA was replaced in 2012 and became effective on April 3, 2013 by a new Intermunicipal Agreement (the "2012 IMA"), which was negotiated, approved and executed by each of the original signatories to the 1985 IMA. The IMA provides for the allocation of capital, operating, and maintenance costs among the Participants. Capital costs of the Plant are allocated among the Participants in proportion to their respective wastewater treatment capacity allocation as defined in the 2012 IMA. Operating costs are allocated based on wastewater flows from each participant.

(1) Background, Governance, Operations and Reporting Entity (Continued)

The Loudoun County Sanitation Authority and the Potomac Interceptor Group also purchase wastewater services from the Authority. The Potomac Interceptor Group consists of the Town of Vienna, Virginia; the U.S. Park Service; the U.S. Department of the Navy; and the Metropolitan Washington Airports Authority (Dulles Airport).

The Authority purchases water from the Washington Aqueduct (the "Aqueduct"), which is owned by the Federal government and operated by the U.S. Army Corps of Engineers (USACE) under the direction of the Secretary of the Army. Since 1852, an act of Congress placed the care, management, and superintendence of the Washington Aqueduct under the USACE. Under the Act, USACE was given responsibility for supplying water in the District for use by the Federal government and for the use and benefit of the inhabitants of the District. The USACE operates two water purification plants at the Aqueduct, Dalecarlia and McMillan, for the exclusive benefit of the Authority, Arlington County and Fairfax County Water Authority ("FCWA"). The Aqueduct facilities supply treated water to distribution systems of the Authority, Arlington County, FCWA, the Federal government, and other parts of northern Virginia.

As of January 3, 2014, FCWA assumed ownership and operation of the water distribution system previously owned and operated by the City of Falls Church. The Authority is responsible for managing the treated Water System that serves the District and several other governmental customers outside the District. The Authority currently purchases approximately 74% of the finished water produced by the Aqueduct, and Arlington County and the FCWA purchase the remainder. Under this agreement, which remains in effect until September 30, 2023 and then thereafter until terminated, the Authority is responsible for funding approximately 74% of the Aqueduct's annual operating and capital costs. Additionally, the Authority obtains back-up and peak-day water supply from the Jennings Randolph Reservoir (Bloomington Dam) and Little Seneca Lake. The Jennings Randolph Reservoir was constructed by the Federal government and is operated by the USACE. The Little Seneca Lake was constructed and is operated by the WSSC.

(d) Reporting Entity

A financial reporting entity consists of a primary government and its component units. The criteria used to determine whether organizations are to be included as component units within the Authority's reporting entity are as follows:

- The Authority holds the corporate powers of the organization, and
- The Authority appoints a voting majority of the organization's board, and
- The Authority is able to impose its will on the organization, or
- The organization has the potential to impose a financial burden on, or provide a financial benefit to the Authority, or
- It would be misleading to exclude the organization from the Authority's financial statements.

(1) Background, Governance, Operations and Reporting Entity (Continued)

Based on the application of the above criteria, Blue Drop, LLC, a separate not-for-profit organization created by DC Water in November, 2016 by the Board Resolution #16-90, is considered to be a component unit of the Authority. Blue Drop, LLC which is legally separate from the Authority was established as a pilot program to provide the following:

- Relief from rising rates, fees, and charges to DC Water's customers in the District of Columbia, to other participating jurisdictions and to users of the joint-use sewage facilities,
- Advancing and promoting innovative strategies and technologies in the treatment and delivery of potable water, the treatment and collection of wastewater, and related products and services,
- Improving the state of the water and wastewater treatment sectors by sharing knowledge, research, and expertise throughout the country and the world,
- Promoting resource recovery and conservation; and
- Other purposes consistent with and complementary to the principles described in this Resolution.

A component unit should be included in the reporting entity financial statements using the blending method in any of these circumstances:

- The component unit's governing body is substantively the same as the governing body of the primary government *and* (1) there is a financial benefit or burden relationship between the primary government and the component unit, or (2) management of the primary government has operational responsibility for the component unit.
- The component unit provides entirely, or almost entirely, to the primary government or otherwise exclusively, or almost exclusively, benefits the primary government even though it does not provide services directly to it.
- The component unit's total debt outstanding, including leases, is expected to be repaid entirely, or almost entirely, with resources of the primary government.
- The component unit is organized as a not-for-profit corporation in which the primary government is the sole corporate member, as identified in the component unit's articles of incorporation or bylaws.

Blue Drop, LLC is a blended component unit because it is organized as a not-for-profit corporation in which the Authority is the sole corporate member, as identified in Blue Drop, LLC's articles of incorporation and bylaws. The inclusion of Blue Drop, LLC as a blended component unit did not have a material effect on the fiscal year 2018 or 2017 financial statements. Separate audited financial statements for Blue Drop, LLC are available from the Blue Drop, LLC Office at 80 M Street SE, Washington, DC 20003. Condensed financial statements of Blue Drop, LLC as of and for the years ended September 30, 2018 and 2017 are also included in Note 15.

Additionally, the Authority is not considered to be a component unit of the District as the District is not able to impose its will on the Authority, and the Authority does not impose a financial burden on or provide a financial benefit to the District.

(2) Summary of Significant Accounting Policies (Continued)

The financial statements of the Authority have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"), as applicable to governmental entities. The Governmental Accounting Standards Board ("GASB") is the accepted primary standard-setting body for establishing governmental accounting and financial reporting standards. The Authority's significant accounting policies are described below.

(a) Measurement Focus and Basis of Accounting

The financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. Grants and similar items are recognized when all eligibility requirements imposed by the grantor have been met.

(b) Cash and Cash Equivalents

The Authority invests all unrestricted cash balances, in excess of the required compensating balances, in interest-bearing accounts. The Authority's cash equivalents at year end consist of unrestricted and restricted investments, such as registered money market mutual funds and U.S. government agency obligations, which have an original maturity of 90 days or less, and are readily convertible to known amounts of cash.

For purposes of the accompanying statements of cash flows, cash and cash equivalents also include the Authority's restricted cash and cash equivalents.

(c) Investments

The Authority's investments at year end consist of unrestricted and restricted U.S. government agency obligations, U.S. Treasury notes, commercial paper, FDIC insured and negotiable certificates of deposit, corporate notes, supranational bonds and municipal bonds which have an original maturity in excess of 90 days. Money market investments and participating interest-earning investment contracts that have a remaining maturity at time of purchase of one year or less are reported at amortized cost. All other Investments are reported at fair value as of September 30, 2018 and 2017, respectively.

(d) Inventory

Inventory is recorded at the lower of weighted average cost or market value and consists primarily of operating and maintenance materials.

(e) Restricted Assets

Restricted assets represent unspent revenue bond proceeds, funds for the current payment of debt service, and unspent Federal capital appropriations. These assets, which cannot be used for routine operations, are classified as restricted assets since their use is limited by the applicable debt covenants and Federal Appropriations Act.

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(2) Summary of Significant Accounting Policies (Continued)

(f) Capital Assets

The Authority's capital assets are comprised of the wastewater treatment plant, wastewater collection facilities, the water distribution systems, deep tunnel systems, purchased capacity, and capital equipment and fleet. Capital assets are reported at historical costs and include all ancillary costs. The wastewater treatment plant, collections facilities, water distribution systems and deep tunnel systems include project construction and development costs, internal engineering and construction management personnel costs, and interest costs incurred during the construction period.

Normal recurring maintenance and repair costs are charged to operations, whereas major repairs, improvements and replacements, which extend the useful lives of the capital assets, are capitalized. Construction-in-progress is transferred to capital assets in-service upon substantial completion or when placed in service, with related depreciation commencing at that time. The Authority's capitalization thresholds are: $500 for wastewater treatment plant and collection facilities, and water distribution systems improvements; and $5 for capital equipment and fleet.

Capital assets are depreciated using the straight-line method over the following estimated useful lives:

Asset class	Estimated useful lives
Wastewater treatment plant	60 years
Wastewater collection facilities	60 years
Water distribution systems	60 years
Deep tunnel systems	100 years
Purchased capacity	60 years
Capital equipment and fleet	3 - 20 years

The Authority recognizes a half-year of depreciation in the year the capital asset is placed in service and a half-year in the year of disposal.

As discussed in Note 1, the Authority is responsible for approximately 74% of the Aqueduct's operating and capital costs. The Authority records its share of operating costs as water purchases and capital costs as purchased capacity, an intangible asset. The Authority's policy is to capitalize capital costs required to be funded under long-term water purchase agreements and to amortize such costs over the shorter of the term of the contractual agreement or estimated useful life of the assets. For purposes of the Aqueduct, the Authority considers the term of the water purchase agreement to be indefinite as USACE is required by law to provide the Authority with a source of water from the Aqueduct and the Authority has no intent to terminate its Agreement to purchase water from USACE. Additionally, capital cost reimbursements made in prior years under the Authority's participation in the Jennings Randolph Reservoir (Bloomington Dam) and Little Seneca Lake projects are also included in purchased capacity.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2018 and 2017

(In thousands)

(2) Summary of Significant Accounting Policies (Continued)

(g) Deferred Outflows of Resources

Deferred outflows of resources are defined as a consumption of net position by the Authority that is applicable to a future reporting period. Deferred outflows of resources increase net position, similar to assets. Deferred loss on bond refunding resulted from the difference between the carrying value of the refunded debt and its reacquisition price. Net losses are deferred and amortized over the life of the refunded or refunding debt, whichever is shorter.

(h) Compensated Absences

Employees earn vacation and sick leave based on a prescribed formula, which allows employees to accumulate an unlimited amount of sick leave, and vacation leave up to the maximum amounts shown in the table below. Vacation leave earned but unused by employees vests and is accrued as a liability. Generally, sick leave does not vest, and accordingly, it is recorded when used. However, as further discussed in Note 14d, the Authority Retirement Health Savings (RHS) Plan allows non-union, non-federal employees to use sick leave that is usually forfeited upon termination, to fund an account that can be used to pay for eligible medical expenses. Eligibility is established upon termination if an employee has five years of service and 100 hours of sick leave.

Accordingly, the Authority has recorded an accrual for earned sick leave only to the extent it is probable that the benefits will result in termination payments. In developing this estimate the Authority has taken into consideration past experience in making termination payments for sick leave, adjusted for the effect of changes in our termination payment policy and other current factors.

Length of Service	Annual Carryover Limits
Regular Union employees:	
1-3 years	240 hours
4-14 years	240-320 hours
Over 15 years	240-360 hours
Non-union employees:	
1-2 years	240 hours
3-6 years	320 hours
7 years	360 hours

(2) Summary of Significant Accounting Policies (Continued)

(i) Bond Premiums, Discounts and Issuance Costs

Bond premiums and discounts incurred to issue debt are capitalized and amortized as interest expense over the related bond issue period using the effective interest method. Bond issuance costs are expensed in the period incurred.

(j) Net Position

Net position is categorized into three components as follows:

- *Net investments in capital assets* – This component of net position consists of capital assets, net of accumulated depreciation and amortization and is reduced by the outstanding balances of any bonds or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component.

- *Restricted* – This component of net position consists of restrictions placed on net position as a result of external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation. When both restricted and unrestricted resources are available for use, generally it is the Authority's policy to use restricted resources first and the unrestricted resources when they are needed.

- *Unrestricted* – This component consists of net position that does not meet the definition of "restricted" or "net investments in capital assets".

(k) Revenues and Expenses

Revenues and expenses are distinguished between operating and non-operating items. Operating revenues generally result from providing services in connection with the Authority's principal ongoing operations.

The principal operating revenues of the Authority are water and wastewater user charges, and charges for wholesale wastewater treatment. Revenues from user charges and sales of services are recognized as the related services are provided.

Operating expenses include the costs associated with the conveyance of water and wastewater, treatment of wastewater, administrative expenses, District payments-in-lieu-of-taxes (PILOT) and right-of-way (ROW) fees, and depreciation and amortization of capital assets. All revenues and expenses not meeting these definitions are reported as non-operating revenues and expenses.

(2) Summary of Significant Accounting Policies (Continued)

(l) Retail Water and Wastewater User Charges

Retail water and wastewater rates are approved by the Authority's Board of Directors. Charges to the District and the Federal government are the same as those charged to retail customers. Charges for services provided but unbilled at the end of the year are recorded as revenue on an estimated basis, which considers historical usage patterns and current rates. Allowances for customer receivables that ultimately may be uncollectible are estimated and charged to expense. Amounts received in advance or in excess of the user charge for a billing period are recorded as unearned revenues until such time as these amounts are either refunded or applied against future user charges.

(m) Charges for Wholesale Wastewater Treatment and Unearned Revenue

The cost of operating and maintaining the wastewater treatment plant and related collection facilities applicable to non-District users is billed to participating jurisdictions based upon their share of flows in accordance with terms of the IMA agreement discussed in Note 1c. The charges for operating and maintenance costs and for overhead costs incurred on capital projects are recorded as charges for wholesale wastewater treatment revenue in the year the costs are incurred. The costs of capital projects required for the joint use facilities are allocated to the participating jurisdictions based on their applicable capacity allocation as set forth in the 2012 IMA. The reimbursements for capital related costs are recorded as unearned revenue and are amortized into user charges for wholesale wastewater treatment revenues over the estimated useful lives of the related assets.

(n) Contingencies

Liabilities from loss contingencies arising from claims, assessments, litigation, fines and penalties, and other sources, are recorded when information available before the financial statements are issued indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the financial statements and the amount of the loss can be reasonably estimated. When the reasonable estimate of the loss is a range, and when no amount within the range is a better estimate than any other amount, the Authority accrues a loss for the minimum amount in the range.

(o) Use of Estimates

The preparation of financial statements in conformity with U.S generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities and deferred inflows of resources and disclosure of contingent assets and liabilities at the date of the basic financial statements. Estimates also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(2) Summary of Significant Accounting Policies (Continued)

(p) Adoption of New Accounting Standards

During the fiscal year ended September 30, 2018, the Authority adopted the following new accounting standards issued by the Governmental Accounting Standards Board (GASB): Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*; Statement No. 81, *Irrevocable Split-Interest Agreements;* Statement No. 85, *Omnibus 2017;* and Statement No. 86, *Certain Debt Extinguishment Issues.* The Implementation of these new accounting standards had no impact on the Authority's fiscal year 2018 financial statements.

(q) New Accounting Pronouncements to be Implemented in the Future

The Authority plans to implement the following GASB pronouncements by the required implementation dates:

No.	Title	Required Implementation Date *(Period Beginning After)*	Authority Fiscal Year
83	Certain Asset Retirement Obligations	June 15, 2018	2019
84	Fiduciary Activities	December 15, 2018	2020
87	Leases	December 15, 2019	2021
88	Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements	June 15, 2018	2019
89	Accounting for Interest Cost Incurred before the End of a Construction Period	December 15, 2019	2021
90	Majority Equity Interests	December 15, 2018	2020

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2018 and 2017

(In thousands)

(3) Cash Deposits and Investments

(a) Authorized Cash Deposits and Investments

The Authority's Investment Policy, which is compliant with the Authority's bond covenants and master indenture, requires that all cash and other deposits maintained in financial institutions be collateralized, including bank deposits and collateralized certificates of deposit. Collateral is required to be secured in accordance with the following policy: a) collateralization on all deposits of the Authority in excess of the amount protected by federal deposit insurance; and b) collateralization with any of the following: (i) U.S. Treasury obligations, (ii) Federal agency obligations, or (iii) a Letter of Credit issued by a Federal Home Loan Bank the amount of which shall be 102% of the deposits held. Collateral shall always be held by an independent third-party custodian in the name of the Authority.

The Authority's Investment Policy permits investments in the following securities:

(1) *U.S. Treasury Obligations.* U.S Treasury bills, notes, or any other obligation or security issued by or backed by the full faith and credit of the US Treasury. These securities shall be limited to a maximum maturity of five (5) years at the time of purchase.

(2) *Registered Investment Companies (Mutual Funds).* Shares in open-end, no-load investment funds provided such funds are registered under the Federal Investment Company Act of 1940, invest exclusively in the securities permitted under this investment policy, provided that the fund is rated "AAAm" or "AAAm-G" or the equivalent.

(3) *Repurchase Agreements.* Contracts shall be invested in only if certain conditions are met, including: a) the Repurchase Agreement has a term to maturity of no greater than ninety (90) days; b) the contract is fully secured by deliverable U.S. Treasury and Federal Agency obligations, having a market value at all times of at least one hundred two percent (102%) of the amount of the contract; and c) the counterparty meets certain criteria specified in the Investment Policy.

(4) *Federal Agency Obligations.* Bonds, notes, debentures, or other obligations or securities issued by a Federal government agency or instrumentality, except Collateralized Mortgage Obligations, with a rating of at least "AA" or equivalent from two major rating agencies. These obligations shall be limited to a maximum maturity of five (5) years at the time of purchase.

(5) *Bankers' Acceptances.* Issued by a domestic bank or a federally chartered domestic office of a foreign bank, which are eligible for purchase by the Federal Reserve System, may be purchased if the following conditions are met: a) the maturity is no greater than one hundred-eighty days (180) days; and b) it is rated not lower than 'A-1' or the equivalent.

(6) Commercial Paper. Unsecured short-term debt of U.S. corporations may be purchased if certain conditions are met, including: a) the maturity is no greater than two hundred-seventy days (270) days; and b) the issuing corporation, or its guarantor, has a short-term debt rating of no less than "A-1" (or its equivalent) by at least two of the Nationally Recognized Statistical Rating Organizations ("NRSRO").

(3) Cash Deposits and Investments (Continued)

(7) *Collateralized Certificates of Deposit* in state chartered banks or federally charted banks. Collateralized Certificates of Deposit shall be collateralized at 102%.

(8) *Corporate Notes.* High quality corporate notes that meet the following criteria: 1) a rating of at least ' AA' (or its equivalent) from at least one NRSRO and a rating of at least 'A' (or its equivalent) from a second NRSRO; and 2) the final maturity shall not exceed a period of five (5) years from the time of purchase.

(9) *FDIC insured Certificates of Deposit obtained through Certificate of Deposit placement services including the Certificate of Deposit Account Registry Service* (CDARS). The program allows the Authority to allocate funds into certificates of deposit in increments, which ensure the funds are eligible for full FDIC insurance.

(10) *Federal Agency Mortgage-Backed Securities*. Issued by Fannie Mae, Freddie Mac, or the Government National Mortgage Association (GNMA) that meet the following criteria: 1) a rating of at least "AA" (or its equivalent) by two NRSROs; 2) The weighted average life (WAL) shall not exceed a period of five (5) years from the time of purchase.

(11) *Negotiable Certificates of Deposit and Bank Deposit Notes of domestic banks and domestic offices of foreign banks with:* a) ratings of at least 'A-1' (or its equivalent) by two NRSROs for maturities of one (1) year or less; b) a rating of at least 'AA' (or its equivalent) from at least one NRSRO and a rating of at least 'A' (or its equivalent) from a second NRSRO for maturities over one (1) year; and c) the final maturity shall not exceed a period of five (5) years from the time of purchase.

(12) *Supranational Bonds*. Obligations, participations or other instruments of any Federal agency, instrumentality or United States government-sponsored enterprise, including those issued or fully guaranteed as to the principal and interest by Federal agencies, instrumentalities or United States government sponsored enterprises, provided that: 1) at time of purchase the maturity does not to exceed five (5) years; and 2) have a rating of at least 'A' (or its equivalent) from at least two NRSROs.

(13) *Municipal Obligations.* Municipal bonds, notes and other evidences of indebtedness of the District or any state or local government may be purchased that meet certain criteria, including: a) final maturity on the date of investment not to exceed five (5) years; b) rated in either of the two highest rating categories by a NRSRO; and c) the total holdings of any single issue do not represent more than 25% of the total issue.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2018 and 2017

(In thousands)

(3) Cash Deposits and Investments (Continued)

Additionally, the Authority's Investment Policy has established the following limits as to the maximum percentage of the investment portfolio that is permitted to be invested in each type of eligible security:

Security		Security	
Collateralized Bank Deposits	100%	Collateralized Certificates of Deposit	30%
U.S. Treasury Obligations	100%	Corporate Notes	30%
Registered Money Market Mutual Funds	100%	FDIC-insured Certificates of Deposit	30%
Repurchase Agreements	100%	Federal Agency Mortgage-Backed Securities	30%
Federal Agency Obligations	80%	Negotiable Certificates of Deposit	30%
Bankers' Acceptances	40%	Supranational Bonds	30%
Commercial Paper	35%	Municipal Obligations	20%

The Authority's Investment Policy also stipulates that no more than 5% of the Authority's portfolio will be invested in the securities of any single issuer with following exceptions:

U.S. Treasury	100% maximum
Each Mutual Fund	50% maximum
Each Repurchase Agreement Counterparty	50% maximum
Each Federal Agency	40% maximum

For the years ended September 30, 2018 and 2017, the Authority was in full compliance with the Investment Policy.

(b) Cash Deposits

At September 30, 2018 and 2017, the carrying amounts of the Authority's unrestricted and restricted bank deposits were $127,877 and $104,742 respectively. These bank deposits were entirely insured or collateralized with securities or letters of credit at 102% of the market value of principal, plus accrued interest held by the Authority's independent agent in the Authority's name.

(In thousands)

(3) Cash Deposits and Investments (Continued)

(c) Fair Value Measurements

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The Authority is required to classify certain assets and liabilities based on the following fair value hierarchy:

Level 1: Quoted price in active markets for identical assets.

Level 2: Inputs other than quoted prices included in level 1 that are observable, either directly or indirectly. Debt securities are priced based on a compilation of primarily observable market information or broker quote in a non-active market.

Level 3: Inputs are significant unobservable inputs.

As noted in the following table, all of the Authority's investments that are reported at fair value have been measured using Level 2 inputs as of September 30, 2018 and 2017, respectively:

	Fair Value Measurement at Reportable Date Using Significant Other Observable Inputs (Level 2)	
Investments by fair value level	2018	2017
U.S. Treasury notes	$ 77,974	$ 123,493
Corporate notes	16,044	19,586
U.S. government agency obligations	12,713	19,345
Negotiable certificates of deposit	11,038	8,156
Supranational Bonds	10,446	6,410
Municipal bonds	4,704	5,232
Total investments at fair value	132,919	182,222
Investments and cash equivalents carried at amortized cost	394,772	224,539
Total investments and cash equivalents	$ 527,691	$ 406,761

(3) Cash Deposits and Investments (Continued)

(d) Cash Equivalents and Investments

As of September 30, 2018, and 2017, the Authority held the following cash equivalents and investments:

Cash equivalents and investments	2018	Weighted Average Maturity (Years)	2017	Weighted Average Maturity (Years)
Registered money market mutual	$ 185,175	0.083	$142,139	0.083
U.S. Treasury notes	180,375	0.912	140,975	0.941
Commercial paper	90,469	0.265	49,657	0.342
Corporate notes	16,044	2.114	19,586	1.750
FDIC-insured certificates of deposit	15,327	0.149	15,261	0.151
U.S. government agency obligations	12,713	1.490	19,345	1.871
Negotiable certificates of deposit	12,438	1.503	8,156	1.551
Supranational Bonds	10,446	1.938	6,410	2.076
Municipal bonds	4,704	1.425	5,232	1.442
Total cash equivalents and investments	$ 527,691	0.577	$406,761	0.658

The Authority's exposure to foreign currency risk, interest rate risk, credit risk and custodial risk associated with its cash deposits and investments are described below:

Foreign Currency Risk – Foreign currency risk is the risk that changes in the exchange rates will adversely impact the fair values of an investment. The Authority's investments are not subject to foreign currency risk as the Authority held no investments denominated in foreign currency as of and for the years ended September 30, 2018 and 2017, respectively.

Interest Rate Risk – Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, an investment with a longer maturity will have a greater sensitivity to fair value changes that are related to market interest rates. As a means of limiting its exposure to fair value losses resulting from rising interest rates, the Authority's Investment Policy limits the Authority's investment portfolio to investments with certain maximum maturities.

(In thousands)

(3) Cash Deposits and Investments (Continued)

The following are the maximum maturities established by the Authority's investment policy:

Security	Maturities	Security	Maturities
U.S. Treasury Obligations	5 years	Corporate Notes	5 years
Registered Money Market Mutual Funds	NA	FDIC-insured Certificates of Deposit	NA
Repurchase Agreements	90 days	Federal Agency Mortgage-Backed Securities	5 years
Federal Agency Obligations	5 years	Negotiable Certificates of Deposit	5 years
Bankers' Acceptances	180 days	Supranational Bonds	5 years
Commercial Paper	270 days	Municipal Obligations	5 years
Collateralized Certificates of Deposit	NA		

Additionally, the Authority monitors the interest rate risk inherent in its portfolio by measuring the weighted average maturity of its portfolio of debt instruments.

As reflected in the table on the previous page, the weighted average maturity of the Authority's investment portfolio was 0.577 years and 0.658 years as of September 30, 2018 and 2017, respectively.

Credit Risk – Generally, credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized rating organization. The Authority manages this risk by establishing minimum credit ratings in its investment policy.

The table below reflects the allocation of the Authority's investments by credit quality rating as of September 30, 2018:

	Credit Quality Rating											
Investment Type	AAA	AA+	AA	AA-	A+	A	A-	A-1	A-1+	AAAm	Not Rated	Total
U.S. government agency obligations		2.4%										2.4%
Commercial paper								13.2%	4.0%			17.2%
Registered money market mutual										35.1%		35.1%
U.S. Treasury notes		34.1%										34.1%
FDIC-Insured certificates of deposit											2.9%	2.9%
Corporate notes	0.1%	0.2%	0.6%	1.2%	0.5%	0.3%	0.2%					3.1%
Negotiable certificates of deposit				0.8%	0.9%			0.6%				2.3%
Supranational Bonds	2.0%											2.0%
Municipal bond	0.1%		0.4%	0.2%		0.2%						0.9%
	2.2%	36.7%	1.0%	2.2%	1.4%	0.5%	0.2%	13.8%	4.0%	35.1%	2.9%	100.0%

At September 30, 2018, the Authority's investments with exposure to credit risk met the minimum credit ratings required in the Authority's investment policy.

(3) Cash Deposits and Investments (Continued)

Custodial Credit Risk – Deposits is the risk that, in the event of the failure of the depository financial institution, the Authority will not be able to recover the deposits or collateral securities that are in the possession of an outside party. The Authority had no custodial credit risk associated with cash deposits as all other bank deposits were entirely insured or collateralized with securities or letters of credit at 102% of the market value of principal, plus accrued interest and held by the Authority's independent agent in the Authority's name.

Custodial Credit Risk – Investments is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of its investments or collateral securities that are in the possession of the outside party. The Authority has no custodial credit risk as all Authority investments are held in the Authority's name by an independent custodial agent for the term of the agreement and investments in obligations of the United States or its agencies are held by the Federal Reserve in a custodial account.

Other Required Disclosures – As of and for the years ended September 30, 2018 and 2017, the Authority did not have any:

- Commitments to resell securities under yield maintenance agreements;
- Losses due to defaults by counterparties or recoveries from prior period losses; or
- Investments in any one issuer that represent 5% or more of total investments, excluding investments explicitly guaranteed by the U.S. government and its agencies and investments in mutual funds, external investment pools and other pooled investments that are excluded from this disclosure requirement.

(In thousands)

(3) Cash Deposits and Investments (Continued)

(d) Cash and Investment Schedule

A schedule of cash, cash equivalents and investments as of September 30, 2018 and 2017 follows:

	2018			2017		
Description	Unrestricted	Restricted	Total	Unrestricted	Restricted	Total
Cash and cash equivalents						
Demand deposits	$ 123,545	$ 4,332	$ 127,877	$ 104,742	$ -	$ 104,742
Registered money market mutual	363	184,812	185,175	92	142,047	142,139
Total cash and cash equivalents	123,908	189,144	313,052	104,834	142,047	246,881
Investments						
U.S. Treasury notes	36,376	143,999	180,375	33,643	107,332	$ 140,975
Commercial paper	-	90,469	90,469	-	49,657	49,657
Corporate notes	16,044	-	16,044	19,586		19,586
FDIC-insured certificates of deposit	15,327	-	15,327	15,261	-	15,261
U.S. government agency obligations	12,713	-	12,713	19,345	-	19,345
Negotiable certificates of deposit	12,438	-	12,438	8,156	-	8,156
Supranational Bonds	10,446	-	10,446	6,410	-	6,410
Municipal bonds	4,704	-	4,704	5,232	-	5,232
Total Investments	108,048	234,468	342,516	107,633	156,989	264,622
Total cash, cash equivalents & investments	$ 231,956	$ 423,612	$ 655,568	$ 212,467	$ 299,036	$ 511,503

(3) Cash Deposits and Investments (Continued)

(e) Restricted Cash and Investment Schedule

A schedule of restricted cash, cash equivalents and investments as of September 30, 2018 and 2017 follows:

Description	2018	2017
Restricted cash and cash equivalents (current and noncurrent)		
Revenue bonds 2018B	$ 20,501	$ -
Revenue bonds 2018A	20,046	-
2016 B EIB Construction Funds	16,941	24,680
Principal payment, 1998 revenue bonds	15,237	14,750
Debt service reserve account, 1998 revenue bonds	11,607	5,526
Interest payment, 2015A,B revenue bonds	8,801	8,760
Interest payment, 2014C revenue bonds	8,783	8,734
Interest payment, 2016A revenue bonds	8,750	8,710
Interest payment, 2014A revenue bonds	8,473	8,425
Interest payment, 2010 revenue bonds	8,211	8,157
Interest payment, 2012A,C revenue bonds	7,903	7,959
Interest payment, 2013 revenue bonds	7,541	7,497
Interest payment, 2017 A&B Senior Lien Interest	7,061	7,013
Principal payment, 2008 revenue bonds	6,911	6,735
2018 A&B Senior Bond Interest	6,298	-
Principal payment, 2012 revenue bonds	5,381	5,140
Cash-Fleet & Sewer Relocation	4,331	-
Principal payment, 2009 revenue bonds	4,253	3,815
Interest payment, 1998 revenue bonds	3,967	4,307
2017 A&B Senior Lien Principal	3,045	-
Extendable municipal commercial paper	2,351	2,330
Commercial Paper Notes Investment	1,174	-
2015 A & B Lien Revenue Bonds	583	-
Interest payment, 2016 B EIB	431	429
Interest payment, 2008 revenue bonds	173	340
Interest payment, 2014B revenue bonds	110	71
Interest payment, 2009 revenue bonds	106	182
Interest payment, EMCP Series A	70	116
Revenue bonds 2014C	64	63
Interest payment, 2012C revenue bonds	38	36
2012 B-2 Bond Interest Accoun, 2018 B Cost of Issuance	2	-
Combined sewer overflow (CSO) federal appropriations	1	2
Revenue bonds 2017B	-	6,725
Revenue bonds 2015A	-	1,043
Interest payment, commercial paper	-	352
Revenue bonds 2017A	-	117
Revenue bonds 2015B	-	31
Revenue bonds 2014A	-	1
Interest payment, 2007 revenue bonds	-	1
Total restricted cash and cash equivalents	189,144	142,047
Restricted investments (current and noncurrent)		
Revenue bonds 2018B	126,892	-
Revenue bonds 2018A	95,725	-
Debt service reserve account, 1998 revenue bonds	11,851	18,098
Revenue bonds 2017A	-	18,167
Revenue bonds 2017B	-	120,724
Total restricted investments	234,468	156,989
Total restricted cash, cash equivalents & investments	$ 423,612	$ 299,036

(In thousands)

(4) Capital Assets

The following tables present the activity in capital assets for the years ended September 30, 2018 and 2017:

	Balance 9/30/2017	Additions	Disposals	Transfers	Balance 9/30/2018
Capital Assets					
Wastewater treatment plant	$3,010,074	$ -	$ -	$ 203,833	$3,213,907
Wastewater collection facilities	856,859	-	(21,962)	23,163	858,060
Water distribution system	1,112,458	-	(9,659)	22,559	1,125,358
Deep tunnel systems	-	-	-	1,171,226	1,171,226
Purchased capacity	356,850	7,361	-	-	364,211
Capital equipment	253,437	2,292	(721)	41,287	296,295
Total capital assets in service	5,589,678	9,653	(32,342)	1,462,068	7,029,057
Less accumulated depreciation:					
Wastewater treatment plant	(675,511)	(53,169)	-	-	(728,680)
Wastewater collection facilities	(280,926)	(13,711)	7,293	-	(287,344)
Water distribution system	(291,070)	(18,733)	-	-	(309,803)
Deep tunnel systems	-	(5,856)	-	-	(5,856)
Purchased capacity	(94,305)	(6,070)	-	-	(100,375)
Capital equipment	(194,021)	(17,912)	721	-	(211,212)
Total accumulated depreciation	(1,535,833)	(115,451)	8,014	-	(1,643,270)
Net capital asssets in service	4,053,845	(105,798)	(24,328)	1,462,068	5,385,787
Construction-in-progress	2,489,255	546,894	-	(1,462,068)	1,574,081
Net capital assets	$6,543,100	$ 441,096	$(24,328)	$ -	$6,959,868

	Balance 9/30/2016	Additions	Disposals	Transfers	Balance 9/30/2017
Capital Assets					
Wastewater treatment plant	$2,383,176	$ -	$ -	$ 626,898	$3,010,074
Wastewater collection facilities	843,095	-	-	13,764	856,859
Water distribution system	1,095,216	-	(9,650)	26,892	1,112,458
Purchased capacity	349,210	7,640	-	-	356,850
Capital equipment	220,584	6,985	(766)	26,634	253,437
Total capital assets in service	4,891,281	14,625	(10,416)	694,188	5,589,678
Less accumulated depreciation:					
Wastewater treatment plant	(629,272)	(46,239)	-	-	(675,511)
Wastewater collection facilities	(267,272)	(13,654)	-	-	(280,926)
Water distribution system	(274,429)	(18,577)	1,936	-	(291,070)
Purchased capacity	(88,360)	(5,945)			(94,305)
Capital equipment	(181,299)	(13,485)	763	-	(194,021)
Total accumulated depreciation	(1,440,632)	(97,900)	2,699	-	(1,535,833)
Net capital asssets in service	3,450,649	(83,275)	(7,717)	694,188	4,053,845
Construction-in-progress	2,544,698	638,745	-	(694,188)	2,489,255
Net capital assets	$5,995,347	$555,470	$ (7,717)	$ -	$6,543,100

(4) Capital Assets (Continued)

For the years ended September 30, 2018 and 2017, total interest expense incurred was $59,543 and $52,750, and total capitalized interest was $79,412 and $77,003, respectively. During fiscal year 2018, the Authority incurred losses on disposals of capital assets in the amount of $24,328. This amount has been included in interest expense and other non-operating expenses on the statement of revenues, expenses, and changes in net position.

The following tables present the activity in purchased capacity for the years ended September 30, 2018 and 2017:

	Balance 9/30/2017	Additions	Balance 9/30/2018
Purchased capacity			
Washington Aqueduct	$324,660	$ 7,361	$332,021
Jennings Randolph Reservoir	19,863	-	19,863
Little Seneca Lake	12,327	-	12,327
Total in service	356,850	7,361	364,211
Less accumulated depreciation:			
Washington Aqueduct	(77,809)	(5,472)	(83,281)
Jennings Randolph Reservoir	(9,823)	(393)	(10,216)
Little Seneca Lake	(6,673)	(205)	(6,878)
Total accumulated depreciation	(94,305)	(6,070)	(100,375)
Purchased capacity, net	$262,545	$ 1,291	$263,836

	Balance 9/30/2016	Additions	Balance 9/30/2017
Purchased capacity			
Washington Aqueduct	$317,020	$ 7,640	$324,660
Jennings Randolph Reservoir	19,863	-	19,863
Little Seneca Lake	12,327	-	12,327
Total in service	349,210	7,640	356,850
Less accumulated depreciation:			
Washington Aqueduct	(72,462)	(5,347)	(77,809)
Jennings Randolph Reservoir	(9,430)	(393)	(9,823)
Little Seneca Lake	(6,468)	(205)	(6,673)
Total accumulated depreciation	(88,360)	(5,945)	(94,305)
Purchased capacity, net	$260,850	$ 1,695	$262,545

(5) Capital Contributions

Capital contributions consist of the following for the years ended September 30, 2018 and 2017, respectively:

Description	2018	2017
Federal grants and appropriations	$ 30,096	$ 23,956
Contributions from District government	323	110
Total	$ 30,419	$ 24,066

Capital contributions consist principally of Federal grants and appropriations and certain capital costs incurred by the Authority in fiscal year 2018 and 2017 to be reimbursed by the District government pursuant to the Memorandum of Understanding and Relocation Funding Agreement between the Authority and the District discussed in Notes 13(c) and 13(e).

(6) Due from Federal Government

The amount due from the Federal government consists of the following at September 30, 2018 and 2017, respectively:

Description	2018	2017
Washington Aqueduct advance	$ 37,827	$ 31,994
Federal grants receivable	2,686	5,228
Total	$ 40,513	$ 37,222

The Washington Aqueduct advance as of September 30, 2018 and 2017 consists of unexpended capital advances and an operating escrow of $4,675 required under the Water Sales Agreement. Federal grants receivable represents amounts due from federal grantors related to allowable construction costs incurred but not billed and/or reimbursed as of the fiscal year end.

(7) Customer Receivables

The following is a summary of customer receivables, net as of September 30, 2018 and 2017:

Description	2018	2017
Billed customer receivables	$ 76,907	$ 63,358
Unbilled customer receivables	23,684	22,005
Total customer receivables	100,591	85,363
Less: Allowance for doubtful accounts	(20,327)	(16,857)
Customer receivables, net	$ 80,264	$ 68,506

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(8) Due from Other Jurisdictions

The amount due from other jurisdictions under the 2012 IMA consists of the following at September 30, 2018 and 2017:

Description	2018	2017
Current:		
Washington Suburban Sanitary Commission	$ 9,760	$ 18,876
Fairfax	1,774	3,338
Loudoun County Sanitation Authority	741	1,491
Northern Virginia	99	96
Potomac Interceptor	709	707
Total current	13,083	24,508
Noncurrent:		
Washington Suburban Sanitary Commission	4,232	7,475
Fairfax	781	1,434
Loudoun County Sanitation Authority	346	628
Northern Virginia	2,794	2,893
Total noncurrent	8,153	12,430
Total due from other jurisdictions	$ 21,236	$ 36,938

(9) Compensated Absences

The following table reflects the activity associated with accrued compensated absences for the years ended September 30, 2018 and 2017, respectively:

	2018			2017		
Description	Vacation	Sick	Total	Vacation	Sick	Total
Beginning of year	$ 8,868	$ 10,731	$ 19,599	$ 8,315	$ 9,073	$ 17,388
Increases (incurred)	5,456	3,598	9,054	1,769	2,518	4,287
Decreases	(5,767)	(2,665)	(8,432)	(1,216)	(860)	(2,076)
End of year	8,557	11,664	20,221	8,868	10,731	19,599
Less: current portion	3,011	1,486	4,497	1,553	858	2,411
Noncurrent portion	$ 5,546	$ 10,178	$ 15,724	$ 7,315	$ 9,873	$ 17,188

The current portion of compensated absences is included in compensation payable in the accompanying statements of net position.

(In thousands)

(10) Short-Term Debt—Commercial paper notes payable and Extendable Municipal Commercial Paper

The Authority's commercial paper notes payable are comprised of the following as of September 30, 2018 and 2017, respectively:

Description	Balance 9/30/2017	Balance 9/30/2018
Commercial Paper	$ 29,200	$ 29,200
Extendable Municipal Commercial Paper	50,000	50,000
	$ 79,200	$ 79,200

(a) Commercial Paper

A schedule of Commercial Paper activity for the years ended September 30, 2018 and 2017 is shown below:

Description	Balance 9/30/2017	2018 Maturities	2018 Re-Issuance	Balance 9/30/2018
Series B, interest at 1.30% and 1.68%, maturities at 55 and 67 days	$ -	$ (85,000)	$ 85,000	$ -
Series C, interest from 0.67% to 1.25%, maturities ranged from 7 to 67 days	29,200	(613,200)	613,200	29,200
	$ 29,200	$ (698,200)	$ 698,200	$ 29,200

Description	Balance 9/30/2016	2017 Maturities	2017 Re-Issuance	Balance 9/30/2017
Series C, interest from 0.67% to 1.25%, maturities ranged from 7 to 67 days	29,200	(262,800)	262,800	29,200
	$ 29,200	$ (262,800)	$ 262,800	$ 29,200

The Authority has established a commercial paper ("CP") program to provide interim financing for the Authority's capital improvement program. Two series of notes have been issued under the commercial paper program: the tax-exempt Series B CP Notes in an aggregate principal amount not to exceed $100,000, and the taxable Series C CP Notes in an aggregate principal amount not to exceed $50,000, (collectively, the "Commercial Paper Notes"), each as subordinate debt to the senior debt discussed in Note 11. To provide liquidity and credit support for the Commercial Paper Notes, the Authority obtained irrevocable, direct-pay letters of credit (the "Letters of Credit") issued by Landesbank Hessen-Thüringen Girozentrale, New York Branch (the "Bank") which currently expire on May 15, 2020.

(10) Short-Term Debt—Commercial Paper and Extendable Municipal Commercial Paper (Continued)

In connection with the Bank's issuance of the Letters of Credit, the Authority and the Bank entered into a Reimbursement Agreement for each series of CP Notes, each dated as of May 1, 2015, each as amended (collectively, the "Reimbursement Agreements") that obligates the Authority to pay Bank Obligations and Reimbursement Obligations (both as defined in the Eleventh Supplemental Indenture relating to the Commercial Paper Notes) and Fee Obligations (as defined in each Reimbursement Agreement) to the Bank. The Bank Obligations, the Reimbursement Obligations and Fee Obligations are Subordinate Debt under the Indenture.

(b) Extendable Municipal Commercial Paper

A schedule of Extendable Municipal Commercial Paper activity for the years ended September 30, 2018 and 2017 is shown below:

Description	Balance 9/30/2017	2018 Maturities	2018 Re-Issuance	Balance 9/30/2018
EMCP Series A, interest from 0.95% to 1.71%, maturities ranged from 29 to 89 days	$ 50,000	$ (450,000)	$ 450,000	$ 50,000

Description	Balance 9/30/2016	2017 Maturities	2017 Re-Issuance	Balance 9/30/2017
EMCP Series A, interest from 0.57% to 1.00%, maturities ranged from 30 to 89 days	$ 50,000	$ (350,000)	$ 350,000	$ 50,000

The Authority has authorized a $100,000 Extendable Municipal Commercial Paper (EMCP) Program. The program consists of one series - A, in the amount of $100,000. This program will provide interim financing for a portion of the Authority's Capital Improvement Program. Under this program the notes are issued backed by the liquidity and credit rating of the Authority. Each Series A EMCP Note will mature on its respective "Original Maturity Date", which may range from one to 90 days from the date of issuance, unless its maturity is extended on the "Original Maturity Date" to the "Extended Maturity Date", which will be the date that is 270 days after the date of issuance of the Series A EMCP Note. The notes are payable from and secured by a subordinate lien on the Authority's net revenues, as further described in the Authority's master trust indenture as supplemented.

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(11) Long-Term Debt

A schedule of long-term debt activity for the year ended September 30, 2018 is shown below:

Description	Balance 9/30/2017	Increases	Decreases	Balance 9/30/2018	Due Within One Year
2018 Public Utility Revenue Bonds:					
Series A interest at 5.0%, maturing in 2050	$ -	$ 100,000	$ -	$ 100,000	$ -
Series B interest at 5.0%, maturing in 2050	-	200,000	-	200,000	-
2017 Public Utility Revenue Bonds:					
Series A interest at 4.0 % to 5.0%, maturing in 2053	100,000	-	-	100,000	-
Series B interest at 4.0 % to 5.0%, maturing in 2045	200,000	-	-	200,000	3,045
2016 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2040	389,110	-	-	389,110	-
Series B interest at 3.4%, maturing in 2047	25,000	-	-	25,000	-
2015 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2046	100,000	-	-	100,000	580
Series B interest at 5.0 % to 5.25%, maturing in 2045	250,000	-	-	250,000	-
2014 Public Utility Revenue Bonds:					
Series A interest at 4.81%, maturing in 2115	350,000	-	-	350,000	-
Series B-1 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series B-2 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series C interest at 3.0 % to 5.0%, maturing in 2045	377,110	-	-	377,110	-
2013 Public Utility Revenue Bonds:					
interest at 4.75% to 5.0%, maturing in 2049	300,000	-	-	300,000	-
2012 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2038	158,740	-	(5,140)	153,600	5,345
Series C interest at 4.0% to 5.0%, maturing in 2034	163,215	-	-	163,215	-
2010 Series A Public Utility Revenue Bonds:					
interest at 4.1% to 5.5%, maturing in 2045	300,000	-	-	300,000	-
2009 Series A Public Utility Revenue Bonds:					
interest at 3.0% to 6.0%, maturing in 2019	8,040	-	(3,815)	4,225	4,225
2008 Series A Public Utility Revenue Bonds:					
interest at 4.0% to 5.0%, maturing in 2019	13,600	-	(6,735)	6,865	6,865
1998 Public Utility Revenue Bonds:					
interest ranges from 5.5% to 6.0%, maturing in 2029	156,605	-	(14,750)	141,855	15,565
Notes payable to the Federal Government for Jennings					
Randolph Reservoir (Bloomington Dam):					
interest at 3.25%, maturing in 2041	12,454	-	(400)	12,054	413
Subtotal	3,003,874	300,000	(30,840)	3,273,034	36,038
Unamortized bond premiums	222,786	48,644	(11,852)	259,578	-
Unamortized bond discounts	(2,093)	-	129	(1,964)	-
Total bonds and notes	$ 3,224,567	$ 348,644	$ (42,563)	$ 3,530,648	$ 36,038

(11) Long-Term Debt (Continued)

A schedule of long-term debt activity for the year ended September 30, 2017 is shown below:

Description	Balance 9/30/2016	Increases	Decreases	Balance 9/30/2017	Due Within One Year
2017 Public Utility Revenue Bonds:					
Series A interest at 4.0 % to 5.0%, maturing in 2053	$ -	$ 100,000	$ -	$ 100,000	$ -
Series B interest at 4.0 % to 5.0%, maturing in 2045	-	200,000	-	200,000	-
2016 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2040	389,110	-	-	389,110	-
Series B interest at 3.4%, maturing in 2047	25,000	-	-	25,000	-
2015 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2046	100,000	-	-	100,000	-
Series B interest at 5.0 % to 5.25%, maturing in 2045	250,000	-	-	250,000	-
2014 Public Utility Revenue Bonds:					
Series A interest at 4.81%, maturing in 2115	350,000	-	-	350,000	-
Series B-1 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series B-2 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series C interest at 3.0 % to 5.0%, maturing in 2045	377,110	-	-	377,110	-
2013 Public Utility Revenue Bonds:					
interest at 4.75% to 5.0%, maturing in 2049	300,000	-	-	300,000	-
2012 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2038	163,655	-	(4,915)	158,740	5,140
Series C interest at 4.0% to 5.0%, maturing in 2034	163,215	-	-	163,215	-
2010 Series A Public Utility Revenue Bonds:					
interest at 4.1% to 5.5%, maturing in 2045	300,000	-	-	300,000	-
2009 Series A Public Utility Revenue Bonds:					
interest at 3.0% to 6.0%, maturing in 2019	11,535	-	(3,495)	8,040	3,815
2008 Series A Public Utility Revenue Bonds:					
interest at 4.0% to 5.0%, maturing in 2019	20,200	-	(6,600)	13,600	6,735
1998 Public Utility Revenue Bonds:					
interest ranges from 5.5% to 6.0%, maturing in 2029	170,525	-	(13,920)	156,605	14,750
Notes payable to the Federal Government for Jennings					
Randolph Reservoir (Bloomington Dam):					
interest at 3.25%, maturing in 2041	12,841	-	(387)	12,454	400
Subtotal	2,733,191	300,000	(29,317)	3,003,874	30,840
Unamortized bond premiums	198,677	34,345	(10,236)	222,786	-
Unamortized bond discounts	(2,222)	-	129	(2,093)	-
Total bonds and notes	$ 2,929,646	$ 334,345	$ (39,424)	$ 3,224,567	$ 30,840

(11) Long-Term Debt (Continued)

(a) Senior Debt

The 2018 Series A and B, 2017 Series A and B, 2014 Series A, 2009 Series A and 1998 Series public utility revenue bonds are considered senior debt under the related Master Indenture of Trust ("Master Indenture"). Payment of the principal and interest on Authority's senior debt is secured by a pledge of Authority's gross revenues (excluding any capital contributions or grants) after provisions for payment of operating expenses.

In April 2018, the Authority issued senior lien revenue bonds with a face value of $300,000. The bonds were structured in two Series: 2018 Series A (Green Bonds) consisting of $100,000 with interest rates at 5.0% maturing in 2050; 2018 Series B consisting of $200,000 with interest rates at 5.0% maturing in 2050. Gross proceeds from the two series of 2018 Bonds totaled $348,644 including $48,644 of the original issue premium. Approximately $115,086 of 2018 series A (Green Bonds) was used to fund a portion of the costs of the Authority's DC Clean Rivers Project; $146,586 of the 2018 series B was used to fund various capital improvements to the system; $85,000 of 2018 series B was used to pay principal of and interest on all or a portion of the Authority's outstanding commercial paper notes, Series B (the "Series B CP Notes) and $1,972 was used to pay the underwriter's discount and cost of issuance.

In January 2017, the Authority issued senior lien revenue bonds with a face value of $300,000. The bonds were structured in two Series: 2017 Series A (Green Bonds) consisting of $100,000 with interest rates ranging from 4.0% to 5.0% maturing in 2053; 2017 Series B consisting of $200,000 with interest rates ranging from 4.0% to 5.0% maturing in 2045. Gross proceeds from the two series of 2017 Bonds totaled $334,345, including $34,345 of the original issue premium. Approximately $107,966 of 2017 series A (Green Bonds) was used to fund a portion of the costs of the Authority's DC Clean Rivers Project; $224,406 of the 2017 series B was used to fund various capital improvements to the system and $1,972 was used to pay the underwriter's discount and cost of issuance.

In July 2014, the Authority issued $350,000 of senior lien public utility revenue bonds 2014 Series A. The 2014 Series A bonds are federally taxable green bonds with a fixed rate of 4.81% and a 100 year final maturity in 2115. The proceeds of the issuance will be used to help finance the construction of the Authority's DC Clean Rivers Project. Net proceeds from the bond issuance totaled approximately $346,000 including $4,000 of underwriter's discount and cost of issuance.

In February 2009, the Authority issued senior lien public utility revenue bonds 2009 Series A with a face value of $300,000, consisting of $38,355 in Serial Bonds and $261,645 in Term Bonds. The Serial Bonds have maturity dates and interest rates ranging from 2010-2030 and 3.0% to 5.4%, respectively. The Term Bonds have maturity dates and interest rates ranging from 2024-2039 and 4.8% to 6.0%, respectively. Debt proceeds were used to repay $14,800 of the taxable Series A Commercial Paper Notes and $50,000 of the tax exempt Series B Commercial Paper Notes with the remainder used to finance the ongoing capital improvement program. During fiscal years 2015 and 2016, the Authority advance refunded $128,835 and $144,810, of the 2009 Series A bonds respectively. Details of the advance refunding are discussed below. The remaining undefeased 2009 Series A bonds outstanding as of September 30, 2016 will mature in fiscal years 2017 through 2019.

(11) Long-Term Debt (Continued)

In April 1998, the Authority issued $266,120 of senior lien public utility revenue bonds 1998 Series. Gross proceeds from the Series 1998 Series bonds totaled $285,200, including $18,800 of the original issue premium. Approximately $77,200 was used to fund various capital projects; $181,000 was used to repay the outstanding balances of a revolving line of credit and certain notes payable to the Federal government and to advance-refund approximately $152,200 of District general obligation bonds. The refunded bonds have been fully extinguished. The remainder of the gross proceeds, approximately $27,000, was used to fund the debt service reserve fund and to pay the cost of issuance. The payment of principal and interest on the Series 1998 bonds is insured by Financial Security Assurance, Inc.

(b) Subordinate Debt

Payments of the Authority's subordinate debt are made after payments of senior debt and after certain reserves have been funded (see "Bond Covenants" below).

In September 2016, the Authority issued $25,000 of tax-exempt public utility subordinate lien revenue bonds, 2016 Series B (Environmental Impact Bonds) (the "2016 Series B Bonds"). The 2016 Series B Bonds are multimodal variable rate bonds, initially issued bearing a 3.43% fixed rate through the mandatory tender date, April 1, 2021. The net proceeds (after payment of $472 of issuance expenses) of $24,528 of the 2016 Series B Bonds will be used for construction of green infrastructure (GI) in Rock Creek Project A (RC-A). The GI practices are designed to mimic natural processes to absorb and slow surges of stormwater during periods of heavy rainfall, reducing the incidence and volume of combined sewer overflows (CSOs) that pollute the District's waterways.

The 2016 Series B Bonds are designated as Environmental Impact Bonds and, as such, include provisions for the possibility of an Outcome Payment by the Authority to the Original Purchasers of the 2016 Series B Bonds of $3,300 in the event of a runoff reduction greater than 41.3%, and for the possibility of a Risk Share Payment by the Original Purchasers to the Authority of $3,300 in the event of a runoff reduction less than 18.6%. Runoff reduction means the percentage reduction of storm water runoff in RC-A per impervious acre treated to manage the volume of runoff produced by 1.2 inches of rain as compared to the existing conditions runoff in RC-A as defined in the Private Placement Agreement between the Authority and Original Purchasers. The potential obligation of the Authority to pay the Outcome Payment is an unsecured obligation. No provision has been included in these financial statements for the potential obligation related to the Outcome Payment due to the uncertainties surrounding the effectiveness of GI in RC-A, which will be independently assessed prior to the mandatory tender date.

In February 2016, the Authority issued subordinate lien revenue refunding bonds 2016 Series A for $389,110. The proceeds from these bonds were used to advance refund $67,295 of the remaining portion of subordinated lien revenue bonds 2007 Series A, $141,555 of subordinate lien revenue bonds 2008 Series A, $144,810 of senior lien revenue bonds 2009 Series A and current refund the remaining portion of $48,285 of subordinated lien revenue bonds 2007 Series A. The proceeds from 2016 Series A were used to purchase securities that were placed in an irrevocable trust with an escrow agent to provide for all future debt service payments on the refunded 2007 Series A, 2008 Series A and 2009 Series A bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements.

(11) Long-Term Debt (Continued)

The interest rates on the refunded bonds ranges from 3.0% to 6.0%. The cash flow required to make principal and interest payments on the refunding bonds is approximately $78,672 less than the debt service requirements of the refunded bonds. The economic gain (the difference between the present values of the debt service payments on the old and new debt) obtained from the advance refunding is $56,831.

In October 2015, the Authority issued subordinate lien revenue bonds with a face value of $350,000. The bonds were structured in two Series: 2015 Series A (Green Bonds) consisted of $100,000 with interest rates ranging from 2.0% to 5.0% maturing in 2045; 2015 Series B consisting of $250,000 with interest rates ranging from 5.0% to 5.25% maturing in 2044. Gross proceeds from the two series of 2015 Bonds totaled $406,587, including $56,587 of the original issue premium. Approximately $115,869 of 2015 series A (Green Bonds) was used to fund a portion of the costs of the Authority's DC Clean Rivers Project; $226,584 of the 2015 series B was used to fund various capital improvements to the system; $62,000 of 2015 series B was used to pay principal of and interest on all or a portion of the Authority's outstanding commercial paper notes, Series B (the "Series 2015 B CP Notes), and $2,134 was used to pay the underwriter's discount and cost of issuance.

In November 2014, the Authority issued subordinate lien revenue refunding bonds 2014 Series C for $377,700. The proceeds from these bonds were used to advance refund $103,135 of subordinated lien revenue bonds 2007 Series A, $93,560 of subordinate lien revenue bonds 2008 Series A, and $128,835 of senior lien revenue bonds 2009 Series A; and to current refund $52,690 of subordinate lien multimodal revenue bonds 2012 Subseries B-1.

The proceeds from 2014 Series C were used to purchase securities that were placed in an irrevocable trust with an escrow agent to provide for all future debt service payments on the refunded 2007 Series A, 2008 Series A and 2009 Series A bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The interest rates on the refunded bonds ranges from 2.26% to 6.0%. The cash flow required to make principal and interest payments on the refunding bonds is approximately $50,356 less than the debt service requirements of the refunded bonds. The economic gain (the difference between the present values of the debt service payments on the old and new debt) obtained from the advance refunding is $35,266.

In July 2014, the Authority issued $100,000 of tax-exempt 2014 Series B variable rate multimodal subordinate lien revenue bonds, maturing in 2050 to fund the Authority's capital improvement program. Net proceeds from the bond issuance totaled approximately $99,500 including $500 of underwriter's discount and cost of issuance. Initially, the 2014 Series B bonds will bear interest in a weekly rate period but may be converted to daily, index, short term, long term or fixed rate. Funds for the purchase of tendered bonds that are not remarketed will be provided initially by TD Bank, N.A. for a period of three years pursuant to a Standby Bond Purchase Agreement dated July 23, 2014.

In July 2013, the Authority issued $300,000 of subordinate lien public utility revenue bonds with interest rates ranging from 4.75% to 5.0%, maturing in 2048 to fund the Authority's capital improvement program. Gross proceeds from the 2013 Series A bonds totaled $298,921, including $1,014 of original issue premium and $2,093 of underwriter's discount and cost of issuance.

(11) Long-Term Debt (Continued)

In March 2012, the Authority issued subordinate lien revenue bonds with a face value of $440,645. The bonds were structured in three Series: 2012 Series A consisted of $177,430 with interest rates ranging from 2.0% to 5.0% maturing in 2038; 2012 Series B consisting of $100,000 with interest rate at 2.26% maturing in 2045; and 2012 Series C consisting of $163,215 with interest rates ranging from 4.0% to 5.0% maturing in 2034. Gross proceeds from the three series of 2012 Bonds totaled $493,934, including $53,289 of the original issue premium.

Approximately $302,413 was used to fund various capital projects; $188,688 was used to advance-refund series 2003 Series bonds, and $2,833 was used to pay the underwriter's discount and cost of issuance. During fiscal years 2016 and 2015, the Authority current refunded $47,310 and advance refunded $52,690 of the series 2012 Series B-2 and 2012 Series B-1 bonds respectively. Details of the current and advance refunding are discussed above.

The Authority completed its advance-refunding of the 2003 Series bonds by using $188,688 of bond proceeds from 2012 Series C to purchase securities that were placed in an irrevocable trust with an escrow agent to provide for all future debt service payments on the bonds. As a result, the bonds are considered to be defeased and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments by approximately $25,478 resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $17,843. The refunded bonds have been fully extinguished.

In October 2010, the Authority issued the 2010 Series A public utility subordinate lien revenue bonds, 2010 Series A under the Federal Government's Build America Bonds program. Under this program, the Federal government provides the Authority a federal subsidy in the amount of 35% of the interest paid on the bonds which reduces the Authority's effective interest costs to approximately 3.6%. The $300,000 par amount consisted of $18,550 in serial bonds maturing in 2033 and gross interest rates ranging from 4.1% to 4.6%, $30,950 in term bonds maturing in 2028 and a gross interest rate of 5.4%, and $250,500 in index term bonds maturing in 2044 and a gross interest rate of 5.5%. Approximately $214,640 was issued to fund costs of certain capital improvements, including $2,420 for the cost of issuance and underwriter's discount. In addition, approximately $75,000 was issued to fund the Authority's Digester Project and $10,360 for capitalized interest. The interest subsidy received by the Authority for the fiscal years ended September 30, 2018 and 2017 amounted to $5,333 and $5,316, respectively. In fiscal years 2018 and 2017, the Authority received $377 and $394 less than expected due to budget sequester impacts experienced by the Federal government.

In April 2008, the Authority refunded the 2004 and 2007 Series B subordinate public utility revenue bonds for $295,000 and $59,000, respectively. Simultaneously, the Authority issued subordinate lien public utility revenue bonds 2008 Series A with a face value of $290,375 which are due in 2034. The interest rate on these securities is fixed and will have an effective average rate of 4.7% over the life of the bonds. There was $11,678 of original issue premium and approximately $5,888 for the cost of issuance, bond insurance and underwriter's discount costs associated with this issuance. The scheduled payments of principal and interest on the 2008 Series A bonds are guaranteed by a municipal bond insurance policy issued by the Assured Guaranty Program. During fiscal years 2015 and 2016, the Authority advance refunded $93,560 and $141,555 of the series 2008 Series A bonds respectively. Details of the advance refunding are discussed above. The remaining undefeased 2008 Series A bonds outstanding as of September 30, 2016 will mature in fiscal years 2017 through 2019.

(11) Long-Term Debt (Continued)

Notes payable to the Federal government for the Jennings Randolph Reservoir are considered subordinate debt under the Master Indenture and contain no pledge of property, sinking fund provisions, or restrictive covenants. The proceeds of the notes were used to make improvements to the Jennings Randolph Reservoir for back-up and peak-day water supply.

(c) Bond Covenants

The Master Indenture sets forth the establishment of accounts, the application of revenues, and certain other covenants to ensure proper operation and maintenance of the water and wastewater system and payment of debt service. Management believes the Authority was in compliance with all bond covenants as of and for the years ended September 30, 2018 and 2017. The primary requirements of the Master Indenture are summarized below:

Rate Covenant — The Authority has covenanted to establish and maintain rates and charges to produce revenues sufficient to pay operating expenses and annual debt service on senior and subordinate debt, to fund certain required reserves, to fund any payment in lieu of taxes, and to produce net revenues sufficient at least equal to the sum of: (1) 120% of annual debt service on senior debt and (2) 100% of annual debt service on subordinate debt. Net revenues are defined generally as all Authority revenues (excluding capital contributions from wholesale customers, Federal grants, or any proceeds derived from the sale of capital assets), less operating and maintenance expenses (excluding any payment in lieu of taxes, depreciation and amortization charges and certain extraordinary, nonrecurring expenses).

Debt Service Reserve Fund — The Authority has established debt service reserve accounts for certain series of bonds, which are only to be used to pay debt service in the event of insufficient funds. The 1998 Series bonds debt service reserve account balance as of September 30, 2018 and 2017 was $23,458 and $23,624, respectively, and is required to be maintained at 125% of current and future average annual 1998 Series debt service.

Operating Reserve Fund — The Master Indenture creates an Operating Reserve Fund in which the Authority must maintain a balance equal to at least 60 days of operating and maintenance expenses of the prior year. Moneys in the Operating Reserve Fund shall be used to pay, to the extent necessary, operating expenses of the Authority. In addition, to the extent that moneys on deposit in the Bond Fund are insufficient to make the required interest and principal payments, moneys in the Operating Reserve Fund shall be used prior to any withdrawal from the Debt Service Reserve Fund to satisfy any such deficiencies. The Board has adopted a policy of funding operating reserves to a level in excess of that required by the Master Indenture.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2018 and 2017

(In thousands)

(11) Long-Term Debt (Continued)

(d) Debt Service to Maturity

The future debt-service obligations at September 30, 2018 are as follows:

Fiscal year	Principal	Interest	Total
2019	$ 36,038	$ 150,025	$ 186,063
2020	43,022	149,314	192,336
2021	49,625	147,099	196,724
2022	57,180	144,536	201,716
2023	59,920	141,655	201,575
2024 - 2028	346,777	663,074	1,009,851
2029 - 2033	432,014	569,914	1,001,928
2034 - 2038	546,499	455,716	1,002,215
2039 - 2043	619,144	320,479	939,623
2044 - 2048	557,600	172,358	729,958
2049 - 2053	175,215	95,855	271,070
2054 - 2058	—	84,245	84,245
2059 - 2063	—	84,245	84,245
2064 - 2068	—	84,245	84,245
2069 - 2073	—	84,245	84,245
2074 - 2078	—	84,245	84,245
2079 - 2083	—	84,245	84,245
2084 - 2088	—	84,245	84,245
2089 - 2093	—	84,245	84,245
2094 - 2098	—	84,245	84,245
2099 - 2103	—	84,245	84,245
2104 - 2108	88,326	75,874	164,200
2109 - 2113	177,932	38,093	216,025
2114 - 2118	83,742	2,063	85,805
	$ 3,273,034	$ 3,968,505	$ 7,241,539

(In thousands)

(11) Long-Term Debt (Continued)

(e) Outstanding Debt Defeased

The Authority defeased certain revenue bonds in current and prior years by placing cash or the proceeds of new revenue bonds in irrevocable trusts to provide for all future debt service payments on the defeased bonds. Accordingly, the Trust account assets and the liability for the defeased bonds are not reflected in the Authority's financial statements. At September 30, 2018 and 2017, the following outstanding revenue bonds are considered defeased.

	Principal Outstanding	
Bond issue	2018	2017
2009 Series A Public Utility Revenue Bonds: interest at 3.0% to 6.0%, maturing in 2039	$273,645	$273,645
2008 Series A Public Utility Revenue Bonds: interest at 4.0% to 5.0%, maturing in 2034	235,115	235,115
2007 Series A Public Utility Revenue Bonds: interest at 4.75% to 5.50%, maturing in 2041	-	170,430
Total Principal Outstanding	$508,760	$679,190

(12) Commitments and Contingencies – Other Liabilities

A schedule of other liabilities as of September 30, 2018 and 2017 is shown below:

Description	2018	2017
Risk management contingency	$ 12,966	$ 11,670
Rolling owner controlled insurance program	6,667	7,141
Litigation contingency	230	669
Contractual obligations	1,334	825
Retirement health savings plan	3,884	2,760
Total other liabilities	25,081	23,065
Less: current portion	14,558	13,621
Noncurrent portion	$ 10,523	$ 9,444

The current portion of other liabilities represents management's estimate of the amounts that will be paid in next fiscal year.

(12) Commitments and Contingencies – Other Liabilities (Continued)

(a) Risk Management

The Authority is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. Effective April 7, 1998, the Authority purchased certain commercial insurance coverage. Prior to that date, the Authority was either self-insured or covered under District self-insurance programs.

For each of the three most recent years, settlement of claims has not exceeded insurance coverage. Additionally, there has not been a significant reduction in insurance coverage from coverage in the prior year.

The Authority has purchased $1,000,000 property coverage (Property Policy) to protect its owned or leased facilities, buildings and contents. Except for catastrophic on-site protection provided on the Property Policy, the Authority self-insures its fleet of vehicles. The deductible for each claim for buildings and contents is $1,000 per occurrence. A lower deductible of $10 per occurrence applies to scheduled watercraft and mobile equipment.

The Authority has purchased liability insurance coverage to protect it from claims alleging damages and injuries caused by automobile accidents, damaged utilities, construction, and other activities. Limits of $100,000 have been secured in excess of a self-insured retention of $1,000 for each occurrence. Public Officials' liability insurance has been secured with limits of $20,000 in excess of a deductible of $250 per claim.

The Authority self-insures the first $1,000 per occurrence of workers' compensation claims costs. In order to mitigate the potential self-insured costs of medical expenses, rehabilitation and lost wages, the Authority purchased an Excess Workers' Compensation Policy with unlimited coverage. The Authority contracts with a third-party administrator to support the workers' compensation claims management program.

Liabilities are recognized when it is probable that losses have occurred and the amounts of the losses can be reasonably estimated. Liabilities include an amount for claims that have been incurred but not reported to date and include a provision for allocated and unallocated claim adjustment expenses.

Because actual claims liabilities depend on such complex factors as inflation, changes in governing laws and standards, and court awards, the process used in computing claims liabilities is reevaluated periodically to take into consideration the history, frequency and severity of recent claims and other economic and social factors.

These liabilities are computed using a combination of actual claims experience and statistically estimated amounts. The Authority has not discounted these estimated liabilities to present value.

(In thousands)

(12) Commitments and Contingencies – Other Liabilities (Continued)

Changes in the Authority's estimated risk management liabilities related to workers' compensation and general liability claims during the years ended September 30, 2018, 2017 and 2016 were as follows:

Description	2018	2017	2016
Balance, beginning of year	$ 11,670	$ 11,818	$ 11,615
Current year claims and changes in estimates	3,449	2,169	2,935
Claim payments	(2,153)	(2,317)	(2,732)
Balance, end of year	$ 12,966	$ 11,670	$ 11,818

(b) Rolling Owner Controlled Insurance Program

The Authority procures insurance for the majority of its construction contractors through the Authority's Rolling Owner Controlled Insurance Program (ROCIP). Construction contractors who do not participate in the ROCIP are required to procure insurance on their own. Coverage for participating construction contractors includes general liability, umbrella and workers' compensation insurance. Both general liability and workers' compensation have a $500 per occurrence deductible. There is also $100,000-$200,000 excess general liability coverage in place. The workers' compensation loss coverage is statutory, and unlimited above the retention. For each of the three most recent years, settlement of claims has not exceeded insurance coverage. Additionally, there has not been a significant reduction in insurance coverage from coverage in the prior year.

Liabilities for the self-insured exposure for workers' compensation claims and general liability claims under the ROCIP are recognized when it is probable that losses have occurred and the amounts of the losses can be reasonably estimated.

Liabilities include an amount for claims that have been incurred but not reported to date and include a provision for allocated and unallocated claim adjustment expenses. Because actual claims liabilities depend on such complex factors as inflation, changes in governing laws and standards, and court awards, the process used in computing claims liabilities is reevaluated periodically to take into consideration the history, frequency and severity of recent claims and other economic and social factors.

These liabilities are computed using a combination of actual claims experience and statistically estimated amounts. The Authority has not discounted these estimated liabilities to present value.

(12) Commitments and Contingencies – Other Liabilities (Continued)

Changes in the Authority's estimated ROCIP liabilities related to workers' compensation and general liability claims during the years ended September 30, 2018, 2017 and 2016 were as follows:

Description	2018	2017	2016
Balance, beginning of year	$ 7,141	$ 6,518	$ 5,702
Current year increase (decrease) in ROCIP liability	8,031	11,245	12,239
ROCIP administration and claim payments	(8,505)	(10,622)	(11,423)
Balance, end of year	$ 6,667	$ 7,141	$ 6,518

(c) Litigation

The Authority is a party in various administrative proceedings, legal actions and claims brought by or against it in the normal course of operations by employees, contractors, and other parties. The following table reflects the changes in the Authority's estimated liabilities for litigation contingencies where the risk of loss is probable during the years ended September 30, 2018 and 2017:

Description	2018	2017
Balance, beginning of year	$ 669	$ 2,998
Current year claims and changes in estimates	(184)	1,264
Claim payments	(255)	(3,593)
Balance, end of year	$ 230	$ 669

Although the ultimate outcome of these legal proceedings are unknown, in the opinion of the Authority's management and legal counsel, the ultimate resolution of these actions and claims will not materially affect the financial position, results of operations, or cash flows of the Authority.

(d) Federal Grants

The Authority's federal capital grants are subject to financial and compliance audits by the federal grantors or their representatives. The Authority's management does not expect that the results of these audits will have a material adverse effect on the accompanying financial statements.

(e) Construction and Other Significant Commitments

The Authority's contractual commitments are primarily associated with the long-term capital improvement program. Outstanding contractual commitments related to the capital improvement program as of September 30, 2018 and 2017 were $879,305 and $1,134,208, respectively. Outstanding construction commitments are not recorded in the financial statements until goods and services have been received by the Authority in accordance with the terms of the related contracts.

(In thousands)

(12) Commitments and Contingencies – Other Liabilities (Continued)

(f) Lease Commitments

The Authority conducts a portion of its operations from leased facilities. Most of the leases contain renewal options. All the leases for equipment and facilities are operating leases, and the rental payments under these leases are charged to operations as incurred.

The Authority's rental expense for the years ended September 30, 2018 and 2017 were as follows:

Description	2018	2017
Facilities leases	$ 2,121	$ 2,100
Automobile equipment leases	24	116
Machinery leases	345	588
Other Rentals	-	4
Total	$ 2,490	$ 2,808

Future minimum non-cancelable lease payments on existing operating leases at September 30, 2018, which have an initial term of one year or more, are as follows.

Fiscal Year	Amount
2019	$ 578
2020	212
2021	219
2022	223
2023	228
2024-2028	349
Total	$1,809

(13) Related Party and Similar Transactions

(a) Water and Wastewater User Charges

The enabling legislation, described in Note 1, established that the District would pay for water and wastewater services. The Authority recorded revenues of $31,980 and $30,428 from the District government and $10,730 and $10,055 from the District of Columbia Housing Authority ("DCHA") for fiscal years 2018 and 2017, respectively. Both the District government and DCHA revenues are included in water and wastewater user charges in the accompanying statements of revenues, expenses and changes in net position.

(13) Related Party and Similar Transactions (Continued)

(b) PILOT and ROW Fees

On October 2, 2014, DC Water entered into a Right-of-Way memorandum of understanding (ROW MOU) establishing an annual payment of $5,100 to the District in fiscal years 2015 through 2024. DC Water will make the payment in four equal quarterly installments of $1,275 due on the 15th of November, February, May and August of each year.

On December 15, 2014, DC Water entered into a Payment In Lieu of Taxes memorandum of understanding (PILOT MOU) establishing a fiscal year 2015 PILOT payment of $15,337 to the District for services provided in fiscal year 2015. In fiscal years 2016 through 2024, DC Water will increase the PILOT payment by 2.0% per annum based upon the amount of the prior fiscal year's annual PILOT payment. In addition, the MOU stipulates that the Authority is entitled to offset this payment for services rendered to the District under our fire protection program.

The Authority recorded an expense of $16,276 and $15,957 for payments-in-lieu-of-taxes (PILOT) to the District for services such as road repairs, fire protection, police protection, and other services for each of the years ended September 30, 2018 and 2017.

The Authority also recorded an expense of $5,100 for the District's right-of-way (ROW) fee, respectively charged to all area utilities for infrastructure occupancy in public streets, for each of the years ended September 30, 2018 and 2017. As of September 30, 2018, there was no outstanding balance due to the District related to these fees.

(c) Due from District Government

The amounts due from the District government as of September 30, 2018 and 2017 were $39,682 and $45,241, respectively. Such amounts were comprised of the following at September 30, 2018 and 2017, respectively:

Description	2018	2017
Northeast Boundary Neighborhood Protection Project	$ 41,006	$ 46,864
Storm Water Fees (13 d)	(2,198)	(2,446)
Other miscellaneous items	874	823
Total due from District government	39,682	45,241
Less: current portion	4,534	4,235
Noncurrent portion	$ 35,148	$ 41,006

On September 11, 2014, the District and the Authority entered into a Memorandum of Understanding (MOU) whereby the District agreed to fund up to $58,579 of costs incurred by the Authority on the Northeast Boundary Neighborhood Protection Project. Amounts due from the District as of September 30, 2018 and 2017 under this agreement amounted to $41,006 and $46,864, respectively.

(In thousands)

(13) Related Party and Similar Transactions (Continued)

Amendment No. 1 of the MOU dated September 1, 2015, calls for ten (10) equal installment payments of $5,858. The parties agreed that each installment payment is due on January 15th of each year until the costs are paid in full.

(d) Storm Water Fee Billings and Collections

The District of Columbia Council created the Storm Water Compliance Amendment Act of 2000 which established the Authority as the Storm Water Administrator and a fund was established. The administration of the fund was transferred to the District Department of the Environment ("DDOE") in 2007. The Authority continues to bill and collect storm water fees as a separate item and transfers the funds to the DDOE quarterly.

During the years ended September 30, 2018 and 2017, the activity associated with the Authority providing this service to the District was as follows:

Description	2018	2017
Due from (to) the District-beginning of year	$ (2,446)	$ (1,123)
Collections on behalf of the District	(12,665)	(13,431)
Remittances to the District	12,917	12,583
Expenses incurred by the Authority	1,244	1,124
Expenses reimbursed by the District	(1,248)	(1,599)
Due from (to) the District-end of year	$ (2,198)	$ (2,446)

Billings and collections associated with the District's Storm Water fees are not reflected in the Authority's financial statements as these are not billings and collections of the Authority. However, reimbursable expenses incurred and the related revenues from the District to cover such expenses are reflected in the accompanying statements of revenues, expenses and changes in net position.

The due (to) from the District has been reported in Due from District Government on the statement of net position as of September 30, 2018 and 2017, respectively.

(e) Fleet and Sewer Service Relocation Funding Agreement

On January 4, 2018, the District and the Authority entered into a Relocation Funding Agreement whereby the District has agreed to fund up to $29,681 of costs associated with the Authority's relocation of its Fleet Maintenance and Sewer Service operations, which is scheduled to be completed in phases starting in February 2018 through September 2021. As of September 30, 2018, the District has disbursed $4,331 to DC Water pursuant to this agreement and the Authority has incurred $315 of eligible costs that are included in capital contributions on the statement of changes in revenues, expenses and net position for the year ended September 30, 2018. The balance of $4,016 is reflected in unearned revenue on the statement of net position as of September 30, 2018.

(14) Employee Benefits

(a) Federal Benefit Plans

Certain DC Water employees who were previously employed by the District of Columbia government prior to October 1, 1987, are eligible to continue to participate in certain federal benefit plans administered by the federal government's Office of Personnel Management ("OPM"). The plans provide retirement and disability benefits, annual cost-of- living adjustments, and death benefits to plan participants and beneficiaries. In fiscal years 2018 and 2017, there were 94 and 106 DC Water employees covered by these plans, respectively.

The OPM issues a publicly available financial report that includes financial statements and required supplementary information, which may be obtained at www.opm.gov.

Employees and the Authority each contribute 7% of the employees' salaries to OPM. The contribution requirements of the plan members are established by OPM. During fiscal years 2018, 2017 and 2016, the Authority's contributions to the plans were $582, $649 and $791, respectively. These amounts were 100% of the required contributions under the plans for each of the fiscal years presented.

DC Water is only responsible for funding the employer contributions for participating employees while employed by the Authority. DC Water is not responsible for any unfunded liability for this plan. Under current law, this liability will be paid off eventually through the series of 30-year amortizations payments from the general fund of the U.S. Treasury to the Civil Service Retirement and Disability Fund.

(b) Defined Contribution Plans

Defined Contribution Plan - Employees who were hired after September 30, 1987, participate in the U.S. Social Security system and a defined contribution plan administered by the Authority. The District of Columbia Water and Sewer Authority Defined Contribution Plan is a qualified trust under Internal Revenue Code Section 401(a).

The Authority established a retirement plan committee that oversees the 401(a) and 457(b) retirement plans. The committee meets on a semiannual basis to make decisions regarding the plan. Pursuant to the 401(a) plan, employees not reaching the 100% vesting period of three years of service will forfeit amounts related to Basic, Matching, and Discretionary Contributions and may be used to pay for plan expenses or reduce future Authority contributions. There are no amounts of forfeitures reflected in the pension expense reported in fiscal years 2018, 2017, and 2016.

As Plan Administrator, the Authority maintains the plans' records, determines issues related to eligibility as they relate to participation and benefits, interprets the plans, communicates with participants and their beneficiaries and responsible for the plans' operations. Fidelity Investments is the Plan Trustee.

(14) Employee Benefits (Continued)

Defined Contribution Plan - During fiscal years 2018, 2017 and 2016, the Authority's contribution was 7% of base pay up to the social security wage base, plus 5% of base pay in excess of the social security wage base for each eligible employee. Employees do not contribute to the plan.

457(b) Plan - Starting in January 2000, employees who were hired after September 30, 1987, participate in the U.S. Social Security system and a 457(b) Deferred Compensation plan administered by the Authority. The District of Columbia Water and Sewer Defined Contribution Plan is a qualified trust under Internal Revenue Code Section 401.

The Authority makes a matching contribution of 100% of the amount that the employee defers to the 457(b) Deferred Compensation Plan; up to a maximum contribution of 5% of base pay for eligible employees. There is no waiting period before an employee can elect to become a participant of this plan and employees are always 100% vested in their contributions.

The Authority's matching contribution is vested after three years of service. During fiscal years 2018, 2017 and 2016, the Authority's contributions to both defined contribution plans were $10,042, $9,286 and $8,357 respectively. The amount of the Authority's outstanding liability at the end of fiscal years 2018, 2017 and 2016 were $857, $746, and $638, respectively.

(c) Post-Employment Insurance Plans

The Authority does not provide post employment health and life insurance benefits to any employees hired after September 30, 1987. The federal government provides healthcare and life insurance benefits to certain retired employees who were previously employed by the District of Columbia government prior to October 1, 1987 under the Federal Employees' Health Benefits Program and the Federal Employee's Group Life Insurance Program at no cost to the Authority.

(d) Retirement Health Savings Plan

In fiscal year 2007, the Authority implemented a Retirement Health Savings Plan for non-union employees hired after September 30, 1987. The Plan allows eligible employees to receive a benefit for their unused sick leave upon separation of service. Funds are transferred to a third party (Maritain) to pay for post-employment medical expenses at the termination of employment.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2018 and 2017

(In thousands)

(15) Blended Component Unit Condensed Financial Statements

The following are the condensed financial statements of Blue Drop, LLC as of and for the year ended September 30, 2018 and 2017. As required, all intra-entity activities between Blue Drop and the Authority have been eliminated in the consolidation of Blue Drop, LLC's financial statements with those of the Authority. Such intra-entity activities were comprised of: $852 and $894 of support provided by DC Water to Blue Drop for fiscal years 2017 and 2018 as noted in the following table.

Description	2018	2017
Donated employee time	$ 321	$ 434
Donated office space	102	84
Other Support including Cash Transfers	386	345
Marketing fees	43	31
Total	$ 852	$ 894

During fiscal years ended September 30, 2018 and 2017 intra-entity receivables and payables were $48 and $22 and $11 and $15, respectively.

Condensed Statement of Net Position - Blended Component Unit - Blue Drop, LLC as of September 30, 2018 and 2017

	2018	2017
Current assets	$ 678	$ 330
Due from DC Water	48	22
Total assets	726	352
Current liabilities	31	12
Due to DC Water	11	15
Total liabilities	42	27
Unrestricted net position	$ 684	$ 325

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(15) Blended Component Unit Condensed Financial Statements (Continued)

Condensed Statement of Revenues, Expenses, and Changes in Net Position - Blended Component Unit - Blue Drop, LLC for the year ended September 30, 2018 and 2017

	2018	2017
DC Water support	$ 809	$ 863
Sales of Bloom, Net of cost of sales	67	(59)
Consulting revenue	278	128
Marketing fees, DC Water	43	31
Other	18	-
Total revenues	1,215	963
Personnel services	555	495
Contractual services	153	42
Supplies	41	16
Utilities and rent	107	85
Total operating expenses	856	638
Change in net position	359	325
Net position, beginning of year	325	-
Net position, end of year	$ 684	$ 325

Condensed Statement of Cash Flows - Blended Component Unit - Blue Drop, LLC for the year ended September 30, 2018 and 2017

	2018	2017
Net cash provided by operating activites	$ 343	$ 302
Net cash provided by (used in) Investing activites	(259)	-
Increase in cash	84	302
Cash, Beginning of Year	302	-
Cash, End of Year	$ 386	$ 302

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2018 and 2017

(In thousands)

(16) Subsequent Events

The Authority has evaluated events subsequent to September 30, 2018 through December 20, 2018, the date the financial statements were available to be issued. During this period, the Authority has determined there have not been any events that have occurred that would require adjustments to the financial statements.

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Statistical Section (Unaudited)

Statistical Section (Unaudited)

This section contains statistical tables that reflect financial trends information, revenue capacity information, debt capacity information, demographic and economic information, and operating information. These tables differ from the basic financial statements because they usually cover more than two fiscal years and may present non-accounting data.

The statistical section is divided into five sections as follows:

1. Financial Trends
2. Revenue Capacity
3. Debt Capacity
4. Demographic and Economic Information
5. Operating Information

1. Financial Trends

These schedules contain trend information to better understand how the Authority's financial performance and well-being have changed over time.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 1
CHANGE IN NET POSITION
LAST TEN FISCAL YEARS
($000)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Operating revenues										
Residential, commercial and multi-family customers	$ 425,492	$ 401,246	$ 382,552	$ 335,711	$ 295,209	$ 275,337	$ 256,846	$ 241,475	$ 209,796	$ 191,543
Federal government	73,551	67,672	63,417	54,274	39,001	45,187	48,381	43,033	37,845	35,195
District government and DC Housing Authority	42,710	40,483	38,185	32,948	28,852	21,677	24,713	25,123	21,947	16,804
Charges for w holesale w astew ater treatment	121,961	101,619	91,873	112,522	96,845	87,178	94,549	90,414	87,505	85,519
Other	20,788	32,149	19,762	14,460	13,917	9,700	16,077	8,210	6,655	3,337
Total Operating Revenues	684,502	643,169	595,789	549,915	473,824	439,079	440,566	408,255	363,748	332,398
Operating expenses										
Personnel services	142,342	132,124	124,239	115,233	108,467	103,908	97,784	93,240	88,210	82,248
Contractual services	74,627	72,611	74,086	66,241	68,172	68,417	64,939	71,055	69,497	64,513
Chemicals, supplies and small equipment	31,152	33,381	29,524	32,935	31,748	28,987	28,815	28,188	29,003	29,074
Utilities and rent	26,163	24,262	23,934	30,848	29,939	26,098	26,786	29,429	29,929	32,813
Depreciation and amortization	115,453	97,900	89,512	83,857	77,833	77,330	74,342	70,209	64,425	59,291
Water purchases	28,357	26,796	26,345	29,109	28,407	27,223	28,389	27,170	27,587	25,371
Payment in lieu of taxes and right of w ay fee	21,376	21,057	20,744	20,437	11,458	21,982	21,982	21,982	20,474	19,183
Total operating expenses	439,470	408,131	388,384	378,660	356,024	353,945	343,037	341,273	329,125	312,493
Operating income	245,032	235,038	207,405	171,255	117,800	85,134	97,529	66,982	34,623	19,905
Non-operating revenue (expenses)										
Interest income	5,866	3,740	2,629	1,316	977	1,144	749	2,036	1,343	1,704
Interest expense and other nonoperating expenses	(93,956)	(68,293)	(69,118)	(61,409)	(69,288)	(63,905)	(74,001)	(73,335)	(57,479)	(53,197)
Total non-operating (expenses)	(88,090)	(64,553)	(66,489)	(60,093)	(68,311)	(62,761)	(73,252)	(71,299)	(56,136)	(51,493)
Change in net position before capital contributions	156,942	170,485	140,916	111,162	49,489	22,373	24,277	(4,317)	(21,513)	(31,588)
Capital contributions	30,419	24,066	32,431	67,965	94,690	58,310	58,957	47,374	30,403	27,752
Change in net position	187,361	194,551	173,347	179,127	144,179	80,683	83,234	43,057	8,890	(3,836)
Net position, beginning of year	1,897,840	1,703,289	1,529,942	1,350,815	1,206,636	1,125,953	1,042,719	999,662	990,772	994,608
Net position, end of year	$ 2,085,201	$ 1,897,840	$ 1,703,289	$ 1,529,942	$ 1,350,815	$ 1,206,636	$ 1,125,953	$ 1,042,719	$ 999,662	$ 990,772

Source: FY 2009 - 2018 Statements of Revenues, Expenses and Changes in Net Position.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

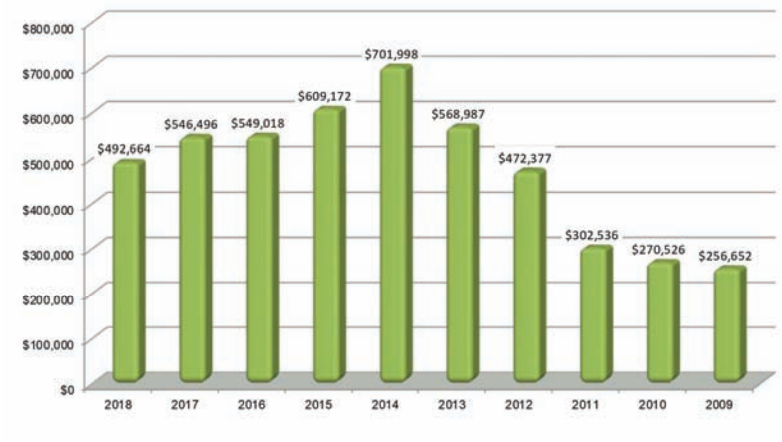
EXHIBIT 2
SUMMARY OF NET POSITION
LAST TEN FISCAL YEARS
($000)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Net investments in capital assets	$ 1,808,622	$ 1,655,867	$ 1,491,925	$ 1,348,056	$ 1,130,952	$ 1,042,620	$ 956,397	$ 874,356	$ 818,001	$ 765,709
Restricted	38,907	33,276	33,135	27,054	28,863	29,010	27,297	26,825	17,257	10,244
Unrestricted	237,672	208,697	178,229	154,832	191,000	135,006	142,259	141,538	164,404	214,819
Total net postion	$ 2,085,201	$ 1,897,840	$ 1,703,289	$ 1,529,942	$ 1,350,815	$ 1,206,636	$ 1,125,953	$ 1,042,719	$ 999,662	$ 990,772

Source: FY 2009 - 2018 Statements of Net Position

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 3
CAPITAL DISBURSEMENTS
LAST TEN FISCAL YEARS
($000)



Note: These disbursements include DC Water's share of Washington Aqueduct's capital disbursements.

Source: FY 2009 – 2018 Statements of Cash Flows.

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2. Revenue Capacity

These schedules contain information regarding the Authority's most significant revenue sources.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 4
OPERATING REVENUES AND RATE INCREASES
LAST TEN FISCAL YEARS
($000)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Operating Revenues										
Retail Customers										
Residential, Commercial and Multifamily	$ 425,492	$ 401,246	$ 382,552	$ 335,711	$ 295,209	$ 275,337	$ 256,846	$ 241,475	$ 209,796	$ 191,543
Federal Government	73,551	67,672	63,417	54,274	39,001	45,187	48,381	43,033	37,845	35,195
DC Government	31,980	30,429	28,890	24,453	21,205	14,714	18,213	17,827	15,628	10,116
DC Housing Authority	10,730	10,054	9,295	8,495	7,647	6,963	6,500	7,296	6,319	6,688
Other Revenues	20,788	32,149	19,762	14,460	13,917	9,700	16,077	8,210	6,655	3,337
Total Retail Customers	562,541	541,550	503,916	437,393	376,979	351,901	346,017	317,841	276,243	246,879
Wholesale Customers	121,961	101,619	91,873	112,522	96,845	87,178	94,549	90,414	87,505	85,519
Total Operating Revenues	$ 684,502	$ 643,169	$ 595,789	$ 549,915	$ 473,824	$ 439,079	$ 440,566	$ 408,255	$ 363,748	$ 332,398
Retail Rate Increases	5.00%	5.00%	6.50%	7.50%	5.50%	5.50%	4.50%	12.50%	9.00%	7.50%

Source: FY 2009 - 2018 Statements of Revenues, Expenses and Changes in Net Position

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 5
NUMBER AND TYPE OF CUSTOMER ACCOUNTS
LAST TEN FISCAL YEARS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Retail Accounts										
Residential	105,430	105,762	106,120	105,735	104,965	104,477	103,887	103,857	103,315	103,665
Commercial (A)	17,363	18,807	18,828	18,947	19,433	19,343	19,242	19,165	19,049	19,060
Governmental										
Federal	459	560	558	550	542	542	538	549	546	540
District of Columbia	517	650	641	638	641	630	605	607	603	606
DC Housing Authority	1,130	1,457	1,462	1,446	1,452	1,460	1,435	1,431	1,431	1,220
Total Retail Accounts	124,899	127,236	127,609	127,316	127,033	126,452	125,707	125,609	124,944	125,091
DC Water	30	39	39	39	37	36	36	35	35	30
Washington Aqueduct	2	2	2	2	2	2	2	2	1	2
Wholesale	7	7	7	7	7	7	7	7	7	7
Total Number of Accounts	124,938	127,284	127,657	127,364	127,079	126,497	125,752	125,653	124,987	125,130

(A) Included in commercial are multi-family and exempt accounts

Source: D.C. Water Department of Customer Service

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 6
TEN LARGEST COMMERCIAL CUSTOMERS
LAST TEN FISCAL YEARS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Howard University	$ 3,879,664	$ 3,957,007	$ 3,823,023	$ 3,237,999	$ 2,662,949	$ 2,699,376	$ 2,596,564	$ 1,862,880	$ 1,735,598	$ 1,640,815
George Washington University	2,522,689	2,477,970	2,338,974	2,763,055	2,609,611	2,161,183	2,530,632	2,122,176	1,618,618	1,777,659
Georgetown University	2,118,763	1,438,247	1,324,563	1,413,714	2,605,884	1,865,068	1,842,860	2,238,766	2,100,705	2,135,768
William C Smith & Co	2,078,614	2,226,722	2,455,990	2,076,534	2,277,833	1,782,719	1,787,150	1,709,334	1,505,145	-
Washington Hospital Center	2,003,551	1,624,588	1,991,344	1,830,586	1,671,855	1,693,655	933,027	1,270,788	1,113,672	823,743
Metropolitan Washington Airports Authority	1,280,248	1,068,877	1,008,250	923,394	807,803	716,929	661,509	-	-	-
Amtrak	1,046,179	983,224	1,019,570	1,028,989	984,336	1,004,177	937,430	903,475	761,235	963,925
American University	1,004,977	750,235	1,001,742	1,078,412	1,125,050	1,253,038	869,211	-	694,565	1,524,262
Medstar-Georgetown Medical Center	850,673	807,540	-	-	-	-	-	-	-	-
Children's Hospital	831,854	-	-	-	-	-	-	-	-	-
Georgetown University Hospital	-	808,884	920,681	720,247	955,353	1,053,659	1,643,380	1,371,035	-	-
Horning Brothers	-	-	1,335,613	-	1,347,287	1,258,995	1,163,586	1,122,879	993,115	-
Shoreham Hotel	-	-	-	1,035,982	-	-	-	-	-	656,182
The Barac Company	-	-	-	-	-	-	-	927,022	776,134	-
Soldiers Home	-	-	-	-	-	-	-	897,121	804,533	818,641
Marriott Wardman Park Hotel	-	-	-	-	-	-	-	-	-	1,037,663
JW Marriott Hotel	-	-	-	-	-	-	-	-	-	556,985
Washington Hilton Hotel	-	-	-	-	-	-	-	-	-	-
Total	$ 17,617,212	$ 16,143,294	$ 17,219,750	$ 16,108,912	$ 17,047,961	$ 15,488,799	$ 14,965,349	$ 14,425,476	$ 12,103,320	$ 11,935,643
% of Total Operating Revenues	2.57%	2.51%	2.89%	2.93%	3.60%	3.53%	3.40%	3.53%	3.33%	3.59%

Source: DC Water Department of Customer Service

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 7
TEN LARGEST GOVERNMENT CUSTOMERS
LAST TEN FISCAL YEARS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
U.S. General Services Administration	$ 8,096,034	$ 7,092,342	$ 11,670,623	$ 6,425,889	$ 7,598,077	$ 7,184,034	$ 7,443,691	$ 6,877,787	$ 6,575,977	$ 6,773,195
D.C. Housing Authority	5,176,951	7,492,820	6,999,037	6,922,176	6,308,902	5,879,383	5,669,475	6,277,722	5,750,927	6,266,786
U.S. Congress	5,061,870	4,597,331	3,223,507	6,524,863	4,019,627	4,926,790	5,225,952	4,214,640	3,559,903	4,028,564
Smithsonian Institution	4,683,524	3,635,763	2,768,661	3,219,324	2,810,786	3,038,455	2,681,705	3,997,326	2,564,033	3,605,478
Bolling Air Force Base	4,187,710	3,115,393	2,602,439	2,509,536	1,928,617	2,265,348	2,925,847	-	-	2,279,861
National Park Service	3,298,927	4,621,035	3,656,234	2,233,857	1,363,657	2,577,096	2,481,144	2,217,698	2,384,771	2,844,549
Federal Naval Research Lab	2,209,408	1,853,214	1,975,742	1,802,150	1,542,370	1,833,491	1,788,497	-	-	-
Department Defense VA	2,082,125	-	-	4,020,624	3,275,936	3,275,936	3,527,613	2,873,310	2,759,264	2,136,653
Department of the Navy	1,732,073	1,662,225	1,708,908	-	-	1,521,264	1,886,750	3,832,568	2,851,611	3,504,547
D.C. Board of Education	1,569,405	2,497,561	2,228,498	2,166,846	2,391,393	2,092,748	2,213,636	2,142,907	2,534,044	2,292,454
D.C. Recreation and Parks	-	1,604,350	1,695,630	1,702,488	1,216,398	-	-	-	-	-
D.C. Department of Human Services	-	-	-	-	-	-	-	3,272,747	2,047,213	-
Department of Defense DC	-	-	-	-	-	-	-	2,151,529	1,608,642	2,248,076
Total	$ 38,098,027	$ 38,172,034	$ 38,529,279	$ 37,527,753	$ 32,455,763	$ 34,594,545	$ 35,844,310	$ 37,858,234	$ 32,636,385	$ 35,980,163
% of Total Operating Revenues	5.57%	5.93%	6.47%	6.82%	6.85%	7.88%	8.14%	9.27%	8.97%	10.82%

Source: DC Water Department of Customer Service

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 8
RETAIL WATER AND SEWER RATES
LAST TEN FISCAL YEARS

FISCAL YEAR	(a) METERING FEE	(b) WATER SYSTEM REPLACEMENT FEE	(c) DISTRICT PUBLIC SPACE OCCUPANCY FEE AND PILOT	(d) WATER CONSUMPTION RATE	(e) SEWER CONSUMPTION RATE	(f) COMBINED CONSUMPTION RATE	(g) IMPERVIOUS SURFACE AREA CHARGE [2]	AVERAGE MONTHLY BILL [1]
2009	2.010	-	0.52	2.30	3.31	5.61	1.240	41.26
2010	2.010	-	0.57	2.51	3.61	6.12	2.200	45.69
2011	3.860	-	0.63	3.10	3.79	6.89	3.45	53.93
2012	3.860	-	0.64	3.24	3.96	7.20	6.64	59.11
2013	3.860	-	0.66	3.42	4.18	7.60	9.57	64.64
2014	3.860	-	0.70	3.61	4.41	8.02	11.85	69.77
2015	3.860	-	0.63	3.88	4.74	8.62	16.75	77.96
2016	3.860	6.30	0.64	3.36	5.44	8.80	20.30	88.99
2017	3.860	6.30	0.65	3.52	5.71	9.23	22.24	93.66
2018	3.860	6.30	0.67	3.70 [3]	6.00	9.70	25.18	99.63

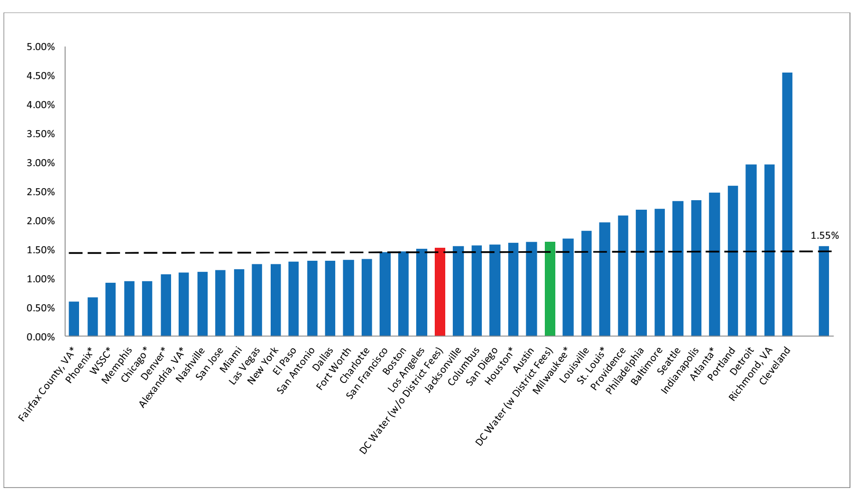
[1] Average residential customer consumption is 6.2 Ccf per month. The average monthly bill is calculated as follow s (a)+(b)+(g)+(((c)+(f)) x 6.2 Ccf)

[2] Per Equivalent Residential Unit (ERU).

[3] Weighted average w ater rate for residential customers.

Source: D.C. Water Department of Finance & Budget

EXHIBIT 9
RESIDENTIAL WATER AND WASTEWATER BILL COMPARISONS AS A PERCENTAGE OF MEDIAN HOUSEHOLD INCOME (1)

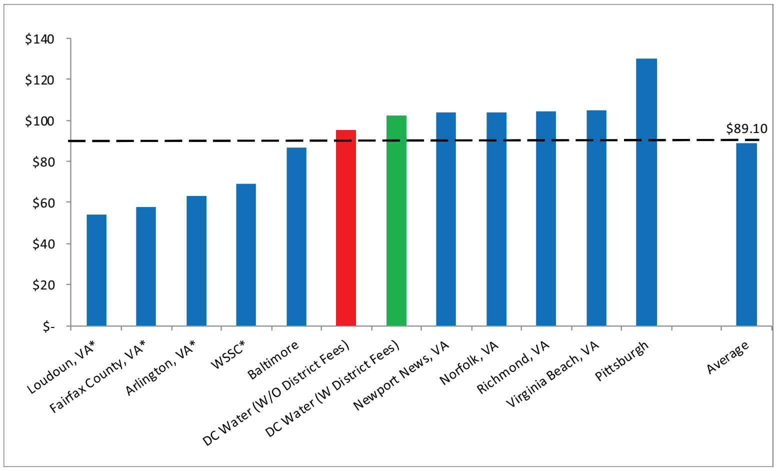


(1) This analysis is based on a single family residential monthly bill as a percentage of median household income for large national utilities based on rates in effect spring 2018.

Source: DC Water Department of Finance & Budget

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 10
RESIDENTIAL WATER AND WASTEWATER BILL COMPARISONS TO LOCAL AND REGIONAL UTILITIES (1)



(1) This analysis represents single family residential average monthly bill based on rates in effect spring 2018.

Source: DC Water Department of Finance & Budget

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3. Debt Capacity

These schedules present information showing the Authority's current levels of outstanding debt and the Authority's ability to issue additional debt in the future.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 11
OUTSTANDING DEBT AND DEBT RATIOS
LAST TEN FISCAL YEARS
($000, EXCEPT PER CAPITA)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Senior Debt:										
2018 Series A Public Utility Revenue Bonds	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018 Series B Public Utility Revenue Bonds	200,000	-	-	-	-	-	-	-	-	-
2017 Series A Public Utility Revenue Bonds	100,000	100,000	-	-	-	-	-	-	-	-
2017 Series B Public Utility Revenue Bonds	200,000	200,000	-	-	-	-	-	-	-	-
2014 Public Utility Revenue Bonds	350,000	350,000	350,000	350,000	350,000	-	-	-	-	-
2009 Series A Public Utility Revenue Bonds	4,225	8,040	11,535	159,520	291,145	293,720	296,205	298,225	300,000	300,000
1998 Public Utility Revenue Bonds	141,855	156,605	170,525	183,660	196,050	207,735	218,815	229,315	239,270	248,705
Total Senior Debt	1,096,080	814,645	532,060	693,180	837,195	501,455	515,020	527,540	539,270	548,705
Subordinate Debt:										
2016 Series A Public Utility Revenue Bonds	389,110	389,110	389,110	-	-	-	-	-	-	-
2016 Series B Public Utility Revenue Bonds	25,000	25,000	25,000	-	-	-	-	-	-	-
2015 Series A Public Utility Revenue Bonds	100,000	100,000	100,000	-	-	-	-	-	-	-
2015 Series B Public Utility Revenue Bonds	250,000	250,000	250,000	-	-	-	-	-	-	-
2014 Series B-1 Public Utility Revenue Bonds	50,000	50,000	50,000	50,000	50,000	-	-	-	-	-
2014 Series B-2 Public Utility Revenue Bonds	50,000	50,000	50,000	50,000	50,000	-	-	-	-	-
2014 Series C Public Utility Revenue Bonds	377,110	377,110	377,110	377,700	-	-	-	-	-	-
2013 Series A Public Utility Revenue Bonds	300,000	300,000	300,000	300,000	300,000	300,000	-	-	-	-
2012 Series A Public Utility Revenue Bonds	153,600	158,740	163,655	168,405	172,990	177,430	177,430	-	-	-
2012 Series B-1 Public Utility Revenue Bonds	-	-	-	-	52,690	52,690	52,690	-	-	-
2012 Series B-2 Public Utility Revenue Bonds	-	-	-	47,310	47,310	47,310	47,310	-	-	-
2012 Series C Public Utility Revenue Bonds	163,215	163,215	163,215	163,215	163,215	163,215	163,215	-	-	-
2010 Series A Public Utility Revenue Bonds	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	-	-
2008 Series A Public Utility Revenue Bonds	6,865	13,600	20,200	168,190	268,095	274,210	279,955	285,540	290,000	290,375
2007 Series A Public Utility Revenue Bonds	-	-	-	115,580	218,715	218,715	218,715	218,715	218,715	218,715
2003 Public Utility Revenue Bonds	-	-	-	-	-	-	-	176,220	176,220	176,220
Notes Payable to the Federal										
Government for Bloomington Dam	12,054	12,454	12,841	13,217	13,580	13,932	14,273	14,603	14,922	15,232
DC General Obligation Bonds	-	-	-	-	-	-	-	245	1,490	5,180
Notes Payable to WSSC for Little Seneca	-	-	-	-	-	-	63	104	142	179
Total Subordinate Debt	2,176,954	2,189,229	2,201,131	1,753,617	1,636,595	1,547,502	1,253,651	995,427	701,489	705,901
Total Senior and Subordinate debt	3,273,034	3,003,874	2,733,191	2,446,797	2,473,790	2,048,957	1,768,671	1,522,967	1,240,759	1,254,606
Unamortized bond premiums	259,578	222,786	198,677	104,060	76,098	79,313	79,674	28,255	29,929	31,102
Unamortized bond discounts	(1,964)	(2,093)	(2,222)	(2,351)	(2,480)	(2,608)	(2,784)	(2,879)	(2,968)	(3,053)
Total Debt	$ 3,530,648	$ 3,224,567	$ 2,929,646	$ 2,548,506	$ 2,547,408	$ 2,125,662	$ 1,845,561	$ 1,548,343	$ 1,267,720	$ 1,282,655
Debt - per capita	N/A	$ 4,647	$ 4,301	$ 3,791	$ 3,866	$ 3,288	$ 2,919	$ 2,505	$ 2,096	$ 2,166
Debt - percentage of personal income	N/A	5.81%	5.65%	5.17%	5.54%	4.37%	3.90%	3.40%	2.94%	3.18%

N/A: population and personal income not available
See exhibits 13 and 14 for per capita personal income and population data.
Total debt doesn't include outstanding debt associated with DC Water's short-term debt (commercial paper) program.
Source: D.C. Water Department of Finance & Budget

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 12
CALCULATION OF DEBT SERVICE COVERAGE
FY 2018 ($000)

Prepared in accordance with the Authority's Master Trust Indenture, which corresponds closely to the cash basis of accounting.

Calculation of Debt Service Coverage:	
Cash Receipts (Revenues)	
Retail	$ 498,394
Wholesale	81,022
Other Non-Operating	51,756
Transfer from (Contributions to) Rate Stabilization Fund	-
Total Cash Receipts (A)	631,172
Cash Disbursements (Operating Expenses) (B)	298,761
Cash Receipts Less Cash Disbursements (C=A-B)	$ 332,411
Debt Service:	
Senior Debt Service (D)	$ 67,296
Subordinate Debt Service (E)	111,104
Total Outstanding and Projected Debt Service (F=D+E)	$ 178,400
Calculation of Net Cash Receipts Available for Senior Debt Service:	
Cash Receipts Less Cash Disbursements (C)	$ 332,411
Prior Year Federal Billing Reconciliation	(9,019)
(Refund to)/Payment from Wholesale Customers	8,987
Net Cash Receipts Available for Senior Debt Service (G)	$ 332,379
Senior Debt Service Coverage (G/D)	**4.94**
Calculation of Subordinate Debt Service Coverage:	
Net Cash Receipts Available for Senior Debt Service (G)	$ 332,379
Less Senior Debt Service (D)	(67,296)
Net Cash Receipts Available for Subordinate Debt Service (G-D)	$ 265,083
Subordinate Debt Service Coverage ((G-D)/E)	**2.39**
Combined Debt Service Coverage (G/F)	**1.86**

Source: D.C. Water Department of Finance & Budget

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4. Demographic and Economic Information

These schedules offer demographic and economic data to help explain the environment within which the Authority's financial activities take place.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 13
POPULATION OF SERVICE AREA JURISDICTIONS
LAST TEN CALENDAR YEARS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
District of Columbia	N/A	693,972	681,170	672,228	658,893	646,449	632,323	617,996	604,912	592,228
Montgomery County, MD	N/A	1,058,810	1,043,863	1,040,116	1,030,447	1,016,677	1,004,709	989,794	975,439	959,013
Prince George's County, MD	N/A	912,756	908,049	909,535	904,430	890,081	881,138	871,233	865,219	856,161
Fairfax County, VA	N/A	1,187,113	1,176,830	1,180,139	1,175,622	1,168,405	1,155,292	1,135,992	1,121,054	1,099,347
Loudoun County, VA	N/A	398,080	385,945	375,629	363,050	349,679	336,898	325,405	315,305	303,661

N/A: Not Available

Source: U.S. Department of Commerce, Bureau of Economic Analysis

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 14
PERSONAL INCOME OF SERVICE AREA JURISDICTIONS
LAST TEN CALENDAR YEARS
($000)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
District of Columbia	N/A	$55,510,450	$51,842,801	$49,275,917	$ 46,015,860	$ 48,696,519	$ 47,280,666	$ 45,597,835	$ 43,082,099	$ 40,326,374
Montgomery County, MD	N/A	91,202,046	84,518,332	79,946,266	75,720,017	73,958,785	73,551,167	69,050,166	65,904,393	62,962,957
Prince George's County, MD	N/A	43,232,981	41,922,938	40,806,805	40,215,913	38,595,921	38,481,250	35,036,640	33,888,631	33,156,357
Fairfax County, VA	N/A	93,041,631	89,412,959	88,419,380	88,180,013	83,835,355	82,727,342	78,392,046	75,161,493	71,954,372
Loudoun County, VA	N/A	29,789,834	27,486,217	26,254,562	24,463,869	20,886,046	20,107,077	18,626,729	16,971,112	15,340,608

N/A: Not Available

Source: U.S. Department of Commerce, Bureau of Economic Analysis

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 15
PER CAPITA PERSONAL INCOME OF SERVICE AREA JURISDICTIONS
LAST TEN CALENDAR YEARS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
District of Columbia	N/A	$ 79,989	$ 76,108	$ 73,302	$ 69,838	$ 75,329	$ 74,773	$ 73,783	$ 71,220	$ 69,093
Montgomery County, MD	N/A	86,136	80,967	76,863	73,483	72,746	73,206	69,762	67,564	65,654
Prince George's County, MD	N/A	47,365	46,168	44,866	44,465	43,362	43,672	40,215	39,168	38,727
Fairfax County, VA	N/A	78,376	75,978	74,923	75,007	71,752	71,607	69,008	67,045	65,452
Loudoun County, VA	N/A	74,834	71,218	69,895	67,384	59,729	59,683	57,242	53,824	50,519

N/A: Not Available

Source: U.S. Department of Commerce, Bureau of Economic Analysis

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 16
UNEMPLOYMENT RATES
LAST TEN CALENDAR YEARS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
District of Columbia	6.0%	6.2%	6.5%	6.9%	7.0%	7.3%	8.2%	10.2%	10.1%	9.7%
Montgomery County, MD	3.2%	3.4%	3.2%	4.0%	4.1%	4.5%	4.7%	5.2%	5.8%	5.6%
Prince George's County, MD	4.1%	4.3%	4.1%	5.1%	5.5%	6.2%	6.5%	7.0%	7.7%	7.3%
Fairfax County, VA	2.3%	3.4%	3.3%	3.3%	3.6%	3.7%	3.6%	4.3%	4.9%	4.9%
Loudoun County, VA	2.3%	3.4%	3.3%	3.3%	3.6%	3.9%	3.7%	4.2%	4.8%	4.8%

Source: U.S. Department of Labor, Bureau of Labor Statistics

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 17
EMPLOYMENT BY SECTOR

	DISTRICT OF COLUMBIA	MONTGOMERY COUNTY	PRINCE GEORGE'S COUNTY	FAIRFAX COUNTY	LOUDOUN COUNTY
Agriculture, Forestry, Mining, etc.	0.08%	0.33%	0.09%	0.22%	0.68%
Construction	N/A	5.68%	9.05%	4.66%	8.58%
Manufacturing	N/A	2.06%	1.94%	0.90%	3.39%
Transportation & Public Utilities	1.87%	2.89%	6.10%	N/A	6.52%
Wholesale & Retail Trade	3.64%	8.88%	12.75%	8.07%	11.28%
Finance, Insurance & Real Estate	6.48%	11.82%	6.59%	10.31%	8.68%
Services	59.43%	54.49%	42.63%	62.20%	49.83%
Government (Federal, State & Local)	26.90%	12.79%	19.27%	12.45%	10.48%
Military	1.57%	1.08%	1.59%	1.19%	0.55%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

Source: U.S. Department of Commerce, Bureau of Economic Analysis
Latest available data is for 2016

N/A: Not Available

5. Operating Information

These schedules contain information about the Authority's operations and resources to help the reader understand how the Authority's financial information relates to the activities it perform.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 18
WATER DELIVERED (PUMPED) AND BILLED (SOLD)
LAST TEN FISCAL YEARS

FISCAL YEAR	TREATED WATER DELIVERED (MG)	WATER BILLED (MG)	SOLD/PUMPED RATIO
2009	39,998	29,344	73.36%
2010	38,589	29,004	75.16%
2011	37,556	29,040	77.32%
2012	36,930	27,988	75.79%
2013	34,714	26,316	75.81%
2014	34,708	25,374	73.11%
2015	38,146	26,748	70.12%
2016	36,363	26,325	72.40%
2017	35,827	25,845	72.14%
2018	34,343	25,526	74.33%

Source: DC Water Department of Customer Service

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 19
WATER DEMAND
LAST TEN FISCAL YEARS

FISCAL YEAR	ANNUAL DELIVERIES TO SYSTEM (MG)	AVERAGE DAY (MG)	MAXIMUM MONTH AVERAGE (MGD)	MAXIMUM DAY (MGD)	TOTAL ANNUAL WATER SOLD (MG)	AVERAGE DAY (MGD)
2009	39,998	109.6	123.2	150.4	29,344	80.4
2010	38,589	105.7	130.5	146.9	29,004	79.5
2011	37,556	102.9	121.6	143.7	29,040	79.6
2012	36,930	100.9	125.3	142.9	27,988	76.7
2013	34,714	95.1	111.3	129.7	26,316	71.9
2014	34,708	95.1	106.6	123.7	25,374	72.1
2015	38,146	104.5	117.7	148.4	26,748	73.3
2016	36,363	99.4	113.8	127.7	26,325	72.1
2017	35,827	98.2	107.4	122.7	25,845	70.8
2018	34,343	94.1	110.9	132.5	25,526	69.9

Source: DC Water Department of Water Services and Washington Aqueduct

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 20
MISCELLANEOUS STATISTICS ABOUT AUTHORITY OPERATIONS
LAST TEN FISCAL YEARS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Utilities and supplies per day at Blue Plains										
Electric power (kwh) - Total Used	678,000	632,220	615,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000
Electric power (kwh) - Generated On Site	158,000	138,347	-	-	-	-	-	-	-	-
Sodium hypochlorite (gallons)	14,580	12,880	10,051	10,051	6,850	6,850	6,850	6,850	6,850	6,850
Sodium bisulfite (pounds)	12,130	9,085	7,880	7,880	5,600	5,600	5,600	5,600	5,600	5,600
Water (gallons)	525,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000
Lime (tons, pounds), dry	-	-	-	39,000	72,050	72,050	72,050	72,050	72,050	72,050
Lime (gallons), slurry	1,150	3,095	-	-	-	-	-	-	-	-
Sodium hydroxide (pounds)	9,350	2,854	14,766	14,766	26,100	26,100	26,100	26,100	26,100	26,100
Methanol (gallons)	19,100	20,705	19,428	19,428	10,000	10,000	10,000	10,000	10,000	10,000
Ferric chloride (10% Iron) (gallons)	15,770	16,054	19,060	19,060	12,900	12,900	12,900	12,900	12,900	12,900
Wastewater treatment capacity										
Average day (mgd)	384	384	370	370	370	370	370	370	370	370
Peak 4 hour flow, through complete process (mgd)	550	511	511	511	740	740	740	740	740	740
Excess storm flow, primary treatment only (mgd)	-	336	336	336	336	336	336	336	336	336
Peak flow (mgd)	-	847	847	847	1,076	1,076	1,076	1,076	1,076	1,076
Captured Combined Flow, through Wet Weather Treatment	225	-	-	-	-	-	-	-	-	-
DC Water employees	1,165	1,134	1,121	1,164	1,079	1,080	1,051	1,032	1,004	1,000

Source: D.C. Water Department of Wastewater Treatment Operations

(CONTINUED ON NEXT PAGE)

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 20
MISCELLANEOUS STATISTICS ABOUT AUTHORITY OPERATIONS
(CONTINUED)

Wastewater Plant Permit Limitations
August 26, 2018 through August 25, 2023

Parameter	Monthly	Weekly
Biochemical Oxygen Demand (carbonaceous)	5.0 mg/L (15,429 lbs./day)	7.5 mg/l (23.143 lbs./day)
Total Suspended Solids (TSS)	6.1 mg/l (19,603 lbs./day)	9.15 mg/l (29,404 lbs./day)
Ammonia Nitrogen		
Summer (5/1 – 10/31)	4.1 mg/l (13,130 lbs./day)	6.1 mg/l (19,536 lbs./day)
Winter 1 (1/1 – 2/14)	12.8 mg/l (40,993 lbs./day)	19.3 mg/l (61,809 lbs./day)
Winter 2 (2/15 – 4/30)	10.3 mg/l (32,986 lbs./day)	15.4 mg/l (49,319 lbs./day)
Total Phosphorus (annual average)	0.17 mg/l (530 lbs./day)	0.34 mg/l (1,080 lbs./day)
Dissolved Oxygen		
Minimum daily average	5.0 mg/l	
Not less than	4.0 mg/l	
pH		
Minimum	6.0 units	
Maximum	8.5 units	
Total Chlorine	Non detectable	
E.coli	123 cu/100ml Geometric (30 day)	
Chesapeake Bay Voluntary Agreement Total Nitrogen (Annual Average)	N/A	
U.S. Environmental Protection Agency Total Nitrogen (Annual Average)	4,370,078 lbs./yr	

Wastewater Plant Processes
Primary Treatment

Influent Pumping Capacity	1,300 MGD
Number of bar screens	13
Number of aerated grit chambers	16
Total volume of aerated grit chambers	2.3 MG
Number of primary clarifiers	36
Average detention time (clarifiers)	2.5 hours
Average hydraulic loading (clarifiers)	1,008 gallons/square foot/day
Maximum hydraulic loading (clarifiers)	2,929 gallons/square foot/day

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 20
MISCELLANEOUS STATISTICS ABOUT AUTHORITY OPERATIONS
(CONTINUED)

Secondary Treatment

Number of reactors	6
Total reactor volume	27.7 MG
Number of clarifiers	24
Average reactor detention time	1.6 hours
Average clarifier hydraulic loading	763 gal/sq ft./day
Number of centrifugal blowers	6
Total blower capacity	280,000 cu ft. /min
Average MLSS	2,200 mg/L
Average SRT	1.6 days
Average SVI	80-100 ml/g
Effluent dissolved oxygen	2-3 mg/L
Effluent alkalinity	140 mg/L as CaCO3

Nitrification / Denitrification

Number of Nitrification reactors	12
Total reactor volume	55.2 MG
Number of Denitrification reactors	8
Total reactor volume	36.7 MG
Number of clarifiers	28
Average reactor detention time	3.3 hours
Average clarifier hydraulic loading	755 gallons/square ft./day
Average MLSS	2000 mg/L
Average pH	7.0 units
Average SRT	21 days
Average SVI	80-110 ml/g
Effluent alkalinity	110 mg/L as CaCO3

Effluent dissolved oxygen	3.8 – 7.2 mg/L
(Post – Aeration)	
Dual Purpose sedimentation tanks	
	4 Secondary Treatments
	4 Nitrification Treatments
Total Dual Purpose Surface Area	197,160 sq. ft.

Filtration & Disinfection

Number of filters	40
Total filter area	83,200 sq. ft.
Average filtration rate	3.4 gal/ minute/ sq. ft.
Average filter run time	55 hours
Depth of anthracite media	24 inches
Depth of sand media	12 inches
Depth of Gravel Support Layer	12 inches
Number of chlorine contact tanks	4
Average contact time	42 minutes

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 21
SCHEDULE OF INSURANCE
AS OF SEPTEMBER 30, 2018

TYPE OF COVERAGE	COMPANY	POLICY PERIOD	COVERAGE LIMITS
Blanket Property and Boiler & Machinery	Alliant Public Entity Property Insurance Program (PEPIP)	July 1, 2018– July 1, 2019	$1,000,000,000 Blanket Buildings and Contents – (Specified Locations) and Mobile Equipment $100,000,000 Boiler and Machinery $25,000,000 Miscellaneous Locations $100,000,000 Earth Movement $100,000,000 Excess Flood (over NFIP), except $25,000,000 Locations within 100 Year Flood Zone (e.g. Blue Plains) Terrorism: $700,000,000 per occurrence, $1,600,000,000 annual aggregate (Alpha,Hiscox-$250,000,000 of occurrence and aggregate limit dedicated solely to DC Water) $25,000,000 Transit Per Shipment Deductibles: $1,000,000 Any Loss, except $10,000 Equipment
Fidelity & Crime Insurance	AIG	July 1, 2018– July 1, 2019	$10,000,000 - Employee Dishonesty, Forgery, Funds Transfer, Fraud, Money & Securities Deductible: $200,000 Per Occurrence
Commercial General Liability	Self-Funded		$1,000,000 each occurrence
Commercial Automobile	Self-Funded		$1,000,000 any one accident 100% Physical Damage - self-funded
Worker's Compensation	Self-Funded		$1,000,000 each accident Statutory WC Benefits Employer's Liability - $1,000,000 Each Accident; $1,000,000 Disease/ Employee
Excess Worker's Compensation Insurance	Safety National	July 1, 2018– July 1, 2019	Unlimited - WC Benefits; $3,000,000 - Employer's Liability (Included - Terrorism) Retentions: $1,000,000/accident; $1,000,000 Disease/ Employee.
Excess General Liability, Automobile Liability, and Employers Liability Insurance	AEGIS	July 1, 2018– July 1, 2019	$35,000,000 in excess of $1,000,000
Excess Liability	EIM	July 1, 2018– July 1, 2019	$65,000,000 in excess of $35,000,000
Public Official Liability	RSUI Indemnity / Chubb Insurance Company	July 1, 2018– July 1, 2019	$20,000,000 Each Loss / Aggregate Retentions: $250,000 per wrongful act
Fiduciary Liability	Travelers Insurance	July 1, 2018– July 1, 2019	$5,000,000 Each Loss / Aggregate Deductible: $0 per claim
Cyber	XL	July 1, 2018– July 1, 2019	5,000,000 Each Loss/Aggregate Deductible: $50,000
Professional Liability	Lloyds of London	July 1, 2018– July 1, 2019	$2,000,000 Each Loss Deductible: $10,000
National Flood	NFIP	July 1, 2018– July 1, 2019	$500,000 building/contents Deductible: $50,000 per building/contents

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 22
SUMMARY OF MAJOR PERMITS AND ADMINISTRATIVE ORDERS
AS OF SEPTEMBER 30, 2018

Wastewater	Description	Expiration Date	Current Status
National Pollutant Discharge Elimination System Permit # DC0021199	Permit issued to DC Water. Authorizes discharge of treated wastewater from Blue Plains Advanced Wastewater Treatment Plant (Plant) into the Potomac River and from the combined sewer system into Rock Creek, the Anacostia River, and the Potomac River. Prescribes operating conditions for the Plant and sewer system.	August 25, 2023	In Compliance
National Pollutant Discharge Elimination System Permit # DC0000221	Permit issued to Government of District of Columbia. Authorizes discharge from municipal separate storm sewer system (MS4) and prescribes certain actions that DC Water has agreed to perform including: Responding to sanitary sewer overflows (SSO) Reporting SSOs that overflow to MS4 system to public health agencies Cleaning catch basins and removing trash from waterbodies Maintaining storm sewer system infrastructure Collection of stormwater fees for the District of Columbia	June 22, 2023	In Compliance
1995 Consent Decree Civil Action No.: 90-1643-JGP and 84-2842-JGP	Requires certain actions including: Review procurement practices & maintenance procedures Undertake Operational Capability Review Conduct a pilot project for biological nitrogen reduction	N/A	In Compliance All items completed; awaiting action to terminate decree
1996 Stipulated Agreement & Order Civil Action No.: 96-669-TFH	Requires certain actions including: Rehabilitate and maintain certain facilities and capital equipment in good operating condition Maintain certain records and data for status reports and prepare monthly reports on status of compliance Maintain user fees in separate accounts and make timely payment of invoices	N/A	In Compliance All items completed; awaiting action to terminate agreement and order
2003 Consent Decree Civil Action No.: 1:00CV00183TFH Civil Action No.: 02-2511 (TFH)	Requires certain actions including: Replacement/repair of control structures Cleaning/inspection of catch basins Rehabilitation of pumping stations Rehabilitation of Blue Plains grit chambers and influent screens Inspection of certain sewers and siphons Public education/outreach activities Payment of civil penalty of $250,000 Conduct/support of supplemental environmental projects	N/A	In Compliance
2005 Modified Consent Decree for CSS LTCP Consolidate Civil Action No; 1:00CV00183TFH	Requires implementing projects for various components of the combined sewer system (CSS) long term control plan (LTCP). On January 14, 2016, the Court entered the First Amendment to the Consent Decree to incorporate DC Water's Total Nitrogen Wet Weather Plan and modify the requirement for the Potomac and Rock Creek watersheds to include Green/Gray Infrastructure in Potomac watershed, and Gray Infrastructure in the Rock Creek watershed. The Consent Decree does not have an expiration date.	N/A	In Compliance
DC Department of Energy and the Environment	Permit to construct the enhanced nitrogen removal facility	2/20/2015(1)	In Compliance
DC Department of Energy and The Environment	Permit to construct biosolids project – main process train/combined heat & power/final dewatering facility	3/15/2015(1)	In Compliance

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EXHIBIT 23
BUDGETARY COMPARISON SCHEDULE
FOR FISCAL YEAR 2018

	Approved Budget	Actual Expenditures	Variance
Expenditures			
Personnel services	$ 149,193	$ 157,635	$ (8,442)
Contractual services	79,354	74,914	4,440
Water purchases	30,156	28,357	1,799
Chemicals and supplies	30,658	30,482	176
Utilities and rent	29,399	26,158	3,241
Small equipment	1,071	700	371
Interest and fiscal charges (debt service)	185,480	169,014	16,466
Payment in lieu of tax & right of way fee	21,376	21,376	-
Cash financed capital improvements	35,260	-	35,260
Total budgetary basis expenditures	$ 561,946	$ 508,635	$ 53,311

Reconciliation between total budgetary basis expenditures and total expenses reported in statements of revenues, expenses and changes in net position	
Capitalized personnel expenditures	(15,528)
Depreciation and amortization expense	115,453
Long-term debt - principal payments	(30,840)
Long-term debt - capitalized interest	(79,412)
Build America Bonds subsidy	5,333
Inventory issuances	(70)
Blue Drop	(6)
Non-budgeted expenses	29,861
Total expenses reported in statements of revenues, expenses and changes in net position	$ 533,426

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 23
BUDGETARY COMPARISON SCHEDULE
FOR FISCAL YEAR 2018
(CONTINUED)

BUDGETARY ACCOUNTING AND CONTROL

Budget Law

The Authority prepares its operating and capital budgets under the provisions of its enabling legislation. In accordance with those provisions, the following process is used to adopt the annual budget.

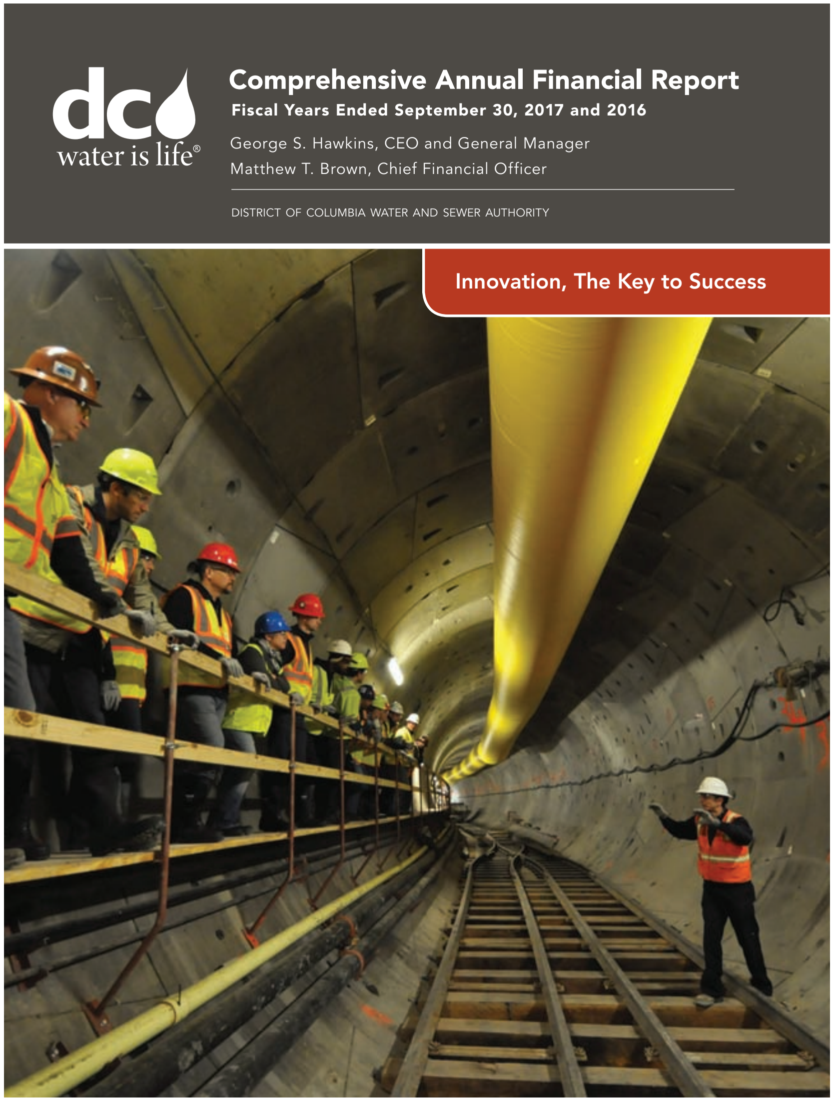
- Development of the 10-year financial plan
- Development of individual departmental operating budgets, based on the financial framework in the 10-year financial plan
- Review and development of the Authority wide proposed budget by the Chief Executive Officer (CEO) and General Manager
- Presentation of proposed budget to the Board of Directors
- Review of proposed budget by the various Board Committees
- Adoption of proposed budget by the Board of Directors
- Submission of proposed budget to the District of Columbia for inclusion in its budget
- District of Columbia budget submission to U.S. Congress
- Approval of proposed budget by U.S. Congress and President

Budgetary Accounting

The Authority is a single enterprise fund and maintains accounting records using the accrual basis of accounting, in accordance with U.S. generally accepted accounting principles (GAAP). Under this basis of accounting, revenues are recognized when earned, and expenses are recognized when goods and services are received. The Authority's expenditure budget is prepared on a comparable basis to GAAP, with the exception of debt service, which is budgeted in full when due, including principal and interest. Depreciation is not budgeted; depreciation is recorded as an expense for financial statement purposes. Certain other items are also not budgeted such as bad debt expense or (recovery) and loss (gain) on disposals of fixed assets or inventory.

Budgetary Requirements

After the U.S. Congress approves the budget, the operating and capital budgets are loaded into the Authority's financial management system, which prevents overspending without appropriate approvals. The Department of Finance, Accounting and Budget prepares monthly management reports for each operating unit, management staff, the Board of Directors, and its various committees. The reports are consistently reviewed each month to ensure the Authority complies with its authorized budget levels.



dc water is life

FY 2017

District of Columbia Water and Sewer Authority

Comprehensive Annual Financial Report

Fiscal Years
Ended September 30, 2017 and 2016

Prepared by:
Department of Finance, Accounting and Budget

Matthew T. Brown, Chief Financial Officer

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Introductory Section
(Unaudited)

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY | 5000 OVERLOOK AVENUE, SW | WASHINGTON, DC 20032

January 31, 2018

Board of Directors
District of Columbia Water and Sewer Authority
5000 Overlook Avenue, S.W.
Washington, D.C. 20032

Dear Members of the Board:

I am pleased to present the District of Columbia Water and Sewer Authority's ("DC Water" or the "Authority") Comprehensive Annual Financial Report ("CAFR") for the fiscal year ended September 30, 2017. The Authority's financial statements were prepared in accordance with U.S. generally accepted accounting principles ("GAAP"), as promulgated by the Governmental Accounting Standards Board ("GASB") and audited by a firm of independent certified public accountants retained by DC Water. In accordance with the Authority's enabling legislation, DC Water is required to perform an annual audit of its financial statements and submit it to the District of Columbia's Mayor, Chief Financial Officer, and District Council.

Responsibility for the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with DC Water's management. To the best of my knowledge and belief, the information contained in this report is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the Authority. All disclosures necessary for the reader to gain an understanding of DC Water's financial activity have been included.

DC Water's management is responsible for establishing and maintaining an internal control structure designed to ensure that its assets are adequately safeguarded against loss, theft, or misuse and to maintain accurate and reliable financial records for the preparation of financial statements and the representations made by management. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that: 1) the cost of internal controls should not exceed the benefits derived from the controls; and 2) the evaluation of costs and benefits requires management's exercise of judgment. To the best of my knowledge and belief, DC Water's internal accounting controls adequately safeguard its assets and provide reasonable assurance of the proper recording of financial transactions in accordance with GAAP.

KPMG LLP, Certified Public Accountants, has been retained by DC Water to serve as its independent auditors and has issued an unmodified ("clean") opinion on DC Water's financial statements for the years ended September 30, 2017 and 2016. The independent auditors' report is located at the front of the financial section of this report.

GAAP requires that management provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis ("MD&A"). This letter of transmittal is designed to supplement the MD&A and should be read in conjunction with it. DC Water's MD&A is located immediately following the independent auditors' report.

Overview of DC Water

DC Water provides retail drinking water distribution and wastewater conveyance and treatment services to approximately 681,000 residential, commercial and governmental customers in the District of Columbia, and wholesale wastewater conveyance and treatment services to approximately 1.6 million users in Montgomery and Prince George's Counties in Maryland, and Fairfax and Loudoun Counties in Northern Virginia.

DC Water is governed by a Board of Directors consisting of eleven principal and eleven alternate members who represent the District of Columbia, Montgomery and Prince George's Counties in Maryland, and Fairfax County in Virginia. The Mayor of the District of Columbia appoints, and the District Council confirms, all District Board members, including the Chairperson. In addition, the Mayor appoints the five principals and five alternate members who represent the surrounding jurisdictions based on submissions from those jurisdictions. DC Water may only take action on policy matters after it receives a favorable vote of no less than six members of the Board of Directors. All Board members participate in decisions directly affecting the general management of the joint-use facilities. Only the District of Columbia Board members participate in matters that affect District ratepayers.

In the early history of the District, there were separate sewer, water and sanitation departments. Over the years, DC Water underwent several name and organizational changes, while remaining committed to its core mission. Between 1935 and 1938, DC Water operated as the District of Columbia Department of Sanitary Engineering. It was during this time that the first sewage treatment plant at Blue Plains was constructed. In the early 1970s, DC Water was known as the District of Columbia Department of Environmental Services. Later, in 1985, DC Water became a part of the District of Columbia Department of Public Works.

In 1996, the regional participants in DC Water's service area, including the District of Columbia, Montgomery and Prince George's Counties in Maryland, Fairfax and Loudoun Counties in Virginia, and the United States Congress agreed to create an independent, multi-jurisdictional water and wastewater authority from its predecessor agency. In April 1996, the Council of the District of Columbia passed the "Water and Sewer Authority Establishment and Department of Public Works Reorganization Act of 1996 (as amended)" (the "Act"), a statute that established DC Water as an operationally, financially, and legally independent authority on October 1, 1996.

In accordance with the Act, the District authorized DC Water to use all of the property and assets related to its water distribution and wastewater treatment and conveyance services and transferred to DC Water any liabilities that were directly attributable to those assets. The District has retained full legal title to these assets. The assets will remain under the control of DC Water for as long as any revenue bonds remain outstanding.

The Act also requires DC Water to establish rates, fees and other charges for all services provided by DC Water. These rates, fees and charges, in addition to certain wholesale wastewater treatment contracts, are projected to generate revenues adequate to pay all of the costs of operating DC Water. DC Water's rate setting powers are not subject to the oversight of, or regulation by, the District or any other agency or authority.

DC Water's service area below is approximately 725 square miles and covers the District of Columbia, most of Montgomery and Prince George's Counties, and portions of Fairfax and Loudoun Counties.

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Accounting and Budget Processes

Basis of Accounting

The financial statements of the Authority have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP") as applicable to governmental entities. The Governmental Accounting Standards Board ("GASB") is the accepted primary standard-setting body for establishing governmental accounting and financial reporting standards. DC Water prepares its financial statements using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis of accounting, revenues are recognized when earned, and expenses are recognized when incurred, regardless of the timing of the related cash flows.

Financing Policies

The primary objective of DC Water's financing policies is to ensure that its financial practices result in high quality investment-grade bond ratings to achieve the lowest cost of capital necessary to finance DC Water's capital improvement program. Under its Master Indenture of Trust, DC Water is legally obligated to maintain 1.2 times debt service coverage on its senior lien debt and establish an operating reserve fund equal to 60 days of operations and maintenance costs (O&M). By policy, the Board has established more conservative financial targets and is committed to maintaining 1.4 times debt service coverage on its senior lien debt and an operating cash reserve requirement equivalent to the greater of 120 days of O&M or $125.5 million. In addition, DC Water has established policies for utilizing any operating surplus for funding pay-as-you-go capital expenditures (Pay-Go) or contributing to the Rate Stabilization Fund (RSF).

Budgetary Control

Budgetary control begins with the preparation of annual operating and capital budgets, which are developed on an expenditure basis. After a comprehensive review process by the Board's Finance and Budget, Environmental Quality and Sewerage Services, Water Quality and Water Services, and DC Retail Water and Sewer Rates Committees, the budget is approved by the Board of Directors. DC Water's financial management system is designed to prevent overspending of the budget without appropriate approvals. The Budget Department prepares monthly management reports for each operating unit as well as for the Board of Directors and its various committees. The reports are reviewed and acted upon each month to ensure DC Water complies with its authorized budget.

Annual Budget Process

After approval by the Board, DC Water is required to submit its annual operating and capital budgets to the District for inclusion in the Mayor's annual budget. The Mayor's budget is in turn submitted to the District Council for its review and comment. Importantly, neither the Mayor nor District Council has the authority to modify or revise the annual budgets of DC Water. The District

then includes DC Water's budget as an enterprise fund as part of its own budget submission to the U.S. Congress for approval.

Economic Condition and Outlook

Washington, D.C., is not only known as being the nation's capital, but it is also an international city with a vibrant tourist industry and business climate. The U.S. Census Bureau estimated that there were 681,170 residents in Washington, D.C. in 2016, an increase of 1.3% from the same period of the prior year. The Washington Metropolitan Region has a population of more than 6.1 million individuals and is the sixth largest metropolitan area in the country.

The District's economic base is driven by the federal and local governments as well as diplomatic embassies and international organizations. The federal civilian workforce in the District averaged 236,947 employees, while thousands more are estimated to work elsewhere in the metropolitan area. The District is host to more than 180 foreign embassies and other recognized diplomatic missions. A number of international organizations, such as the International Monetary Fund, World Bank, Inter-American Development Bank and Organization of American States are headquartered in the District. An estimated 22.0 million people visit the Washington Metropolitan Region on an annual basis, not only to do business with the federal government and local firms, but also to visit the national monuments, historic sites, museums and other major cultural attractions.

Income has grown considerably in the District in recent years. The unemployment rate in the District decreased from 8.2% in 2012 to 6.2% in 2017. The District's economy grew consistently faster than the national economy for much of this decade and is expected to continue to grow in 2018. The District's economy is relatively more information and service industry dependent than most states, accounting for the region's insulation from the most recent national housing and credit centric recession.

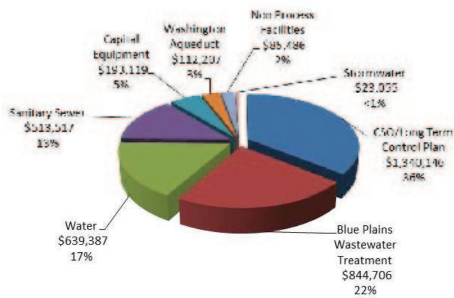
Major Initiatives

Capital Improvement Program

DC Water's ultimate success in achieving its mission of providing world-class water and wastewater services as a leading steward of the environment depends in large part on the implementation of its 10-year $3.8 billion capital improvement program ("CIP"). Approximately 36.9% of the CIP is either federally mandated or required by a court-ordered consent decree, including the Enhanced Nitrogen Removal Facilities ("ENRF") and the Clean Rivers Project.

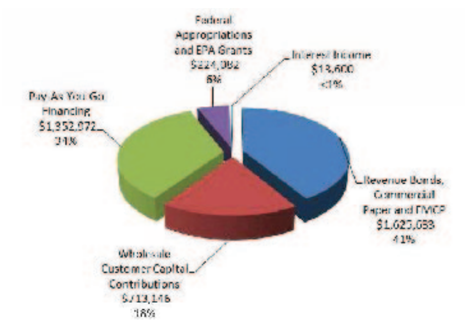
The Board approved Fiscal Year 2017 – 2026 CIP is broken into seven service areas, as shown in the following graph.

Capital Improvement Program FY 2017 – FY 2026
Uses of Funds ($ in 000's)



DC Water plans to finance its $3.8 billion capital improvement program from a variety of sources, including the issuance of revenue bonds, grants from the U.S. Environmental Protection Agency ("EPA"), federal appropriations, capital contributions from wholesale customers and Pay-Go. Interim financing through issuance of commercial paper ("CP") or extendible municipal commercial paper ("EMCP") will be periodically converted to long-term financing through the issuance of bonds. As shown on the following chart, approximately 41% of capital financing will come from debt issuances.

Capital Improvement Program FY 2017 – FY 2026
Sources of Funds ($ in 000's)



Clean Rivers Project

Approximately one-third of the District of Columbia is served by a combined sewer system, in which both sanitary sewage and storm water flow through the same pipes. When either the collection system or the Blue Plains treatment plant reach capacity, typically during periods of heavy rainfall, the system is designed to overflow the excess diluted sewage directly into District waterways. These events are referred to as combined sewer overflows ("CSO"). Combined sewers are not unique to the District and are commonly found in older wastewater collection systems especially in Northeast and Midwest regions of the United States. The Clean Rivers Project is being implemented on a schedule included in a consent decree between the EPA, U.S. Department of Justice ("DOJ"), District of Columbia, and DC Water. The consent decree was entered by the Court on March 23, 2005. The 2005 decree is a "grey" solution that required construction of three tunnel systems in the Anacostia River, Potomac River, and Rock Creek sewersheds.

The benefits of the Clean Rivers Project will be significant when fully implemented. CSOs are projected to be reduced by 93 percent into the Potomac River watershed and by 98 percent on the Anacostia River watershed and 90 percent in the Rock Creek watershed resulting in improved water quality and a significant reduction in debris from the combined sewer system in our local waterways. In addition, the Clean Rivers Project serves as a cornerstone of the District's waterfront redevelopment initiatives including commercial, residential and other development projects on the Anacostia River.

The Clean Rivers Project is a $2.8 billion capital project that includes a variety of capital improvements throughout the District including three massive, deep tunnel systems which will capture and store CSOs from storm events until they can be conveyed to Blue Plains for treatment.

Green Infrastructure (GI) technologies capture, infiltrate, treat and reuse polluted runoff before it enters the sewer system. These practices include rain gardens, porous pavements, green roofs, infiltration planters, trees and tree boxes, and rainwater harvesting for non-potable uses, such as toilet flushing and landscape irrigation.

On May 20, 2015, DC Water, District of Columbia, EPA and DOJ announced an agreement to modify the 2005 consent decree to allow for large-scale GI installations and other modifications to the Clean Rivers Project impacting the Potomac River and Rock Creek watersheds. The modification was approved and became effective on January 29, 2016. Anacostia River watershed will proceed with the planned tunnel solution. Under the modified agreement, DC Water is expected to eliminate or reduce the previously-planned underground tunnel for Rock Creek and Potomac River watersheds if the pilot GI projects in these watersheds are deemed practicable. Upon determination of their practicability, DC Water will instead build green infrastructure and targeted sewer separation to manage the volume of runoff produced by 1.2" of rain falling on 365 impervious acres of land that currently does not absorb stormwater. This portion of the project will be completed by 2030. If the pilot projects are deemed impracticable, DC Water will revert to grey solutions with the same completion date of 2030.

These measures are intended to achieve compliance with EPA's nutrient limits for nitrogen and phosphorus as required by the current NPDES permit. The amended decree will provide DC Water an additional five years to complete the work required to address CSOs resulting in an extension of the final compliance date from 2025 to 2030.

The GI projects underway for Rock Creek and Potomac River watersheds will be implemented during the next five years and results will be evaluated to determine either implementation of large-scale GI or return to "grey" infrastructure solution. In order to protect DC Water stakeholders, DC Water issued the industry's first Environmental Impact Bond. Similar in nature to "pay for success" bonds, the borrowing is designed to pay bondholders for successful results achieved in the GI projects or pay bondholders less in the event that successful results are not achieved. This historic issuance is expected to introduce the wastewater industry to alternative sources of funding for a national issue regarding EPA required effluent composition reductions to the nation's waterways.

Digester Project

DC Water's Biosolids Management Program ("BMP") is in operation. Expected savings are being realized related to electricity generation, biosolids hauling and land application costs. Efforts continue to develop alternative revenue sources through commercialization of class A biosolids.

Recent Developments

Blue Plains and Anacostia River Tunnels

The first phase of the Clean Rivers Project, completion of the Blue Plains and Anacostia River tunnels, is anticipated in March of 2018, one year in advance of the schedule mandated by the NPDES Permit. It is anticipated that upon completion of this first phase of the Clean Rivers Project, combined sewer overflows into the Anacostia River will be reduced by 81 percent.

Green Infrastructure

DC Water's progress to construct 79 new green facilities in the Rock Creek Watershed continues as planned with expected completion in 2019. Measurement processes have been established to monitor their effectiveness which data is anticipated to support a decision to continue with green infrastructure to achieve CSO reduction for Rock Creek. Establishment of an innovative certification program to train and hire workers in installation and maintenance of green infrastructure has produced tangible socioeconomic benefit.

Water System Replacement Fee

DC Water successfully implemented the Water System Replacement Fee (WSRF) on October 1, 2016 without interruption in customer billing and collection activities. The WSRF is a new fixed fee to fund the one percent per year drinking water system replacement program that will cost approximately $40 million annually.

Credit Rating Upgrades

In February 2016, Standard and Poor's Investors Service upgraded DC Water's credit rating for senior lien revenue bonds from AA+ to AAA, the highest rating available by a rating agency and the highest credit rating in DC Water history. Additionally, in April 2016, Moody's Investor Service upgraded DC Water's credit rating for senior lien revenue bonds from Aa2 to Aa1.

In January 2017, DC Water issued $300 million in tax-exempt, fixed rate bonds, including $100 million designated as Green Bonds, leveraging the AAA credit rating upgrade by S&P and its new GB1 rating, Moody's highest possible green bond assessment. Combined, these two ratings made DC Water's bonds highly desirable. Strong credit ratings enable the Authority to issue debt at lower borrowing costs, which in turn reduces ratepayer costs in the long run.

Government Finance Officers Association Awards

CAFR Award

The Authority's 2016 CAFR received the Government Finance Officers Association's ("GFOA") Certificate of Achievement for Excellence in Financial Reporting. The CAFR was judged based on its conformity to GAAP and its compliance with other financial, legal and contractual provisions. The Certificate of Achievement is the highest form of recognition in governmental accounting and financial reporting, and its attainment represents a significant accomplishment for any municipality or government agency. To date, DC Water has received the GFOA's CAFR award for every year of its existence as an Independent Authority, for a total of twenty consecutive awards.

Budget Award

The Authority's 2016 operating and capital budgets received the GFOA's Distinguished Budget Presentation Award, the highest form of recognition in governmental budgeting. In order to qualify for the Distinguished Budget Presentation Award, DC Water's budget document was judged to be proficient in several categories, including presentation as a policy document, financial plan, operations guide and a communication device. The Authority has been the recipient of this prestigious award for the last seventeen years.

ACKNOWLEDGEMENTS

With deep appreciation, I wish to recognize the outstanding leadership and personal commitment of Controller John Madrid and his dedicated team of professionals for their collective effort in drafting DC Water's FY 2017 Comprehensive Annual Financial Report.

Respectfully submitted,

Matthew T. Brown
Chief Financial Officer

BOARD OF DIRECTORS

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VACANT, DISTRICT OF COLUMBIA
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BRADLEY FROME, PRINCE GEORGE'S COUNTY, MD
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VACANT, DISTRICT OF COLUMBIA
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SHIRLEY BRANCH, PRINCE GEORGE'S COUNTY, MD
ADAM ORTIZ, PRINCE GEORGE'S COUNTY, MD
SARAH MOTSCH, FAIRFAX COUNTY, VA

PRINCIPAL STAFF MEMBERS

OFFICE OF THE GENERAL MANAGER

GEORGE S. HAWKINS, CEO AND GENERAL MANAGER
HENDERSON J. BROWN, IV, GENERAL COUNSEL*
BIJU GEORGE, CHIEF OPERATING OFFICER

OFFICE OF THE CHIEF FINANCIAL OFFICER

MATTHEW T. BROWN, CHIEF FINANCIAL OFFICER
JOHN MADRID, CONTROLLER
ROBERT HUNT, FINANCE DIRECTOR
LOLA OYEYEMI, BUDGET DIRECTOR
SYED KHALIL, DIRECTOR, RATES AND REVENUE

OPERATIONS AND ADMINISTRATION

AKILE TESFAYE, ASSISTANT GENERAL MANAGER WASTEWATER TREATMENT

LEONARD BENSON, CHIEF ENGINEER, ENGINEERING AND TECHNICAL SERVICES

ROSALIND INGE, ASSISTANT GENERAL MANAGER, SUPPORT SERVICES

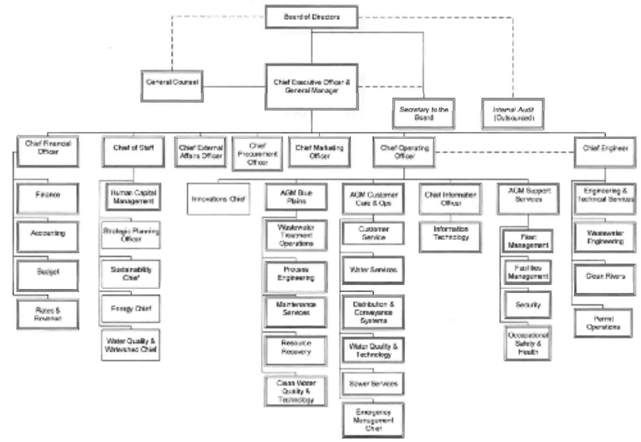
CHARLES W. KIELY, ASSISTANT GENERAL MANAGER CONSUMER SERVICES

THOMAS KUCZYNSKI, CHIEF INFORMATION OFFICER

JOHN LISLE, CHIEF OF EXTERNAL AFFAIRS

* EFFECTIVE DECEMBER 30, 2017, HENDERSON BROWN BECAME THE ACTING CEO AND GENERAL MANAGER, REPLACING GEORGE HAWKINS WHO RETIRED IN DECEMBER 2017.

Governance and Organizational Structure



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

District of Columbia Water and Sewer Authority

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

September 30, 2016

Christopher P. Morrill

Executive Director/CEO

dc water is life

Financial Section

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KPMG LLP
Suite 12000
1801 K Street, NW
Washington, DC 20006

Independent Auditors' Report

Board of Directors
District of Columbia Water and Sewer Authority

We have audited the accompanying financial statements of the District of Columbia Water and Sewer Authority (the Authority) as of and for the years ended September 30, 2017 and 2016, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements for the years then ended as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. 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 District of Columbia Water and Sewer Authority as of September 30, 2017 and 2016, and the changes in its financial position and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.

KPMG

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 19 through 31 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 audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The introductory and statistical sections as listed in the table of contents have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

KPMG LLP

Washington, D.C.
December 20, 2017

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Management's Discussion and Analysis (unaudited)

September 30, 2017 and 2016

This section of the Authority's annual financial report presents our discussion and analysis of the Authority's financial position and changes in financial position as of and for the fiscal years ended September 30, 2017 and 2016. The Management's Discussion and Analysis ("MD&A") should be read in conjunction with the Authority's basic financial statements and the related notes to the financial statements, which immediately follow this section.

Financial Highlights – Fiscal 2017

- In January 2017, the Authority issued $100.0 million of 2017 Series A and $200.0 million of 2017 Series B senior lien revenue bonds with fixed interest rates ranging from 4.0% to 5.0%. The 2017 Series A green bonds mature in 2053 and are being used to fund the Clean Rivers Project. The 2017 Series B bonds mature in 2045 and are being used to fund the Authority's various capital improvements to the system. Gross proceeds from the bond issuance totaled approximately $334.3 million, including $34.3 million original issue premium.

- Operating revenues increased by $47.4 million to $643.2 million, or 8.0%, primarily due to the retail rate increase of 5.0%, a 9.6% increase in Clean Rivers Impervious Area Charges (CRIAC) and a 10.6% increase in wholesale waste water charges.

- Operating expenses increased by $19.7 million to $408.1 million, or 5.1%, primarily due to increases in personnel, depreciation expense and chemicals, supplies and small equipment offset by a decrease in contractual services expense.

- Capital assets, net of depreciation and amortization, increased by $547.8 million to $6.5 billion, or 9.1%, as a result of capital additions of $653.4 million offset by depreciation and amortization of $97.9 million. Capital additions incurred in 2017 were in line with the Authority's approved 10-year capital improvement program.

- Current assets increased by $53.5 million to $603.0 million, or 9.7%, primarily due to a $42.2 million increase in restricted cash and investments, and an $18.4 million increase in receivables from other Jurisdictions and the Federal government, offset by a decrease in unrestricted cash and cash equivalents of $7.5 million and a decrease in receivables from the District government of $2.2 million.

- The Authority's net position increased by $194.6 million to $1.9 billion, or 11.4%, as a result of current year operations and capital contributions.

- Effective October 1, 2016, the Authority raised its retail water and wastewater rates by 5.0% and its CRIAC by 9.6%.

Financial Highlights – Fiscal 2016

- In October 2015, the Authority issued $100.0 million of 2015 Series A and $250.0 million of 2015 Series B subordinate lien revenue bonds with fixed interest rates ranging from 2.0% to 5.25%. The 2015 Series A green bonds mature in 2045 and are being used to fund the Clean Rivers Project. The 2015 series B bonds mature in 2044 and $62.0 million is being used to make principal and interest payments on all or a portion of the Authority's outstanding commercial paper notes and the balance is being used to fund the Authority's capital improvement program. Gross proceeds from the bond issuance totaled approximately $406.6 million, including $56.6 million original issue premium.

In February 2016, the Authority issued the subordinate lien revenue refunding bonds, 2016 Series A in the amount of $389.1 million. The proceeds from the bonds were used to refund $401.9 million of the Authority's outstanding bonds. The interest on the bonds are at fixed rates ranging from 2.0% to 5.0%.

In September 2016, the Authority issued $25.0 million of 2016 Series B (Environmental Impact Bonds) subordinate lien revenue bonds. The 2016 Series B Bonds are multimodal variable rate bonds, initially issued bearing a 3.43% fixed rate through the mandatory tender date, April 1, 2021. The net issuance proceeds (after payment of $0.5 million of issuance expenses) of $24.5 million will be used for construction of Green Infrastructure (GI) for the Rock Creek Project A (RC-A).

The Authority's long-term debt, including current maturities, increased by $381.1 million to $2.9 billion, or 14.9%, primarily due to the $350.0 million and $25.0 million bond issuances described above.

- Operating revenues increased by $45.9 million to $595.8 million, or 8.3%, primarily due to the retail rate increase of 6.5%, a 21.2% increase in Clean Rivers Impervious Area Charges (CRIAC) and the introduction of the new Water System Replacement Fee (WSRF) which resulted in $39.6 million of new operating revenues in fiscal year 2016, offset by an 18.4% decrease in wholesale waste water charges.

- Operating expenses increased by $9.7 million to $388.4 million, or 2.6%, primarily due to increases in personnel, depreciation expense and contractual services expense offset by a decrease in chemicals and supplies, utilities and water purchases.

- Capital assets, net of depreciation and amortization, increased by $518.0 million to $6.0 billion, or 9.5%, as a result of capital additions of $607.5 million offset by depreciation and amortization of $89.5 million. Capital additions incurred in 2016 were in line with the Authority's approved 10-year capital improvement program.

- Current assets increased by $37.3 million to $549.5 million, or 7.3%, primarily due to an increase in cash and investments offset by a decrease in receivables from other jurisdictions.

- The Authority's net position increased by $173.3 million to $1.7 billion, or 11.3%, as a result of current year operations and capital contributions.

- Effective October 1, 2015, the Authority raised its retail water and wastewater rates by 6.5% and its CRIAC by 21.2%.

Using This Annual Report

This annual report consists of three sections: Management's Discussion and Analysis; the Financial Statements; and Notes to the Financial Statements that explain in more detail some of the information in the Financial Statements.

Required Financial Statements

The Statements of Net Position include the Authority's assets plus deferred outflows of resources and liabilities plus deferred inflows of resources and provides information about the nature and amounts of investments in resources (assets) and nature and extent of obligations (liabilities) with the difference between them being reported as net position. It also provides the basis for computing the rates of return, evaluating the capital structure of the Authority, and assessing the liquidity and financial flexibility of the Authority.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Management's Discussion and Analysis (unaudited)

September 30, 2017 and 2016

The Statements of Revenues, Expenses, and Changes in Net Position present the changes in net position from one reporting period to another by accounting for revenues and expenses and measuring the financial results of operations. This statement measures the profitability of the Authority's operations over the past year and can be used to determine whether the Authority has successfully recovered all of its costs through its user fees and other charges.

The Statements of Cash Flows provide information about the Authority's cash receipts, cash payments, and net changes in cash and cash equivalents resulting from operating, investing, and capital and non-capital financing activities. It also provides information regarding sources of cash, uses of cash, and changes in cash balances during the reporting period.

Notes to the financial statements include information essential to understand the above statements, such as the Authority's significant accounting policies and information about certain financial statement account balances.

Financial Analysis of the Authority

Net Position

The Authority's total net position at September 30, 2017 was approximately $1.9 billion, a $194.6 million, or 11.4%, increase from September 30, 2016. Total assets increased $594.1 million, or 8.9%, to $7.3 billion and total liabilities increased $396.3 million, or 7.9%, to $5.4 billion.

The Authority's total net position at September 30, 2016 was approximately $1.7 billion, a $173.3 million, or 11.3%, increase from September 30, 2015. Total assets increased $583.2 million, or 9.6%, to $6.7 billion and total liabilities increased $437.8 million, or 9.5%, to $5.0 billion.

Summary of Net Position
($ in 000's)

	Fiscal Year			2017 vs 2016		2016 vs 2015	
	2017	2016	2015	Amount	%	Amount	%
Current assets	$ 602,959	$ 549,496	$ 512,226	53,463	9.7	37,270	7.3
Restricted assets	61,318	56,992	23,249	4,326	7.6	33,743	145.1
Capital assets	6,543,100	5,995,347	5,477,327	547,753	9.1	518,020	9.5
Other noncurrent assets	53,436	64,920	70,696	(11,484)	(17.7)	(5,776)	(8.2)
Total assets	7,260,813	6,666,755	6,083,498	594,058	8.9	583,257	9.6
Deferred outflows of resources	69,946	73,157	45,246	(3,211)	(4.4)	27,911	61.7
Current liabilities	461,771	440,888	471,766	20,883	4.7	(30,878)	(6.5)
Long-term debt outstanding	3,193,727	2,900,329	2,520,046	293,398	10.1	380,283	15.1
Long-term liabilities	1,777,421	1,695,406	1,606,990	82,015	4.8	88,416	5.5
Total liabilities	5,432,919	5,036,623	4,598,802	396,296	7.9	437,821	9.5
Net investments in capital assets	1,655,867	1,491,925	1,348,056	163,942	11.0	143,869	10.7
Restricted	33,276	33,135	27,054	141	0.4	6,081	22.5
Unrestricted	208,697	178,229	154,832	30,468	17.1	23,397	15.1
Total net position	$ 1,897,840	$ 1,703,289	$ 1,529,942	194,551	11.4	173,347	11.3

The following is a discussion of the more significant changes in assets, liabilities and net position in 2017.

- Capital assets, net of depreciation and amortization, increased by $547.8 million to $6.5 billion, or 9.1%, as a result of capital additions of $653.4 million offset by depreciation and amortization of $97.9 million. Capital additions incurred in 2017 were in line with the Authority's approved 10-year capital improvement program which is discussed in more detail on page 13.

- Current assets increased by $53.5 million to $603.0 million, or 9.7%, primarily due to a $42.2 million increase in restricted cash and investments, and an $18.4 million increase in receivables from other Jurisdictions and the Federal government, offset by a decrease in unrestricted cash and cash equivalents of $7.5 million and a decrease in receivables from the District government of $2.2 million.

- Long-term debt, including current maturities, increased by $294.9 million to $3.2 billion, or 10.1%, primarily due to the issuance of $100.0 million of 2017 Series A (Green Bonds) and $200.0 million of 2017 series B senior lien revenue bonds for a total of $300.0 million in January 2017.

- Current liabilities increased by $21.0 million to $462.0 million, or 4.7%, primarily due to a $35.7 million increase in accounts payable and accrued expenses and a $4.9 million increase in accrued interest offset by a $22.6 million decrease in unearned revenue.

- The Authority's net position increased by $194.6 million to $1.9 billion, or 11.4%, as a result of fiscal year 2017 operations and capital contributions.

The following is a discussion of the more significant changes in assets, liabilities and net position in 2016.

- Capital assets, net of depreciation and amortization, increased by $518.0 million to $6.0 billion, or 9.5%, as a result of capital additions of $607.5 million offset by depreciation and amortization of $89.5 million. Capital additions incurred in 2016 were in line with the Authority's approved 10-year capital improvement program which is discussed in more detail on page 13.

- Current assets increased by $37.3 million to $549.5 million, or 7.3%, primarily due to an increase in cash and investments offset by a decrease in receivables from other jurisdictions.

- Long-term debt, including current maturities, increased by $381.1 million to $2.9 billion, or 14.9%, primarily due to the issuance of $100.0 million of 2015 Series A (Green Bonds) and $250.0 million of 2015 series B subordinate lien revenue bonds for a total of $350.0 million in October 2015, and the issuance of $25.0 million of 2016 Series B (Environmental Impact Bonds) subordinate lien revenue bonds in September 2016.

- Current liabilities decreased by $30.9 million to $440.9 million, or 6.5%, primarily due to a $28.6 million decrease in accounts payable and accrued expenses and a $12.0 million decrease in commercial paper notes offset by an $8.2 million increase in accrued interest.

- The Authority's net position increased by $173.3 million to $1.7 billion, or 11.3%, as a result of fiscal year 2016 operations and capital contributions.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Management's Discussion and Analysis (unaudited)

September 30, 2017 and 2016

Changes in Net Position

The increase in net position at September 30, 2017 was $194.6 million, or 11.4%, as compared with September 30, 2016. The Authority's total operating revenues increased by 8.0% to $643.2 million and total operating expenses increased by 5.1% to $408.1 million.

The increase in net position at September 30, 2016 was $173.3 million, or 11.3%, as compared with September 30, 2015. The Authority's total operating revenues increased by 8.3% to $595.8 million and total operating expenses increased by 2.6% to $388.4 million.

Change in Net Position
($ in 000's)

	Fiscal Year			2017 vs 2016		2016 vs 2015	
	2017	2016	2015	Amount	%	Amount	%
Operating revenues	$ 643,169	$ 595,789	$ 549,915	$ 47,380	8.0	$ 45,874	8.3
Operating expenses	408,131	388,384	378,660	19,747	5.1	9,724	2.6
Net non-operating revenues (expenses)	(64,553)	(66,489)	(60,093)	1,936	(2.9)	(6,396)	10.6
Change in net position before capital contributions	170,485	140,916	111,162	29,569	21.0	29,754	26.8
Capital contributions	24,066	32,431	67,965	(8,365)	(25.8)	(35,534)	(52.3)
Change in net position	194,551	173,347	179,127	21,204	12.2	(5,780)	(3.2)
Net position - beginning of year, as restated	1,703,289	1,529,942	1,350,815	173,347	11.3	179,127	13.3
Net position - end of year	$ 1,897,840	$ 1,703,289	$ 1,529,942	$ 194,551	11.4	$ 173,347	11.3

The following provides a discussion as to the primary reasons for the more significant fluctuations in the Authority's revenues and expenses between fiscal years 2017 and 2016, and between fiscal years 2016 and 2015, respectively.

Fiscal Year 2017:

- Operating revenues increased by $47.4 million to $643.2 million, or 8.0%, primarily due to retail rate increase of 5.0%, a 9.6% increase in Clean Rivers Impervious Area Charges (CRIAC) and a 10.6% increase in wholesale waste water charges.

- Operating expenses increased by $19.7 million to $408.1 million, or 5.1%, primarily due to increases in personnel, depreciation expense and chemicals, supplies and small equipment and offset by a decrease in contractual services expense.

Fiscal Year 2016:

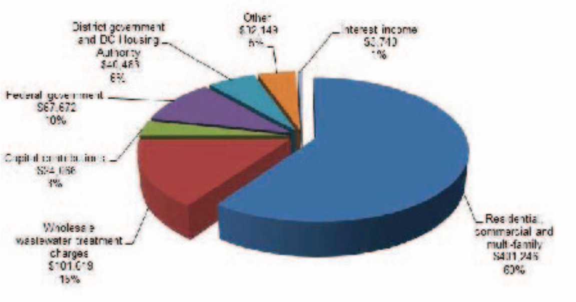
- Operating revenues increased by $45.9 million to $595.8 million, or 8.3%, primarily due to a 6.5% rate increase on retail water, the 21.2% increase CRIAC and the introduction of the new WSRF, offset by an 18.4% decrease in wholesale waste water charges.

- Operating expenses increased by $9.7 million to $388.4 million, or 2.6%, primarily due to increases in personnel, contractual services expense and depreciation expense offset by a decrease in chemicals and supplies, utilities and water purchases.

2017 Total Revenues

Total revenues increased $40.1 million, or 6.4%, to $670.9 million in fiscal year 2017.

Total Revenues
($ in 000's)



- Revenues from residential, commercial and multi-family customers increased by $18.7 million to $401.2 million, or 4.9%, primarily due to a 5.0% water and wastewater rate increase and a 9.6% increase in the Clean Rivers Impervious Area Charges (CRIAC).

- Revenues from the Federal government increased by $4.3 million to $67.7 million, or 6.7%, primarily due to a 5.0% rate increase, 9.6% increase in the CRIAC and increase in consumption offset by lower billing adjustments for several Federal agencies during fiscal year 2017.

- Revenues from the District government and the District of Columbia Housing Authority increased by $2.3 million to $40.5 million, or 6.0%, primarily due to a 5.0% rate increase, 9.6% increase in CRIAC offset by a decrease in consumption.

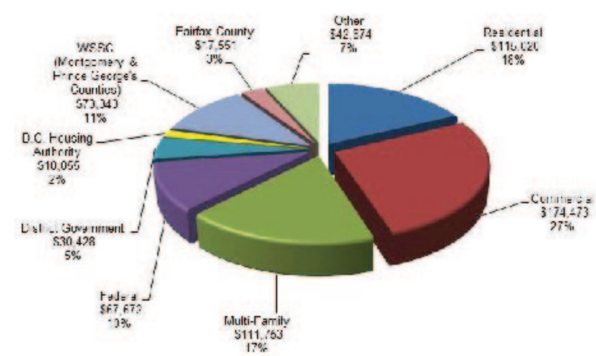
- Revenues from wholesale wastewater treatment increased by $9.7 million to $101.6 million, or 10.6%, primarily due to an increase in the Intermunicipal agreement (IMA) shareable operating costs of the Blue Plains Plant and a $4.6 million increase in IMA capital reimbursement revenues recognized in fiscal year 2017.

- Other revenues increased by $12.4 million to $32.1 million, or 62.7%, primarily due to an increase in miscellaneous revenues from the Authority's other activities such as special projects billings and insurance reimbursements related to claim and litigation expenses.
- Capital contributions decreased by $8.4 million, or 25.8%, primarily due to a $5.5 million reduction in federal grants and a $2.9 million reduction in capital contributions from the District government.

Diversity and Stability of Operating Revenues

The Authority's operating revenue base is very diverse, including established customers such as the Federal government, the District government, surrounding jurisdictions in Maryland and Virginia, and commercial and residential customers within the District. As shown on the chart below, no one category accounts for more than 27% of total revenues.

Operating Revenues by Source
($ in 000's)



(a) Other revenues include $7.6 million from Loudoun County and $3.2 million from Potomac Interceptor.

- Revenues from commercial and multi-family customers in the District comprise approximately 44% of the Authority's total operating revenues. Commercial revenues are reliable due to the presence of many national associations, law firms, consulting firms, colleges and universities and foreign embassies in the District. The commercial customer category also includes multi-family dwellings.

- The Authority provides wastewater conveyance and treatment services to Montgomery and Prince George's Counties in Maryland through the Washington Suburban Sanitary Commission ("WSSC") and Fairfax and Loudoun Counties in Northern Virginia. Operating revenues from WSSC and Fairfax County account for 14% of the Authority's revenues and are based on their share of operating costs at Blue Plains.

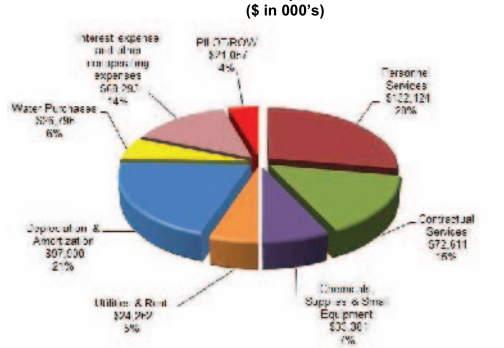
Loudoun County and Potomac Interceptor customers account for an additional 1.7% of the Authority's revenues and are included in other revenues.

- Residential customers in the District account for 18% of total revenues.
- Revenues from the Federal government comprise 10% of the Authority's total operating revenues and include customers such as the U.S. Congress, the Smithsonian Institution, and a range of federal departments and agencies.
- Revenues from the Government of the District of Columbia and the District of Columbia Housing Authority make up 7% of total operating revenues.

2017 Total Expenses

Total expenses increased by $18.9 million, or 4.1%, to $476.4 million in fiscal year 2017.

Total Expenses
($ in 000's)



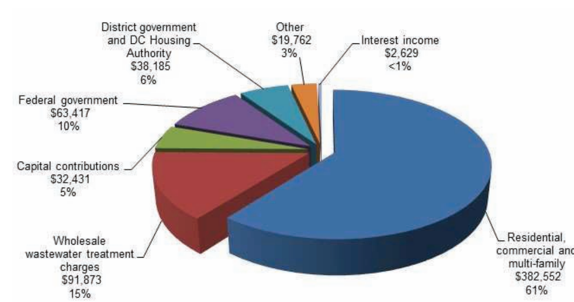
- Personnel services increased by $7.9 million to $132.1 million, or 6.4%, primarily due to increases in wages and benefits.
- Contractual services decreased by $1.4 million to $72.6 million, or 2.0%, due to a decrease in litigation costs and biosolids hauling costs stemming from newly installed digester operations at the Blue Plains facility.
- Chemicals, supplies and small equipment increased by $3.9 million to $33.4 million, or 13.1%, primarily due to higher unit prices in chemicals such as methanol and increase in parts and supplies.

- Utilities and rent increased by $0.3 million to $24.3 million, or 1.4%, primarily due to increase in space rental and water usage to generate steam for Combine Heat Power (CHP) offset by onsite electricity generation from CHP project, which became operational in the summer of 2015.
- Depreciation and amortization increased by $8.4 million to $97.9 million, or 9.4%, primarily due to an increase in capital assets in service.
- Water purchases increased by $0.5 million to $26.8 million, or 1.7%, primarily due to a 4.4% increase in the water rate and offset by a 1.5% decrease in water consumption in fiscal year 2017 compared to fiscal 2016.
- Interest expense and other nonoperating expenses decreased by $0.8 million to $68.3 million, or 1.2%, primarily due to an increase in interest incurred on long-term debt of $1.8 million and an increase in losses on the disposal of capital assets of $7.7 million, offset by an increase in the amount of capitalized interest related to the Authority's capital improvement program which increased from $62.8 million in fiscal year 2016 to $77.0 million in fiscal year 2017.

2016 Total Revenues

Total revenues increased $11.7 million, or 1.9%, to $630.9 million in fiscal year 2016.

Total Revenues
($ in 000's)



- Revenues from residential, commercial and multi-family customers increased by $46.8 million to $382.6 million, or 13.9%, primarily due to a 6.5% water and wastewater rate increase 21.2% increase in the Clean Rivers Impervious Area Charges (CRIAC) and introduction of new Water System Replacement Fee (WSRF).

- Revenues from the Federal government increased by $9.1 million to $63.4 million, or 16.9%, primarily due to a 6.5% rate increase, the introduction of the new WSRF and a 21.2% increase in the CRIAC offset by consumption adjustments for several Federal agencies during fiscal year 2016.

- Revenues from the District government and the District of Columbia Housing Authority increased by a $5.2 million to $38.2 million, or 15.9%, primarily due to a 6.5% rate increase, new meter-based WSRF and 21.2% increase in CRIAC offset by a decrease in consumption and disputed payment from DC government for CRIAC.

- Revenues from wholesale wastewater treatment decreased by $20.6 million to $91.9 million, or 18.4%, primarily due to a decrease in the Intermunicipal agreement (IMA) shareable operating costs of the Blue Plains Plant.

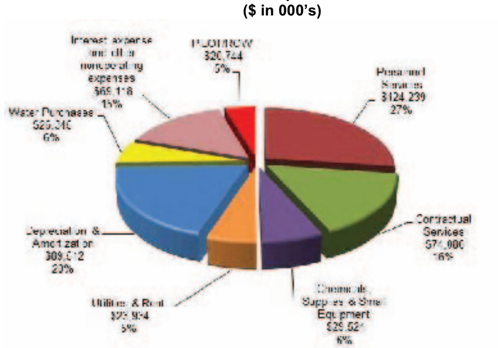
- Other revenues increased by $5.3 million to $19.8 million, or 36.7%, primarily due to an increase in miscellaneous revenues from the Authority's other activities such as special projects billings.

- Capital contributions decreased by $35.5 million, or 52.3%, primarily due to an $18.5 million reduction in federal grants and an $18.4 million reduction in capital contributions from the District government for the Northeast Boundary Neighborhood project.

2016 Total Expenses

Total expenses increased by $17.4 million, or 4.0%, to $457.5 million in fiscal year 2016.

Total Expenses
($ in 000's)



- Personnel services increased by $9.0 million to $124.2 million, or 7.8%, primarily due to increases in wages, benefits and number of employees.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Management's Discussion and Analysis (unaudited)

September 30, 2017 and 2016

- Contractual services increased by $7.8 million to $74.1 million, or 11.8%, due to an increase in litigation costs offset by a reduction in biosolids hauling costs stemming from newly installed digester operations at the Blue Plains facility.

- Chemicals, supplies and small equipment decreased by $3.4 million to $29.5 million, or 10.4%, primarily due to lower unit prices and changes in the treatment process that utilizes less chemicals and uses thermal hydrolysis and the digester system's intense heat and pressure to treat wastewater.

- Utilities and rent decreased by $6.9 million to $23.9 million, or 22.4%, primarily due to onsite electricity generation from the Combine Heat Power (CHP) project, which became operational in the summer of 2015.

- Depreciation and amortization increased by $5.7 million to $89.5 million, or 6.7%, primarily due to an increase in capital assets in service.

- Water purchases decreased by $2.8 million to $26.3 million, or 9.5%, primarily due to fiscal year 2015 billing adjustment and 2.6% decrease in unit cost per million gallons in fiscal year 2016.

- Interest expense and other nonoperating expenses increased by $7.7 million to $69.1 million, or 12.6% primarily due to a $7.8 million increase in interest costs incurred in fiscal year 2016 as a result of the increase in borrowings, offset by a $10.8 million increase in the amount of capitalized interest related to the Authority's capital improvement program during fiscal year 2016.

Capital Assets and Debt Administration

Capital Assets

As of September 30, 2017, 2016 and 2015, respectively, the Authority had $6.5 billion, $6.0 billion and $5.5 billion of capital assets (net of depreciation). This includes wastewater collection, wastewater treatment, water distribution systems, purchased capacity, capital equipment and construction in progress. The Authority's net capital assets increased by approximately $547.8 million, or 9.1%, during fiscal year 2017, and increased by approximately $518.0 million, or 9.5%, during fiscal year 2016, primarily due to continued capital spending in accordance with the Authority's capital improvement program. See note 4 to the financial statements for more information on capital assets.

Capital Assets
Net of Accumulated Depreciation
($ in 000's)

	As of September 30, 2017	2016	2015
Wastewater treatment plant	$ 3,010,074	$ 2,383,176	$ 2,367,163
Wastewater collection facilities	856,859	843,095	828,130
Water distribution system	1,112,458	1,095,216	1,054,046
Purchased capacity	356,850	349,210	341,974
Capital equipment	253,437	220,584	203,573
Construction in progress	2,489,255	2,544,698	2,033,657
Less accumulated depreciation	(1,535,833)	(1,440,632)	(1,351,216)
Net capital assets	$ 6,543,100	$ 5,995,347	$ 5,477,327

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The Authority's contractual commitments are primarily associated with the long-term capital improvement program. Outstanding contractual commitments related to the capital improvement program as of September 30, 2017 and 2016 were $1.1 billion and $861.0 million, respectively, which will be financed primarily with unspent bond proceeds, proceeds from future bond issuances, capital contributions from IMA participants, Federal capital contributions and PAY-GO capital contributions from the Authority.

Debt Administration

At the end of fiscal year 2017, the Authority had a total of $3.2 billion in long term debt outstanding, an increase of $294.9 million, or 10.1%, over fiscal year 2016.

At the end of fiscal year 2016, the Authority had a total of $2.9 billion in long term debt outstanding, an increase of $381.1 million, or 14.9%, over fiscal year 2015.

A schedule of long-term debt activity including current year maturities for the year ended September 30, 2017 is shown below:

Description	Balance 9/30/2016	Increases	Decreases	Balance 9/30/2017
Outstanding bonds and notes	$ 2,733,191	$ 300,000	$ (29,317)	$ 3,003,874
Unamortized bond premiums	198,677	34,345	(10,236)	222,786
Unamortized bond discounts	(2,222)	-	129	(2,093)
Total bonds and notes	$ 2,929,646	$ 334,345	$ (39,424)	$ 3,224,567

In January 2017, the Authority issued $100.0 million of 2017 Series A and $200.0 million of 2017 Series B senior lien revenue bonds with fixed interest rates ranging from 4.0% to 5.0%. The 2017 Series A green bonds mature in 2053 and are being used to fund the Clean Rivers Project. The 2017 series B bonds mature in 2045 and are being used to fund the Authority's various capital improvements to the system. Net proceeds from the bond issuance totaled approximately $334.3 million, including $1.9 million of underwriter's discount and cost of issuance.

The increases (decreases) in outstanding bonds and notes payable were related to new bond issuance and scheduled principal repayments.

A schedule of long-term debt activity including current year maturities for the year ended September 30, 2016 is shown below:

Description	Balance 9/30/2015	Increases	Decreases	Balance 9/30/2016
Outstanding bonds and notes	$ 2,446,797	$ 764,110	$ (477,716)	$ 2,733,191
Unamortized bond premiums	104,060	111,329	(16,712)	198,677
Unamortized bond discounts	(2,351)	-	129	(2,222)
Total bonds and notes	$ 2,548,506	$ 875,439	$ (494,299)	$ 2,929,646

In October 2015, the Authority issued $100.0 million of 2015 Series A and $250.0 million of 2015 Series B subordinate lien revenue bonds with fixed interest rates ranging from 2.0% to 5.25%. The 2015 Series A green bonds mature in 2045 and are being used to fund the Clean Rivers Project. The 2015 series B bonds mature in 2044 and will be used to fund the Authority's capital improvement program. Net proceeds from the bond issuance totaled approximately $406.6 million including $2.1 million of underwriter's discount and cost of issuance.

In February 2016, the Authority issued the subordinate lien revenue refunding bonds, 2016 Series A in the amount of $389.1 million. The proceeds from the bonds were used to refund $401.9 million of the Authority's outstanding bonds. The interest on the bonds are at fixed rates ranging from 2.0% to 5.0%.

In September 2016, the Authority issued $25.0 million of 2016 Series B (Environmental Impact Bonds) subordinate lien revenue bonds. The 2016 Series B Bonds are multimodal variable rate bonds, initially issued bearing a 3.43% fixed rate through the mandatory tender date, April 1, 2021. The net issuance proceeds (after payment of $0.5 million of issuance expenses) of $24.5 million will be used for construction of GI for the RC-A.

The increases (decreases) in outstanding bonds and notes payable were related to new bond issuance, scheduled principal repayments and bonds refunding.

Credit Ratings

Long Term Credit Ratings		
Moody's Investors' Service	Aa1	Stable Outlook
Standard & Poor's Corporation	AAA	Stable Outlook
Fitch Ratings	AA	Stable Outlook

Short Term Credit Ratings	
Moody's Investors' Service	P-1
Standard & Poor's Corporation	A-1+
Fitch Ratings	F1+

Rates

Effective October 1, 2016, the Authority raised its retail water and wastewater rates by 5.0%. The Authority's approved ten-year financial plan includes projected annual rate increases of 5.0% for each of the fiscal years 2018 to 2027 and also includes projected revisions to its metering, right-of-way fee and payment-in-lieu of taxes pass-through, the Clean River Impervious area charge (CRIAC) and the Water System Replacement Fee (WSRF).

Contacting the Authority's Financial Management

This financial report is designed to provide our customers and other stakeholder with a general overview of the Authority's finances. If you have questions about this report or need additional financial information, contact the Office of the Chief Financial Officer at 5000 Overlook Avenue, S.W., Washington D.C. 20032 or call 202-787-2000. A copy of this report is also available on DC Water's web site at www.dcwater.com.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Statements of Net Position
September 30, 2017 and 2016
(In thousands)

Assets and Deferred Outflows of Resources	**2017**	**2016**
Current assets:		
Cash and cash equivalents (note 3)	$ 104,834	$ 112,283
Investments (note 3)	107,633	106,982
Restricted cash and cash equivalents (note 3)	133,683	96,674
Restricted investments (note 3)	104,035	98,803
Customer receivables, net of allowance for doubtful accounts of $16,857 in 2017 and $15,042 in 2016 (note 7)	68,506	67,015
Due from other jurisdictions (note 8)	24,508	14,960
Due from Federal government (note 6)	37,222	28,373
Due from District government (note 13)	4,235	6,411
Inventory	12,358	12,309
Prepaid assets	5,945	5,686
Total current assets	602,959	549,496
Noncurrent assets:		
Restricted assets (note 3):		
Cash and cash equivalents	8,364	29,041
Investments	52,954	27,951
Total restricted cash and cash equivalents and investments	61,318	56,992
Capital assets (note 4):		
In-service	5,589,678	4,891,281
Less accumulated depreciation	(1,535,833)	(1,440,632)
Net capital assets in service	4,053,845	3,450,649
Construction-in-progress	2,489,255	2,544,698
Net capital assets	6,543,100	5,995,347
Other noncurrent assets:		
Due from District government (note 13)	41,006	46,864
Due from other jurisdictions (note 8)	12,430	18,056
Total other noncurrent assets	53,436	64,920
Total noncurrent assets	6,657,854	6,117,259
Total assets	7,260,813	6,666,755
Deferred Outflows of Resources		
Deferred loss on debt refunding	69,946	73,157
Total assets and deferred outflows of resources	7,330,759	6,739,912
Liabilities		
Current liabilities:		
Accounts payable and accrued expenses	195,720	160,025
Unearned revenue	52,267	74,866
Accrued interest	70,583	65,677
Commercial paper notes payable (note 10)	79,200	79,200
Current maturities of long-term debt (note 11)	30,840	29,317
Due to jurisdictions	8,980	7,906
Compensation payable (note 9)	10,560	11,971
Other liabilities (note 12)	13,621	11,926
Total current liabilities	461,771	440,888
Noncurrent liabilities:		
Long-term debt, excluding current maturities (note 11)	3,193,727	2,900,329
Unearned revenue	1,750,789	1,667,284
Other liabilities (note 12)	9,444	12,769
Compensated absences payable (note 9)	17,188	15,353
Total noncurrent liabilities	4,971,148	4,595,735
Total liabilities	5,432,919	5,036,623
Net Position		
Net investments in capital assets	1,655,867	1,491,925
Restricted for debt service	33,276	33,135
Unrestricted	208,697	178,229
Total net position	$ 1,897,840	$ 1,703,289

The notes to the basic financial statements are an integral part of these financial statements.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Statements of Revenues, Expenses and Changes in Net Position
Years Ended September 30, 2017 and 2016
(In thousands)

	2017	2016
Operating revenues:		
Water and wastewater user charges:		
Residential, commercial and multi-family customers	$ 401,246	$ 382,552
Federal government	67,672	63,417
District government and D.C. Housing Authority (note 13)	40,483	38,185
Charges for wholesale wastewater treatment	101,619	91,873
Other	32,149	19,762
Total operating revenues	643,169	595,789
Operating expenses:		
Personnel services	132,124	124,239
Contractual services	72,611	74,086
Chemicals, supplies and small equipment	33,381	29,524
Utilities and rent	24,262	23,934
Depreciation and amortization	97,900	89,512
Water purchases	26,796	26,345
Payment in lieu of taxes and right of way fee (note 13)	21,057	20,744
Total operating expenses	408,131	388,384
Operating income	235,038	207,405
Nonoperating revenues (expenses):		
Interest income	3,740	2,629
Interest expense and other nonoperating expenses	(68,293)	(69,118)
Total nonoperating (expenses)	(64,553)	(66,489)
Change in net position before capital contributions	170,485	140,916
Capital contributions (note 5)	24,066	32,431
Change in net position	194,551	173,347
Net position, beginning of year	1,703,289	1,529,942
Net position, end of year	$ 1,897,840	$ 1,703,289

The notes to the basic financial statements are an integral part of these financial statements.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Statements of Cash Flows
Years Ended September 30, 2017 and 2016
(In thousands)

	2017	2016
Cash flows from operating activities:		
Cash received from customers	$ 594,592	$ 565,997
Cash paid to suppliers for goods and services	(158,530)	(176,871)
Cash paid to employees for services	(131,700)	(120,625)
Cash paid to District for PILOT and ROW	(21,057)	(20,744)
Net cash provided by operating activities	283,305	247,757
Cash flows from capital and related financing activities:		
Proceeds from issuance of revenue bonds	334,345	875,439
Proceeds from other jurisdictions	113,488	146,722
Repayments of bond principal and notes payable to Federal government	(29,317)	(477,716)
Acquisition of capital assets	(546,496)	(549,018)
Payments of interest and fiscal charges	(147,285)	(168,182)
Contributions of capital from Federal and District governments	28,267	33,470
Proceeds from issuance of commercial paper	612,800	612,800
Repayments of commercial paper	(612,800)	(624,800)
Net cash used in capital and related financing activities	(246,998)	(151,285)
Cash flows from investing activities:		
Cash received for interest	3,461	2,607
Investment purchases	(443,976)	(488,542)
Investment maturities	413,091	393,812
Net cash used in investing activities	(27,424)	(92,123)
Net increase in cash and cash equivalents	8,883	4,349
Cash and cash equivalents at beginning of year	237,998	233,649
Cash and cash equivalents at end of year	$ 246,881	$ 237,998
Operating income	$ 235,038	$ 207,405
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	97,900	89,512
Change in operating assets and liabilities:		
Decrease (increase) in customer and other receivables	933	(143)
Increase in inventory and prepaid assets	(304)	(4,728)
Increase (decrease) in payables and accrued liabilities	229	(15,168)
Decrease in unearned revenue	(50,491)	(29,121)
Net cash provided by operating activities	$ 283,305	$ 247,757
Noncash Investing, Capital and Financing Activities:		
Capital asset additions included in accounts payable	$ 169,885	$ 135,176
Net (decrease) increase in the fair value of investments	(563)	270

The notes to the basic financial statements are an integral part of these financial statements.

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(1) Background, Governance, Operations and Reporting Entity

(a) Background

The District of Columbia Water and Sewer Enterprise Fund (the "Fund") was established in 1979 and was operated by the Water and Sewer Utility Administration, a division of the Government of the District of Columbia (the "District") Department of Public Works. The District of Columbia Water and Sewer Authority ("DC Water" or the "Authority"), an independent authority of the District, was created in April 1996 and began operating on October 1, 1996 under and pursuant to an act of the Council of the District entitled the "Water and Sewer Authority and Department of Public Works Reorganization Act of 1996 (as amended)", and an Act of the United States Congress entitled the "District of Columbia Water and Sewer Authority Act of 1996". The Authority is considered a related organization of the District for purposes of presentation in the District's financial statements.

(b) Governance

The Authority is governed by a Board of Directors consisting of eleven principal and eleven alternate members. The Board is composed of six District of Columbia representatives, two each from Montgomery and Prince George's Counties in Maryland, and one from Fairfax County in Virginia. The Mayor of the District of Columbia appoints, and the DC Council confirms, all six District Board members and alternates, including the Chairman. In addition, the Mayor appoints the five principal and alternate members who represent the surrounding jurisdictions based on executive submissions from those jurisdictions.

(c) Operations

The Authority provides water and wastewater services to District residents, businesses, federal and municipal customers, and certain facilities of the Federal government in Virginia and Maryland. DC Water also operates a regional advanced wastewater treatment plant (Blue Plains or, "the Plant") and an interceptor trunk line that carries wastewater primarily from Loudoun and Fairfax Counties and Dulles Airport to the Blue Plains wastewater treatment facility.

The Authority's wastewater service territory includes over 2.1 million people in Montgomery and Prince George's Counties in Maryland, Fairfax and Loudoun Counties in Virginia, and the District. The Blue Plains Intermunicipal Agreement between the Authority; the District; Fairfax County, Virginia; and the Washington Suburban Sanitary Commission ("WSSC"), which comprises Montgomery and Prince George's Counties in Maryland (collectively referred to as the "Participants"), was executed in September 1985 (the "1985 IMA").

The 1985 IMA was replaced in 2012 and became effective on April 3, 2013 by a new Intermunicipal Agreement (the "2012 IMA"), which was negotiated, approved and executed by each of the original signatories to the 1985 IMA. The IMA provides for the allocation of capital, operating, and maintenance costs among the Participants. Capital costs of the Plant are allocated among the Participants in proportion to their respective wastewater treatment capacity allocation as defined in the 2012 IMA. Operating costs are allocated based on wastewater flows from each participant.

(1) Background, Governance, Operations and Reporting Entity (Continued)

The Loudoun County Sanitation Authority and the Potomac Interceptor Group also purchase wastewater services from the Authority. The Potomac Interceptor Group consists of the Town of Vienna, Virginia; the U.S. Park Service; the U.S. Department of the Navy; and the Metropolitan Washington Airports Authority (Dulles Airport).

The Authority purchases water from the Washington Aqueduct (the "Aqueduct"), which is owned by the Federal government and operated by the U.S. Army Corps of Engineers (USACE) under the direction of the Secretary of the Army. Since 1852, an act of Congress placed the care, management, and superintendence of the Washington Aqueduct under the USACE. Under the Act, USACE was given responsibility for supplying water in the District for use by the Federal government and for the use and benefit of the inhabitants of the District. The USACE operates two water purification plants at the Aqueduct, Dalecarlia and McMillan, for the exclusive benefit of the Authority, Arlington County and Fairfax County Water Authority ("FCWA"). The Aqueduct facilities supply treated water to distribution systems of the Authority, Arlington County, FCWA, the Federal government, and other parts of northern Virginia.

As of January 3, 2014, FCWA assumed ownership and operation of the water distribution system previously owned and operated by the City of Falls Church. The Authority is responsible for managing the treated Water System that serves the District and several other governmental customers outside the District. The Authority currently purchases approximately 73% of the finished water produced by the Aqueduct, and Arlington County and the FCWA purchase the remainder. Under this agreement, which remains in effect until September 30, 2023 and then thereafter until terminated, the Authority is responsible for funding approximately 73% of the Aqueduct's annual operating and capital costs. Additionally, the Authority obtains back-up and peak-day water supply from the Jennings Randolph Reservoir (Bloomington Dam) and Little Seneca Lake. The Jennings Randolph Reservoir was constructed by the Federal government and is operated by the USACE. The Little Seneca Lake was constructed and is operated by the WSSC.

(d) Reporting Entity

A financial reporting entity consists of a primary government and its component units. The criteria used to determine whether organizations are to be included as component units within the Authority's reporting entity are as follows:

- The Authority holds the corporate powers of the organization, and
- The Authority appoints a voting majority of the organization's board, and
- The Authority is able to impose its will on the organization, or
- The organization has the potential to impose a financial burden on, or provide a financial benefit to the Authority, or
- It would be misleading to exclude the organization from the Authority's financial statements.

(1) Background, Governance, Operations and Reporting Entity (Continued)

Based on the application of the above criteria, Blue Drop, LLC, a separate not-for-profit organization created by DC Water in November, 2016 by the Board Resolution #16-90, is considered to be a component unit of the Authority. Blue Drop, LLC which is legally separate from the Authority was established as a pilot program to provide the following:

- Relief from rising rates, fees, and charges to DC Water's customers in the District of Columbia, to other participating jurisdictions and to users of the joint-use sewage facilities,
- Advancing and promoting innovative strategies and technologies in the treatment and delivery of potable water, the treatment and collection of wastewater, and related products and services,
- Improving the state of the water and wastewater treatment sectors by sharing knowledge, research, and expertise throughout the country and the world,
- Promoting resource recovery and conservation; and
- Other purposes consistent with and complementary to the principles described in this Resolution.

A component unit should be included in the reporting entity financial statements using the blending method in any of these circumstances:

- The component unit's governing body is substantively the same as the governing body of the primary government *and* (1) there is a financial benefit or burden relationship between the primary government and the component unit, or (2) management of the primary government has operational responsibility for the component unit.
- The component unit provides entirely, or almost entirely, to the primary government or otherwise exclusively, or almost exclusively, benefits the primary government even though it does not provide services directly to it.
- The component unit's total debt outstanding, including leases, is expected to be repaid entirely, or almost entirely, with resources of the primary government.
- The component unit is organized as a not-for-profit corporation in which the primary government is the sole corporate member, as identified in the component unit's articles of incorporation or bylaws.

Blue Drop, LLC is a blended component unit because it is organized as a not-for-profit corporation in which the Authority is the sole corporate member, as identified in Blue Drop, LLC's articles of incorporation and bylaws. The inclusion of Blue Drop, LLC as a blended component unit did not have a material effect on the fiscal year 2017 financial statements. Separate audited financial statements for Blue Drop, LLC are available from the Blue Drop, LLC Office at 810 First Street NE, First Floor, Washington, DC 20002. Condensed financial statements of Blue Drop, LLC as of and for the year ended September 30, 2017 are also included in Note 16.

Additionally, the Authority is not considered to be a component unit of the District as the District is not able to impose its will on the Authority, and the Authority does not impose a financial burden on or provide a financial benefit to the District.

(In thousands)

(2) Summary of Significant Accounting Policies (Continued)

The financial statements of the Authority have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"), as applicable to governmental entities. The Governmental Accounting Standards Board ("GASB") is the accepted primary standard-setting body for establishing governmental accounting and financial reporting standards. The Authority's significant accounting policies are described below.

(a) Measurement Focus and Basis of Accounting

The financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. Grants and similar items are recognized when all eligibility requirements imposed by the grantor have been met.

(b) Cash and Cash Equivalents

The Authority invests all unrestricted cash balances, in excess of the required compensating balances, in interest-bearing accounts. The Authority's cash equivalents at year end consist of unrestricted and restricted investments, such as registered money market mutual funds and U.S. government agency obligations, which have an original maturity of 90 days or less, and are readily convertible to known amounts of cash.

For purposes of the accompanying statements of cash flows, cash and cash equivalents also include the Authority's restricted cash and cash equivalents.

(c) Investments

The Authority's investments at year end consist of unrestricted and restricted U.S. government agency obligations, U.S. Treasury notes, commercial paper, FDIC insured and negotiable certificates of deposit, corporate notes, supranational bonds and municipal bonds which have an original maturity in excess of 90 days. Money market investments and participating interest-earning investment contracts that have a remaining maturity at time of purchase of one year or less are reported at amortized cost. All other Investments are reported at fair value as of September 30, 2017 and 2016, respectively.

(d) Inventory

Inventory is recorded at the lower of weighted average cost or market value and consists primarily of operating and maintenance materials.

(e) Restricted Assets

Restricted assets represent unspent revenue bond proceeds, funds for the current payment of debt service, and unspent Federal capital appropriations. These assets, which cannot be used for routine operations, are classified as restricted assets since their use is limited by the applicable debt covenants and Federal Appropriations Act.

(2) Summary of Significant Accounting Policies (Continued)

(f) Capital Assets

The Authority's capital assets are comprised of the wastewater treatment plant, wastewater collection facilities, the water distribution system, purchased capacity, and capital equipment and fleet. Capital assets are reported at historical costs and include all ancillary costs. The wastewater treatment plant, collections facilities and water distribution system include project construction and development costs, internal engineering and construction management personnel costs, and interest costs incurred during the construction period.

Normal recurring maintenance and repair costs are charged to operations, whereas major repairs, improvements and replacements, which extend the useful lives of the capital assets, are capitalized. Construction-in-progress is transferred to capital assets in-service upon substantial completion or when placed in service, with related depreciation commencing at that time. The Authority's capitalization thresholds are: $500 for wastewater treatment plant and collection facilities, and water distribution systems improvements; and $5 for capital equipment and fleet.

Capital assets are depreciated using the straight-line method over the following estimated useful lives:

Asset class	Estimated useful lives
Wastewater treatment plant	60 years
Wastewater collection facilities	60 years
Water distribution systems	60 years
Purchased capacity	60 years
Capital equipment and fleet	3 - 20 years

The Authority recognizes a half-year of depreciation in the year the capital asset is placed in service and a half-year in the year of disposal.

As discussed in Note 1, the Authority is responsible for approximately 73% of the Aqueduct's operating and capital costs. The Authority records its share of operating costs as water purchases and capital costs as purchased capacity, an intangible asset. The Authority's policy is to capitalize capital costs required to be funded under long-term water purchase agreements and to amortize such costs over the shorter of the term of the contractual agreement or estimated useful life of the assets. For purposes of the Aqueduct, the Authority considers the term of the water purchase agreement to be indefinite as USACE is required by law to provide the Authority with a source of water from the Aqueduct and the Authority has no intent to terminate its Agreement to purchase water from USACE. Additionally, capital cost reimbursements made in prior years under the Authority's participation in the Jennings Randolph Reservoir (Bloomington Dam) and Little Seneca Lake projects are also included in purchased capacity.

(In thousands)

(2) Summary of Significant Accounting Policies (Continued)

(g) Deferred Outflows of Resources

Deferred outflows of resources are defined as a consumption of net position by the Authority that is applicable to a future reporting period. Deferred outflows of resources increase net position, similar to assets. Deferred loss on bond refunding resulted from the difference between the carrying value of the refunded debt and its reacquisition price. Net losses are deferred and amortized over the life of the refunded or refunding debt, whichever is shorter.

(h) Compensated Absences

Employees earn vacation and sick leave based on a prescribed formula, which allows employees to accumulate an unlimited amount of sick leave, and vacation leave up to the maximum amounts shown in the table below. Vacation leave earned but unused by employees vests and is accrued as a liability. Generally, sick leave does not vest, and accordingly, it is recorded when used. However, as further discussed in Note 14d, the Authority Retirement Health Savings (RHS) Plan allows non-union, non-federal employees to use sick leave that is usually forfeited upon termination, to fund an account that can be used to pay for eligible medical expenses. Eligibility is established upon termination if an employee has five years of service and 100 hours of sick leave.

Accordingly, the Authority has recorded an accrual for earned sick leave only to the extent it is probable that the benefits will result in termination payments. In developing this estimate the Authority has taken into consideration past experience in making termination payments for sick leave, adjusted for the effect of changes in our termination payment policy and other current factors.

Length of Service	Annual Carryover Limits
Regular Union employees:	
1-3 years	240 hours
4-14 years	240-320 hours
Over 15 years	240-360 hours
Non-union employees:	
1-2 years	240 hours
3-6 years	320 hours
7 years	360 hours

(2) Summary of Significant Accounting Policies (Continued)

(i) Bond Premiums, Discounts and Issuance Costs

Bond premiums and discounts incurred to issue debt are capitalized and amortized as interest expense over the related bond issue period using the effective interest method. Bond issuance costs are expensed in the period incurred.

(j) Net Position

Net position is categorized into three components as follows:

- *Net investments in capital assets* – This component of net position consists of capital assets, net of accumulated depreciation and amortization and is reduced by the outstanding balances of any bonds or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component.

- *Restricted* – This component of net position consists of restrictions placed on net position as a result of external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation. When both restricted and unrestricted resources are available for use, generally it is the Authority's policy to use restricted resources first and the unrestricted resources when they are needed.

- *Unrestricted* – This component consists of net position that does not meet the definition of "restricted" or "net investments in capital assets.

(k) Revenues and Expenses

Revenues and expenses are distinguished between operating and non-operating items. Operating revenues generally result from providing services in connection with the Authority's principal ongoing operations.

The principal operating revenues of the Authority are water and wastewater user charges, and charges for wholesale wastewater treatment. Revenues from user charges and sales of services are recognized as the related services are provided.

Operating expenses include the costs associated with the conveyance of water and wastewater, treatment of wastewater, administrative expenses, District payments-in-lieu-of-taxes (PILOT) and right-of-way (ROW) fees, and depreciation and amortization of capital assets. All revenues and expenses not meeting these definitions are reported as non-operating revenues and expenses.

(In thousands)

(2) Summary of Significant Accounting Policies (Continued)

(l) Retail Water and Wastewater User Charges

Retail water and wastewater rates are approved by the Authority's Board of Directors. Charges to the District and the Federal government are the same as those charged to retail customers. Charges for services provided but unbilled at the end of the year are recorded as revenue on an estimated basis, which considers historical usage patterns and current rates. Allowances for customer receivables that ultimately may be uncollectible are estimated and charged to expense. Amounts received in advance or in excess of the user charge for a billing period are recorded as unearned revenues until such time as these amounts are either refunded or applied against future user charges.

(m) Charges for Wholesale Wastewater Treatment and Unearned Revenue

The cost of operating and maintaining the wastewater treatment plant and related collection facilities applicable to non-District users is billed to participating jurisdictions based upon their share of flows in accordance with terms of the IMA agreement discussed in Note 1c. The charges for operating and maintenance costs and for overhead costs incurred on capital projects are recorded as charges for wholesale wastewater treatment revenue in the year the costs are incurred. The costs of capital projects required for the joint use facilities are allocated to the participating jurisdictions based on their applicable capacity allocation as set forth in the 2012 IMA. The reimbursements for capital related costs are recorded as unearned revenue and are amortized into user charges for wholesale wastewater treatment revenues over the estimated useful lives of the related assets.

(n) Contingencies

Liabilities from loss contingencies arising from claims, assessments, litigation, fines and penalties, and other sources, are recorded when information available before the financial statements are issued indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the financial statements and the amount of the loss can be reasonably estimated. When the reasonable estimate of the loss is a range, and when no amount within the range is a better estimate than any other amount, the Authority accrues a loss for the minimum amount in the range.

(o) Use of Estimates

The preparation of financial statements in conformity with U.S generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities and deferred inflows of resources and disclosure of contingent assets and liabilities at the date of the basic financial statements. Estimates also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(2) Summary of Significant Accounting Policies (Continued)

(p) Adoption of New Accounting Standards

During the fiscal year ended September 30, 2017, the Authority adopted the following new accounting standards issued by the Governmental Accounting Standards Board (GASB): Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*; Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans;* Statement No. 77, *Tax Abatement Disclosures;* Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans;* Statement No. 80, *Blending Requirements for Certain Component Units;* and Statement No. 82, *Pension Issues*

Implementation of GASB Statement Nos. 73, 74, 77, 78 and 82 had no impact on the Authority's fiscal year 2017 financial statements. The Authority's implementation of GASB Statement No. 80 did not have a material impact on the Authority's fiscal year 2017 financial statements because the operations of Blue Drop, LLC, a not-for-profit limited liability company, were not material to the financial statements taken as a whole, but did result in additional required disclosures. See note 1(d).

(q) New Accounting Pronouncements to be Implemented in the Future

The Authority plans to implement the following GASB pronouncements by the required implementation dates:

No.	Title	Required Implementation Date *(Period Beginning After)*	Authority Fiscal Year
75	Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions	June 15, 2017	2018
81	Irrevocable Split-Interest Agreements	December 15, 2016	2018
83	Certain Asset Retirement Obligations	June 15, 2018	2019
84	Fiduciary Activities	December 15, 2018	2020
85	Omnibus 2017	June 15, 2017	2018
86	Certain Debt Extinguishment Issues	June 15, 2017	2018
87	Leases	December 15, 2019	2021

(3) Cash Deposits and Investments

(a) Authorized Cash Deposits and Investments

The Authority's Investment Policy, which is compliant with the Authority's bond covenants and master indenture, requires that all cash and other deposits maintained in financial institutions be collateralized, including bank deposits and collateralized certificates of deposit. Collateral is required to be secured in accordance with the following policy: a) collateralization on all deposits of the Authority in excess of the amount protected by federal deposit insurance; and b) collateralization with any of the following: (i) U.S. Treasury obligations, (ii) Federal agency obligations, or (iii) a Letter of Credit issued by a Federal Home Loan Bank the amount of which shall be 102% of the deposits held. Collateral shall always be held by an independent third-party custodian in the name of the Authority.

The Authority's Investment Policy permits investments in the following securities:

(1) *U.S. Treasury Obligations.* U.S Treasury bills, notes, or any other obligation or security issued by or backed by the full faith and credit of the US Treasury. These securities shall be limited to a maximum maturity of five (5) years at the time of purchase.

(2) *Registered Investment Companies (Mutual Funds).* Shares in open-end, no-load investment funds provided such funds are registered under the Federal Investment Company Act of 1940, invest exclusively in the securities permitted under this investment policy, provided that the fund is rated "AAAm" or "AAAm-G" or the equivalent.

(3) *Repurchase Agreements.* Contracts shall be invested in only if certain conditions are met, including: a) the Repurchase Agreement has a term to maturity of no greater than ninety (90) days; b) the contract is fully secured by deliverable U.S. Treasury and Federal Agency obligations, having a market value at all times of at least one hundred two percent (102%) of the amount of the contract; and c) the counterparty meets certain criteria specified in the Investment Policy.

(4) *Federal Agency Obligations.* Bonds, notes, debentures, or other obligations or securities issued by a Federal government agency or instrumentality, except Collateralized Mortgage Obligations, with a rating of at least "AA" or equivalent from two major rating agencies. These obligations shall be limited to a maximum maturity of five (5) years at the time of purchase.

(5) *Bankers' Acceptances.* Issued by a domestic bank or a federally chartered domestic office of a foreign bank, which are eligible for purchase by the Federal Reserve System, may be purchased if the following conditions are met: a) the maturity is no greater than one hundred-eighty days (180) days; and b) it is rated not lower than 'A-1' or the equivalent.

(6) Commercial Paper. Unsecured short-term debt of U.S. corporations may be purchased if certain conditions are met, including: a) the maturity is no greater than two hundred-seventy days (270) days; and b) the issuing corporation, or its guarantor, has a short-term debt rating of no less than "A-1" (or its equivalent) by at least two of the Nationally Recognized Statistical Rating Organizations ("NRSRO").

(3) Cash Deposits and Investments (Continued)

(7) *Collateralized Certificates of Deposit* in state chartered banks or federally charted banks. Collateralized Certificates of Deposit shall be collateralized at 102%.

(8) *Corporate Notes.* High quality corporate notes that meet the following criteria: 1) a rating of at least ' AA' (or its equivalent) from at least one NRSRO and a rating of at least 'A' (or its equivalent) from a second NRSRO; and 2) the final maturity shall not exceed a period of five (5) years from the time of purchase.

(9) *FDIC insured Certificates of Deposit obtained through Certificate of Deposit placement services including the Certificate of Deposit Account Registry Service* (CDARS). In 2012, the Authority began participating in CDARS program. The program allows the Authority to allocate funds into certificates of deposit in increments, which ensure the funds are eligible for full FDIC insurance.

(10) *Federal Agency Mortgage-Backed Securities*. Issued by Fannie Mae, Freddie Mac, or the Government National Mortgage Association (GNMA) that meet the following criteria: 1) a rating of at least "AA" (or its equivalent) by two NRSROs; 2) The weighted average life (WAL) shall not exceed a period of five (5) years from the time of purchase.

(11) *Negotiable Certificates of Deposit and Bank Deposit Notes of domestic banks and domestic offices of foreign banks with:* a) ratings of at least 'A-1' (or its equivalent) by two NRSROs for maturities of one (1) year or less; b) a rating of at least 'AA' (or its equivalent) from at least one NRSRO and a rating of at least 'A' (or its equivalent) from a second NRSRO for maturities over one (1) year; and c) the final maturity shall not exceed a period of five (5) years from the time of purchase.

(12) *Supranational Bonds*. Obligations, participations or other instruments of any Federal agency, instrumentality or United States government-sponsored enterprise, including those issued or fully guaranteed as to the principal and interest by Federal agencies, instrumentalities or United States government sponsored enterprises, provided that: 1) at time of purchase the maturity does not to exceed five (5) years; and 2) have a rating of at least 'A' (or its equivalent) from at least two NRSROs.

(13) *Municipal Obligations.* Municipal bonds, notes and other evidences of indebtedness of the District or any state or local government may be purchased that meet certain criteria, including: a) final maturity on the date of investment not to exceed five (5) years; b) rated in either of the two highest rating categories by a NRSRO; and c) the total holdings of any single issue do not represent more than 25% of the total issue.

(In thousands)

(3) Cash Deposits and Investments (Continued)

Additionally, the Authority's Investment Policy has established the following limits as to the maximum percentage of the investment portfolio that is permitted to be invested in each type of eligible security:

Security		Security	
Collateralized Bank Deposits	100%	Collateralized Certificates of Deposit	30%
U.S. Treasury Obligations	100%	Corporate Notes	30%
Registered Money Market Mutual Funds	100%	FDIC-insured Certificates of Deposit	30%
Repurchase Agreements	100%	Federal Agency Mortgage-Backed Securities	30%
Federal Agency Obligations	80%	Negotiable Certificates of Deposit	30%
Bankers' Acceptances	40%	Supranational Bonds	30%
Commercial Paper	35%	Municipal Obligations	20%

The Authority's Investment Policy also stipulates that no more than 5% of the Authority's portfolio will be invested in the securities of any single issuer with following exceptions:

U.S. Treasury	100% maximum
Each Mutual Fund	50% maximum
Each Repurchase Agreement Counterparty	50% maximum
Each Federal Agency	40% maximum

For the years ended September 30, 2017 and 2016, the Authority was in full compliance with the Investment Policy.

(b) Cash Deposits

At September 30, 2017 and 2016, the carrying amounts of the Authority's unrestricted and restricted bank deposits were $104,742 and $112,215 respectively. These bank deposits were entirely insured or collateralized with securities or letters of credit at 102% of the market value of principal, plus accrued interest held by the Authority's independent agent in the Authority's name.

(3) Cash Deposits and Investments (Continued)

(c) Fair Value Measurements

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The Authority is required to classify certain assets and liabilities based on the following fair value hierarchy:

Level 1: Quoted price in active markets for identical assets.

Level 2: Inputs other than quoted prices included in level 1 that are observable, either directly or indirectly. Debt securities are priced based on a compilation of primarily observable market information or broker quote in a non-active market.

Level 3: Inputs are significant unobservable inputs.

As noted in the following table, all of the Authority's investments that are reported at fair value have been measured using Level 2 inputs as of September 30, 2017 and 2016, respectively:

	Fair Value Measurement at Reportable Date Using	
	Significant Other Observable Inputs (Level 2)	
Investments by fair value level	2017	2016
U.S. Treasury notes	$ 123,493	$ 37,997
Corporate notes	19,586	25,044
U.S. government agency obligations	19,345	67,184
Negotiable certificates of deposit	8,156	12,012
Supranational Bonds	6,410	3,755
Municipal bonds	5,232	4,743
Total investments at fair value	182,222	150,735
Investments and cash equivalents carried at amortized cost	224,539	208,784
Total investments and cash equivalents	$ 406,761	$ 359,519

(3) Cash Deposits and Investments (Continued)

(d) Cash Equivalents and Investments

As of September 30, 2017 and 2016, the Authority held the following cash equivalents and investments:

Cash equivalents and investments	2017	Weighted Average Maturity (Years)	2016	Weighted Average Maturity (Years)
Registered money market mutual	$142,139	0.083	$125,783	0.083
U.S. Treasury notes	140,975	0.941	43,009	1.270
Commercial paper	49,657	0.342	62,792	0.257
Corporate notes	19,586	1.750	25,044	1.772
U.S. government agency obligations	19,345	1.871	67,184	1.191
FDIC-insured certificates of deposit	15,261	0.151	15,197	0.326
Negotiable certificates of deposit	8,156	1.551	12,012	0.839
Supranational Bonds	6,410	2.076	3,755	2.584
Municipal bonds	5,232	1.442	4,743	2.324
Total cash equivalents and investments	$406,761	0.658	$359,519	0.671

The Authority's exposure to foreign currency risk, interest rate risk, credit risk and custodial risk associated with its cash deposits and investments are described below:

Foreign Currency Risk – Foreign currency risk is the risk that changes in the exchange rates will adversely impact the fair values of an investment. The Authority's investments are not subject to foreign currency risk as the Authority held no investments denominated in foreign currency as of and for the years ended September 30, 2017 and 2016, respectively.

Interest Rate Risk – Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, an investment with a longer maturity will have a greater sensitivity to fair value changes that are related to market interest rates. As a means of limiting its exposure to fair value losses resulting from rising interest rates, the Authority's Investment Policy limits the Authority's investment portfolio to investments with certain maximum maturities.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2017 and 2016

(In thousands)

(3) Cash Deposits and Investments (Continued)

The following are the maximum maturities established by the Authority's investment policy:

Security	Maturities	Security	Maturities
U.S. Treasury Obligations	5 years	Corporate Notes	5 years
Registered Money Market Mutual Funds	NA	FDIC-insured Certificates of Deposit	NA
Repurchase Agreements	90 days	Federal Agency Mortgage-Backed Securities	5 years
Federal Agency Obligations	5 years	Negotiable Certificates of Deposit	5 years
Bankers' Acceptances	180 days	Supranational Bonds	5 years
Commercial Paper	270 days	Municipal Obligations	5 years
Collateralized Certificates of Deposit	NA		

Additionally, the Authority monitors the interest rate risk inherent in its portfolio by measuring the weighted average maturity of its portfolio of debt instruments.

As reflected in the table on the previous page, the weighted average maturity of the Authority's investment portfolio was 0.658 years and 0.671 years as of September 30, 2017 and 2016, respectively.

Credit Risk – Generally, credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized rating organization. The Authority manages this risk by establishing minimum credit ratings in its investment policy.

The table below reflects the allocation of the Authority's investments by credit quality rating as of September 30, 2017:

	Credit Quality Rating										
Investment Type	AAA	AA+	AA	AA-	A+	A	A-1	A-1+	AAAm	Not Rated	Total
U.S. government agency obligations		4.8%									4.8%
Commercial paper							10.9%	1.3%			12.2%
Registered money market mutual									34.9%		34.9%
U.S. Treasury notes		34.6%									34.6%
FDIC-Insured certificates of deposit										3.8%	3.8%
Corporate notes	0.3%	0.6%	0.4%	1.9%	0.9%	0.8%					4.9%
Negotiable certificates of deposit				1.1%	0.9%						2.0%
Supranational Bonds	1.6%										1.6%
Municipal bond	0.1%		0.9%		0.2%						1.2%
	2.0%	40.0%	1.3%	3.0%	2.0%	0.8%	10.9%	1.3%	34.9%	3.8%	100.0%

At September 30, 2017, the Authority's investments with exposure to credit risk met the minimum credit ratings required in the Authority's investment policy.

(3) Cash Deposits and Investments (Continued)

Custodial Credit Risk – Deposits is the risk that, in the event of the failure of the depository financial institution, the Authority will not be able to recover the deposits or collateral securities that are in the possession of an outside party. The Authority had no custodial credit risk associated with cash deposits as all other bank deposits were entirely insured or collateralized with securities or letters of credit at 102% of the market value of principal, plus accrued interest and held by the Authority's independent agent in the Authority's name.

Custodial Credit Risk – Investments is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of its investments or collateral securities that are in the possession of the outside party. The Authority has no custodial credit risk as all Authority investments are held in the Authority's name by an independent custodial agent for the term of the agreement and investments in obligations of the United States or its agencies are held by the Federal Reserve in a custodial account.

Other Required Disclosures – As of and for the years ended September 30, 2017 and 2016, the Authority did not have any:

- Commitments to resell securities under yield maintenance agreements;
- Losses due to defaults by counterparties or recoveries from prior period losses; or
- Investments in any one issuer that represent 5% or more of total investments, excluding investments explicitly guaranteed by the U.S. government and its agencies and investments in mutual funds, external investment pools and other pooled investments that are excluded from this disclosure requirement.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2017 and 2016

(In thousands)

(3) Cash Deposits and Investments (Continued)

(d) Cash and Investment Schedule

A schedule of cash, cash equivalents and investments as of September 30, 2017 and 2016 follows:

	2017			2016		
Description	Unrestricted	Restricted	Total	Unrestricted	Restricted	Total
Cash and cash equivalents						
Demand deposits	$ 104,742	$ -	$ 104,742	$ 112,215	$ -	$ 112,215
Registered money market mutual	92	142,047	142,139	68	125,715	125,783
Total cash and cash equivalents	104,834	142,047	246,881	112,283	125,715	237,998
Investments						
U.S. Treasury notes	33,643	107,332	140,975	16,118	26,891	43,009
Commercial paper	-	49,657	49,657	1,790	61,002	62,792
Corporate notes	19,586	-	19,586	25,044	-	25,044
U.S. government agency obligations	19,345	-	19,345	28,323	38,861	67,184
FDIC-insured certificates of deposit	15,261	-	15,261	15,197	-	15,197
Negotiable certificates of deposit	8,156	-	8,156	12,012	-	12,012
Supranational Bonds	6,410	-	6,410	3,755	-	3,755
Municipal bonds	5,232	-	5,232	4,743	-	4,743
Total Investments	107,633	156,989	264,622	106,982	126,754	233,736
Total cash, cash equivalents & investments	$ 212,467	$ 299,036	$ 511,503	$ 219,265	$ 252,469	$ 471,734

(In thousands)

(3) Cash Deposits and Investments (Continued)

(e) Restricted Cash and Investment Schedule

A schedule of restricted cash, cash equivalents and investments as of September 30, 2017 and 2016 follows:

Description	2017	2016
Restricted cash and cash equivalents (current and noncurrent)		
2016 B EIB Construction Funds	$ 24,680	$ 24,500
Principal payment, 1998 revenue bonds	14,750	13,924
Interest payment, 2015A,B revenue bonds	8,760	8,760
Interest payment, 2014C revenue bonds	8,734	8,739
Interest payment, 2016A revenue bonds	8,710	10,500
Interest payment, 2014A revenue bonds	8,425	8,431
Interest payment, 2010 revenue bonds	8,157	8,398
Interest payment, 2012A,C revenue bonds	7,959	8,079
Interest payment, 2013 revenue bonds	7,497	7,534
Interest payment, 2017 A&B Senior Lien Interest	7,013	-
Principal payment, 2008 revenue bonds	6,735	6,604
Revenue bonds 2017B	6,725	-
Debt service reserve account, 1998 revenue bonds	5,526	211
Principal payment, 2012 revenue bonds	5,140	4,919
Interest payment, 1998 revenue bonds	4,307	5,587
Principal payment, 2009 revenue bonds	3,815	3,498
Extendable municipal commercial paper	2,330	2,326
Revenue bonds 2015A	1,043	233
Interest payment, 2016 B EIB	429	-
Interest payment, commercial paper	352	637
Interest payment, 2008 revenue bonds	340	506
Interest payment, 2009 revenue bonds	182	236
Revenue bonds 2017A	117	-
Interest payment, EMCP Series A	116	-
Interest payment, 2014B revenue bonds	71	96
Revenue bonds 2014C	63	124
Interest payment, 2012C revenue bonds	36	38
Revenue bonds 2015B	31	1,833
Combined sewer overflow (CSO) federal appropriations	2	1
Revenue bonds 2014A	1	1
Interest payment, 2007 revenue bonds	1	-
Total restricted cash and cash equivalents	142,047	125,715
Restricted investments (current and noncurrent)		
Revenue bonds 2017A	18,167	-
Revenue bonds 2017B	120,724	-
Revenue bonds 2015A	-	24,970
Revenue bonds 2015B	-	78,402
Debt service reserve account, 1998 revenue bonds	18,098	23,382
Total restricted investments	156,989	126,754
Total restricted cash, cash equivalents & investments	$ 299,036	$252,469

(4) Capital Assets

The following tables present the activity in capital assets for the years ended September 30, 2017 and 2016:

	Balance 9/30/2016	Additions	Disposals	Transfers	Balance 9/30/2017
Capital Assets					
Wastewater treatment plant	$2,383,176	$ -	$ -	$ 626,898	$3,010,074
Wastewater collection facilities	843,095	-	-	13,764	856,859
Water distribution system	1,095,216	-	(9,650)	26,892	1,112,458
Purchased capacity	349,210	7,640	-	-	356,850
Capital equipment	220,584	6,985	(766)	26,634	253,437
Total capital assets in service	4,891,281	14,625	(10,416)	694,188	5,589,678
Less accumulated depreciation:					
Wastewater treatment plant	(629,272)	(46,239)	-	-	(675,511)
Wastewater collection facilities	(267,272)	(13,654)	-	-	(280,926)
Water distribution system	(274,429)	(18,577)	1,936	-	(291,070)
Purchased capacity	(88,360)	(5,945)			(94,305)
Capital equipment	(181,299)	(13,485)	763	-	(194,021)
Total accumulated depreciation	(1,440,632)	(97,900)	2,699	-	(1,535,833)
Net capital asssets in service	3,450,649	(83,275)	(7,717)	694,188	4,053,845
Construction-in-progress	2,544,698	638,745	-	(694,188)	2,489,255
Net capital assets	$5,995,347	$555,470	$ (7,717)	$ -	$6,543,100

	Balance 9/30/2015	Additions	Disposals	Transfers	Balance 9/30/2016
Capital Assets					
Wastewater treatment plant	$2,367,163	$ -	$ -	$ 16,013	$2,383,176
Wastewater collection facilities	828,130	-	-	14,965	843,095
Water distribution system	1,054,046	-	-	41,170	1,095,216
Purchased capacity	341,974	7,236	-	-	349,210
Capital equipment	203,573	(35)	(96)	17,142	220,584
Total capital assets in service	4,794,886	7,201	(96)	89,290	4,891,281
Less accumulated depreciation:					
Wastewater treatment plant	(588,392)	(40,880)	-	-	(629,272)
Wastewater collection facilities	(253,807)	(13,465)	-	-	(267,272)
Water distribution system	(256,622)	(17,807)	-	-	(274,429)
Purchased capacity	(82,540)	(5,820)			(88,360)
Capital equipment	(169,855)	(11,540)	96	-	(181,299)
Total accumulated depreciation	(1,351,216)	(89,512)	96	-	(1,440,632)
Net capital asssets in service	3,443,670	(82,311)	-	89,290	3,450,649
Construction-in-progress	2,033,657	600,331	-	(89,290)	2,544,698
Net capital assets	$5,477,327	$518,020	$ -	$ -	$5,995,347

(In thousands)

(4) Capital Assets (Continued)

For the years ended September 30, 2017 and 2016, total interest expense incurred was $52,750 and $65,183, and total capitalized interest was $77,003 and $62,800, respectively. During fiscal year 2017, the Authority incurred losses on disposals of capital assets in the amount of $7,717. This amount has been included in interest expense and other non-operating expenses on the statement of revenues, expenses, and changes in net position.

The following tables present the activity in purchased capacity for the years ended September 30, 2017 and 2016:

	Balance 9/30/2016	Additions	Balance 9/30/2017
Purchased capacity			
Washington Aqueduct	$ 317,020	$ 7,640	$ 324,660
Jennings Randolph Reservoir	19,863	-	19,863
Little Seneca Lake	12,327	-	12,327
Total in service	349,210	7,640	356,850
Less accumulated depreciation:			
Washington Aqueduct	(72,462)	(5,347)	(77,809)
Jennings Randolph Reservoir	(9,430)	(393)	(9,823)
Little Seneca Lake	(6,468)	(205)	(6,673)
Total accumulated depreciation	(88,360)	(5,945)	(94,305)
Purchased capacity, net	$ 260,850	$ 1,695	$ 262,545

	Balance 9/30/2015	Additions	Balance 9/30/2016
Purchased capacity			
Washington Aqueduct	$ 309,784	$ 7,236	$ 317,020
Jennings Randolph Reservoir	19,863	-	19,863
Little Seneca Lake	12,327	-	12,327
Total in service	341,974	7,236	349,210
Less accumulated depreciation:			
Washington Aqueduct	(67,239)	(5,223)	(72,462)
Jennings Randolph Reservoir	(9,037)	(393)	(9,430)
Little Seneca Lake	(6,264)	(204)	(6,468)
Total accumulated depreciation	(82,540)	(5,820)	(88,360)
Purchased capacity, net	$ 259,434	$ 1,416	$ 260,850

(5) Capital Contributions

Capital contributions consist of the following for the years ended September 30, 2017 and 2016, respectively:

Description	2017	2016
Federal grants and appropriations	$ 23,956	$ 29,470
Contributions from District government	110	2,961
Total	$ 24,066	$ 32,431

Capital contributions consist principally of Federal grants and appropriations and certain capital costs incurred by the Authority in fiscal year 2017 and 2016 to be reimbursed by the District government pursuant to the Memorandum of Understanding between the Authority and the District discussed in Note 13(c).

(6) Due from Federal Government

The amount due from the Federal government consists of the following at September 30, 2017 and 2016, respectively:

Description	2017	2016
Washington Aqueduct advance	$ 31,994	$ 24,150
Federal grants receivable	5,228	4,223
Total	$ 37,222	$ 28,373

The Washington Aqueduct advance consists of unexpended capital advances and an operating escrow of $4,675 required under the Water Sales Agreement. Federal grants receivable represent amounts due from federal grantors related to allowable construction costs incurred but not billed and/or reimbursed as of the fiscal year end.

(7) Customer Receivables

The following is a summary of customer receivables, net as of September 30, 2017 and 2016:

Description	2017	2016
Billed customer receivables	$ 63,358	$ 60,616
Unbilled customer receivables	22,005	21,441
Total customer receivables	85,363	82,057
Less: Allowance for doubtful accounts	(16,857)	(15,042)
Customer receivables, net	$ 68,506	$ 67,015

(In thousands)

(8) Due from Other Jurisdictions

The amount due from other jurisdictions under the 2012 IMA consists of the following at September 30, 2017 and 2016:

Description	2017	2016
Current:		
Washington Suburban Sanitary Commission	$ 18,876	$ 10,872
Fairfax	3,338	2,472
Loudoun County Sanitation Authority	1,491	937
Northern Virginia	96	92
Potomac Interceptor	707	587
Total current	24,508	14,960
Noncurrent:		
Washington Suburban Sanitary Commission	7,475	11,703
Northern Virginia	2,893	2,989
Fairfax	1,434	2,333
Loudoun County Sanitation Authority	628	1,031
Total noncurrent	12,430	18,056
Total due from other jurisdictions	$ 36,938	$ 33,016

(9) Compensated Absences

The following table reflects the activity associated with accrued compensated absences for the years ended September 30, 2017 and 2016, respectively:

	2017			2016		
Description	Vacation	Sick	Total	Vacation	Sick	Total
Beginning of year	$ 8,315	$ 9,073	$ 17,388	$ 8,253	$ 7,805	$ 16,058
Increased (incurred)	1,769	2,518	4,287	2,112	2,201	4,313
Decreases	(1,216)	(860)	(2,076)	(2,050)	(933)	(2,983)
End of year	8,868	10,731	19,599	8,315	9,073	17,388
Less: current portion	1,553	858	2,411	1,443	592	2,035
Noncurrent portion	$ 7,315	$ 9,873	$ 17,188	$ 6,872	$ 8,481	$ 15,353

The current portion of compensated absences is included in compensation payable in the accompanying statements of net position.

(10) Short-Term Debt—Commercial paper notes payable and Extendable Municipal Commercial Paper

The Authority's commercial paper notes payable are comprised of the following as of September 30, 2017 and 2016, respectively:

Description	Balance 9/30/2016	Balance 9/30/2017
Commercial Paper	$ 29,200	$ 29,200
Extendable Municipal Commercial Paper	50,000	50,000
	$ 79,200	$ 79,200

(a) *Commercial Paper*

A schedule of Commercial Paper activity for the years ended September 30, 2017 and 2016 is shown below:

Description	Balance 9/30/2016	2017 Maturities	2017 Re-Issuance	Balance 9/30/2017
Series C, interest from 0.67% to 1.25%, maturities ranged from 7 to 67 days	29,200	(262,800)	262,800	29,200
	$ 29,200	$ (262,800)	$ 262,800	$ 29,200

Description	Balance 9/30/2015	2016 Maturities	2016 Re-Issuance	Balance 9/30/2016
Series C, interest from 0.24% to 0.60%, maturities ranged from 34 to 95 days	$ 29,200	$ (262,800)	$ 262,800	$ 29,200
Series B, interest from 0.03% to 0.07%, maturities ranged from 17 to 71 days	62,000	(87,000)	25,000	-
	$ 91,200	$ (349,800)	$ 287,800	$ 29,200

The Authority has established a commercial paper ("CP") program to provide interim financing for the Authority's capital improvement program. Two series of notes have been issued under the commercial paper program: the tax-exempt Series B CP Notes in an aggregate principal amount not to exceed $100,000, and the taxable Series C CP Notes in an aggregate principal amount not to exceed $50,000, (collectively, the "Commercial Paper Notes"), each as subordinate debt to the senior debt discussed in Note 11. To provide liquidity and credit support for the Commercial Paper Notes, the Authority obtained irrevocable, direct-pay letters of credit (the "Letters of Credit") issued by Landesbank Hessen-Thüringen Girozentrale, New York Branch (the "Bank") which currently expire on May 15, 2020.

(10) Short-Term Debt—Commercial Paper and Extendable Municipal Commercial Paper (Continued)

In connection with the Bank's issuance of the Letters of Credit, the Authority and the Bank entered into a Reimbursement Agreement for each series of CP Notes, each dated as of May 1, 2015, each as amended (collectively, the "Reimbursement Agreements") that obligates the Authority to pay Bank Obligations and Reimbursement Obligations (both as defined in the Eleventh Supplemental Indenture relating to the Commercial Paper Notes) and Fee Obligations (as defined in each Reimbursement Agreement) to the Bank. The Bank Obligations, the Reimbursement Obligations and Fee Obligations are Subordinate Debt under the Indenture.

(b) Extendable Municipal Commercial Paper

A schedule of Extendable Municipal Commercial Paper activity for the years ended September 30, 2017 and 2016 is shown below:

Description	Balance 9/30/2016	2017 Maturities	2017 Re-Issuance	Balance 9/30/2017
EMCP Series A, interest from 0.57% to 1.00%, maturities ranged from 30 to 89 days	$ 50,000	$ (350,000)	$ 350,000	$ 50,000

Description	Balance 9/30/2015	2016 Maturities	2016 Re-Issuance	Balance 9/30/2016
EMCP Series A, interest from 0.06% to 0.55%, maturities ranged from 27 to 90 days	$ -	$ (275,000)	$ 325,000	$ 50,000

The Authority has authorized a $100,000 Extendable Municipal Commercial Paper (EMCP) Program. The program consists of one series - A, in the amount of $100,000. This program will provide interim financing for a portion of the Authority's Capital Improvement Program. Under this program the notes are issued backed by the liquidity and credit rating of the Authority. Each Series A EMCP Note will mature on its respective "Original Maturity Date", which may range from one to 90 days from the date of issuance, unless its maturity is extended on the "Original Maturity Date" to the "Extended Maturity Date", which will be the date that is 270 days after the date of issuance of the Series A EMCP Note. The notes are payable from and secured by a subordinate lien on the Authority's net revenues, as further described in the Authority's master trust indenture as supplemented. On December 1, 2015, the Authority issued the Series A EMCP Notes in the amount of $50,000. The proceeds were used to (1) redeem $47,310 of currently outstanding Commercial Paper (2) pay $1 of accrued interest on the Commercial Paper as well as the interest associated with the Authority's public utility subordinate lien multimodal revenues bonds, 2012 series B-2 (3) pay $355 associated cost of issuance of the Series A EMCP Note and (4) the remaining $2,334 were contributed to the Construction Account.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2017 and 2016

(In thousands)

(11) Long-Term Debt

A schedule of long-term debt activity for the year ended September 30, 2017 is shown below:

Description	Balance 9/30/2016	Increases	Decreases	Balance 9/30/2017	Due Within One Year
2017 Public Utility Revenue Bonds:					
Series A interest at 4.0 % to 5.0%, maturing in 2053	$ -	$ 100,000	$ -	$ 100,000	$ -
Series B interest at 4.0 % to 5.0%, maturing in 2045	-	200,000	-	200,000	-
2016 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2040	389,110	-	-	389,110	-
Series B interest at 3.4%, maturing in 2047	25,000	-	-	25,000	-
2015 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2046	100,000	-	-	100,000	-
Series B interest at 5.0 % to 5.25%, maturing in 2045	250,000	-	-	250,000	-
2014 Public Utility Revenue Bonds:					
Series A interest at 4.81%, maturing in 2115	350,000	-	-	350,000	-
Series B-1 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series B-2 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series C interest at 3.0 % to 5.0%, maturing in 2045	377,110	-	-	377,110	-
2013 Public Utility Revenue Bonds:					
interest at 4.75% to 5.0%, maturing in 2049	300,000	-	-	300,000	-
2012 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2038	163,655	-	(4,915)	158,740	5,140
Series B-2 interest at 2.26%, maturing in 2040	-	-	-	-	-
Series C interest at 4.0% to 5.0%, maturing in 2034	163,215	-	-	163,215	-
2010 Series A Public Utility Revenue Bonds:					
interest at 4.1% to 5.5%, maturing in 2045	300,000	-	-	300,000	-
2009 Series A Public Utility Revenue Bonds:					
interest at 3.0% to 6.0%, maturing in 2019	11,535	-	(3,495)	8,040	3,815
2008 Series A Public Utility Revenue Bonds:					
interest at 4.0% to 5.0%, maturing in 2019	20,200	-	(6,600)	13,600	6,735
1998 Public Utility Revenue Bonds:					
interest ranges from 5.5% to 6.0%, maturing in 2029	170,525	-	(13,920)	156,605	14,750
Notes payable to the Federal Government for Jennings Randolph Reservoir (Bloomington Dam):					
interest at 3.25%, maturing in 2041	12,841	-	(387)	12,454	400
Subtotal	2,733,191	300,000	(29,317)	3,003,874	30,840
Unamortized bond premiums	198,677	34,345	(10,236)	222,786	-
Unamortized bond discounts	(2,222)	-	129	(2,093)	-
Total bonds and notes	$ 2,929,646	$ 334,345	$ (39,424)	$ 3,224,567	$ 30,840

(In thousands)

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(11) Long-Term Debt (Continued)

A schedule of long-term debt activity for the year ended September 30, 2016 is shown below:

Description	Balance 9/30/2015	Increases	Decreases	Balance 9/30/2016	Due Within One Year
2016 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2040	$ -	$ 389,110	$ -	$ 389,110	$ -
Series B interest at 3.4%, maturing in 2047	-	25,000	-	25,000	-
2015 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2046	-	100,000	-	100,000	-
Series B interest at 5.0 % to 5.25%, maturing in 2045	-	250,000	-	250,000	-
2014 Public Utility Revenue Bonds:					
Series A interest at 4.81%, maturing in 2115	350,000	-	-	350,000	-
Series B-1 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series B-2 interest at 1.0 % to 3.25%, maturing in 2051	50,000	-	-	50,000	-
Series C interest at 3.0 % to 5.0%, maturing in 2045	377,700	-	(590)	377,110	-
2013 Public Utility Revenue Bonds:					
interest at 4.75% to 5.0%, maturing in 2049	300,000	-	-	300,000	-
2012 Public Utility Revenue Bonds:					
Series A interest at 2.0 % to 5.0%, maturing in 2038	168,405	-	(4,750)	163,655	4,915
Series B-2 interest at 2.26%, maturing in 2040	47,310	-	(47,310)	-	-
Series C interest at 4.0% to 5.0%, maturing in 2034	163,215	-	-	163,215	-
2010 Series A Public Utility Revenue Bonds:					
interest at 4.1% to 5.5%, maturing in 2045	300,000	-	-	300,000	-
2009 Series A Public Utility Revenue Bonds:					
interest at 3.0% to 6.0%, maturing in 2019	159,520	-	(147,985)	11,535	3,495
2008 Series A Public Utility Revenue Bonds:					
interest at 4.0% to 5.0%, maturing in 2019	168,190	-	(147,990)	20,200	6,600
2007 Series A Public Utility Revenue Bonds:					
interest at 4.75% to 5.50%, maturing in 2041	115,580	-	(115,580)	-	-
1998 Public Utility Revenue Bonds:					
interest ranges from 5.5% to 6.0%, maturing in 2029	183,660	-	(13,135)	170,525	13,920
Notes payable to the Federal Government for Jennings Randolph Reservoir (Bloomington Dam):					
interest at 3.25%, maturing in 2041	13,217	-	(376)	12,841	387
Subtotal	2,446,797	764,110	(477,716)	2,733,191	29,317
Unamortized bond premiums	104,060	111,329	(16,712)	198,677	-
Unamortized bond discounts	(2,351)	-	129	(2,222)	-
Total bonds and notes	$ 2,548,506	$ 875,439	$ (494,299)	$ 2,929,646	$ 29,317

(11) Long-Term Debt (Continued)

(a) Senior Debt

The 2017 Series A and B, 2014 Series A, 2009 Series A and 1998 Series public utility revenue bonds are considered senior debt under the related Master Indenture of Trust ("Master Indenture"). Payment of the principal and interest on Authority's senior debt is secured by a pledge of Authority's gross revenues (excluding any capital contributions or grants) after provisions for payment of operating expenses.

In January 2017, the Authority issued senior lien revenue bonds with a face value of $300,000. The bonds were structured in two Series: 2017 Series A (Green Bonds) consisting of $100,000 with interest rates ranging from 4.0% to 5.0% maturing in 2053; 2017 Series B consisting of $200,000 with interest rates ranging from 4.0% to 5.0% maturing in 2045. Gross proceeds from the two series of 2017 Bonds totaled $334,345, including $34,345 of the original issue premium. Approximately $107,966 of 2017 series A (Green Bonds) was used to fund a portion of the costs of the Authority's DC Clean Rivers Project; $224,406 of the 2017 series B was used to fund various capital improvements to the system and $1,972 was used to pay the underwriter's discount and cost of issuance.

In July 2014, the Authority issued $350,000 of senior lien public utility revenue bonds 2014 Series A. The 2014 Series A bonds are federally taxable green bonds with a fixed rate of 4.81% and a 100 year final maturity in 2115. The proceeds of the issuance will be used to help finance the construction of the Authority's DC Clean Rivers Project. Net proceeds from the bond issuance totaled approximately $346,000 including $4,000 of underwriter's discount and cost of issuance.

In February 2009, the Authority issued senior lien public utility revenue bonds 2009 Series A with a face value of $300,000, consisting of $38,355 in Serial Bonds and $261,645 in Term Bonds. The Serial Bonds have maturity dates and interest rates ranging from 2010-2030 and 3.0% to 5.4%, respectively. The Term Bonds have maturity dates and interest rates ranging from 2024-2039 and 4.8% to 6.0%, respectively. Debt proceeds were used to repay $14,800 of the taxable Series A Commercial Paper Notes and $50,000 of the tax exempt Series B Commercial Paper Notes with the remainder used to finance the ongoing capital improvement program. During fiscal years 2015 and 2016, the Authority advance refunded $128,835 and $144,810, of the 2009 Series A bonds respectively. Details of the advance refunding are discussed below. The remaining undefeased 2009 Series A bonds outstanding as of September 30, 2016 will mature in fiscal years 2017 through 2019

In April 1998, the Authority issued $266,120 of senior lien public utility revenue bonds 1998 Series. Gross proceeds from the Series 1998 Series bonds totaled $285,200, including $18,800 of the original issue premium. Approximately $77,200 was used to fund various capital projects; $181,000 was used to repay the outstanding balances of a revolving line of credit and certain notes payable to the Federal government and to advance-refund approximately $152,200 of District general obligation bonds. The refunded bonds have been fully extinguished. The remainder of the gross proceeds, approximately $27,000, was used to fund the debt service reserve fund and to pay the cost of issuance. The payment of principal and interest on the Series 1998 bonds is insured by Financial Security Assurance, Inc.

(11) Long-Term Debt (Continued)

(b) Subordinate Debt

Payments of the Authority's subordinate debt are made after payments of senior debt and after certain reserves have been funded (see "Bond Covenants" below).

In September 2016 the Authority issued $25,000 of tax-exempt public utility subordinate lien revenue bonds, 2016 Series B (Environmental Impact Bonds) (the "2016 Series B Bonds"). The 2016 Series B Bonds are multimodal variable rate bonds, initially issued bearing a 3.43% fixed rate through the mandatory tender date, April 1, 2021. The net proceeds (after payment of $472 of issuance expenses) of $24,528 of the 2016 Series B Bonds will be used for construction of green infrastructure (GI) in Rock Creek Project A (RC-A). The GI practices are designed to mimic natural processes to absorb and slow surges of stormwater during periods of heavy rainfall, reducing the incidence and volume of combined sewer overflows (CSOs) that pollute the District's waterways.

The 2016 Series B Bonds are designated as Environmental Impact Bonds and, as such, include provisions for the possibility of an Outcome Payment by the Authority to the Original Purchasers of the 2016 Series B Bonds of $3,300 in the event of a runoff reduction greater than 41.3%, and for the possibility of a Risk Share Payment by the Original Purchasers to the Authority of $3,300 in the event of a runoff reduction less than 18.6%. Runoff reduction means the percentage reduction of storm water runoff in RC-A per impervious acre treated to manage the volume of runoff produced by 1.2 inches of rain as compared to the existing conditions runoff in RC-A as defined in the Private Placement Agreement between the Authority and Original Purchasers. The potential obligation of the Authority to pay the Outcome Payment is an unsecured obligation. No provision has been included in these financial statements for the potential obligation related to the Outcome Payment due to the uncertainties surrounding the effectiveness of GI in RC-A, which will be independently assessed prior to the mandatory tender date.

In February 2016, the Authority issued subordinate lien revenue refunding bonds 2016 Series A for $389,110. The proceeds from these bonds were used to advance refund $67,295 of the remaining portion of subordinated lien revenue bonds 2007 Series A, $141,555 of subordinate lien revenue bonds 2008 Series A, $144,810 of senior lien revenue bonds 2009 Series A and current refund the remaining portion of $48,285 of subordinated lien revenue bonds 2007 Series A. The proceeds from 2016 Series A were used to purchase securities that were placed in an irrevocable trust with an escrow agent to provide for all future debt service payments on the refunded 2007 Series A, 2008 Series A and 2009 Series A bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The interest rates on the refunded bonds ranges from 3.0% to 6.0%. The cash flow required to make principal and interest payments on the refunding bonds is approximately $78,672 less than the debt service requirements of the refunded bonds. The economic gain (the difference between the present values of the debt service payments on the old and new debt) obtained from the advance refunding is $56,831.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2017 and 2016

(In thousands)

(11) Long-Term Debt (Continued)

In October 2015, the Authority issued subordinate lien revenue bonds with a face value of $350,000. The bonds were structured in two Series: 2015 Series A (Green Bonds) consisted of $100,000 with interest rates ranging from 2.0% to 5.0% maturing in 2045; 2015 Series B consisting of $250,000 with interest rates ranging from 5.0% to 5.25% maturing in 2044. Gross proceeds from the two series of 2015 Bonds totaled $406,587, including $56,587 of the original issue premium. Approximately $115,869 of 2015 series A (Green Bonds) was used to fund a portion of the costs of the Authority's DC Clean Rivers Project; $226,584 of the 2015 series B was used to fund various capital improvements to the system; $62,000 of 2015 series B was used to pay principal of and interest on all or a portion of the Authority's outstanding commercial paper notes, Series B (the "Series 2015 B CP Notes), and $2,134 was used to pay the underwriter's discount and cost of issuance.

In November 2014, the Authority issued subordinate lien revenue refunding bonds 2014 Series C for $377,700. The proceeds from these bonds were used to advance refund $103,135 of subordinated lien revenue bonds 2007 Series A, $93,560 of subordinate lien revenue bonds 2008 Series A, and $128,835 of senior lien revenue bonds 2009 Series A; and to current refund $52,690 of subordinate lien multimodal revenue bonds 2012 Subseries B-1.

The proceeds from 2014 Series C were used to purchase securities that were placed in an irrevocable trust with an escrow agent to provide for all future debt service payments on the refunded 2007 Series A, 2008 Series A and 2009 Series A bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The interest rates on the refunded bonds ranges from 2.26% to 6.0%. The cash flow required to make principal and interest payments on the refunding bonds is approximately $50,356 less than the debt service requirements of the refunded bonds. The economic gain (the difference between the present values of the debt service payments on the old and new debt) obtained from the advance refunding is $35,266.

In July 2014, the Authority issued $100,000 of tax-exempt 2014 Series B variable rate multimodal subordinate lien revenue bonds, maturing in 2050 to fund the Authority's capital improvement program. Net proceeds from the bond issuance totaled approximately $99,500 including $500 of underwriter's discount and cost of issuance. Initially, the 2014 Series B bonds will bear interest in a weekly rate period but may be converted to daily, index, short term, long term or fixed rate. Funds for the purchase of tendered bonds that are not remarketed will be provided initially by TD Bank, N.A. for a period of three years pursuant to a Standby Bond Purchase Agreement dated July 23, 2014.

In July 2013, the Authority issued $300,000 of subordinate lien public utility revenue bonds with interest rates ranging from 4.75% to 5.0%, maturing in 2048 to fund the Authority's capital improvement program. Gross proceeds from the 2013 Series A bonds totaled $298,921, including $1,014 of original issue premium and $2,093 of underwriter's discount and cost of issuance.

In March 2012, the Authority issued subordinate lien revenue bonds with a face value of $440,645. The bonds were structured in three Series: 2012 Series A consisted of $177,430 with interest rates ranging from 2.0% to 5.0% maturing in 2037; 2012 Series B consisting of $100,000 with interest rate at 2.26% maturing in 2044; and 2012 Series C consisting of $163,215 with interest rates ranging from 4.0% to 5.0% maturing in 2033. Gross proceeds from the three series of 2012 Bonds totaled $493,934, including $53,289 of the original issue premium.

(11) Long-Term Debt (Continued)

Approximately $302,413 was used to fund various capital projects; $188,688 was used to advance-refund series 2003 Series bonds, and $2,833 was used to pay the underwriter's discount and cost of issuance. During fiscal years 2016 and 2015, the Authority current refunded $47,310 and advance refunded $52,690 of the series 2012 Series B-2 and 2012 Series B-1 bonds respectively. Details of the current and advance refunding are discussed above.

The Authority completed its advance-refunding of the 2003 Series bonds by using $188,688 of bond proceeds from 2012 Series C to purchase securities that were placed in an irrevocable trust with an escrow agent to provide for all future debt service payments on the bonds. As a result, the bonds are considered to be defeased and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments by approximately $25,478 resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $17,843. The refunded bonds have been fully extinguished.

In October 2010, the Authority issued the 2010 Series A public utility subordinate lien revenue bonds, 2010 Series A under the Federal government's Build America Bonds program. Under this program, the Federal government provides the Authority a federal subsidy in the amount of 35% of the interest paid on the bonds which reduces the Authority's effective interest costs to approximately 3.6%. The $300,000 par amount consisted of $18,550 in serial bonds maturing in 2033 and gross interest rates ranging from 4.1% to 4.6%, $30,950 in term bonds maturing in 2028 and a gross interest rate of 5.4%, and $250,500 in index term bonds maturing in 2044 and a gross interest rate of 5.5%. Approximately $214,640 was issued to fund costs of certain capital improvements, including $2,420 for the cost of issuance and underwriter's discount. In addition, approximately $75,000 was issued to fund the Authority's Digester Project and $10,360 for capitalized interest. The interest subsidy received by the Authority for the fiscal years ended September 30, 2017 and 2016 amounted to $5,316 and $7,969, respectively. In fiscal years 2017 and 2016, the Authority received $394 and $597 less than expected due to budget sequester impacts experienced by the Federal government.

In April 2008, the Authority refunded the 2004 and 2007 Series B subordinate public utility revenue bonds for $295,000 and $59,000, respectively. Simultaneously, the Authority issued subordinate lien public utility revenue bonds 2008 Series A with a face value of $290,375 which are due in 2034. The interest rate on these securities is fixed and will have an effective average rate of 4.7% over the life of the bonds. There was $11,678 of original issue premium and approximately $5,888 for the cost of issuance, bond insurance and underwriter's discount costs associated with this issuance. The scheduled payments of principal and interest on the 2008 Series A bonds are guaranteed by a municipal bond insurance policy issued by the Assured Guaranty Program. During fiscal years 2015 and 2016, the Authority advance refunded $93,560 and $141,555 of the series 2008 Series A bonds respectively. Details of the advance refunding are discussed above. The remaining undefeased 2008 Series A bonds outstanding as of September 30, 2016 will mature in fiscal years 2017 through 2019.

In June 2007, the Authority issued $218,715 of tax-exempt subordinate lien public utility revenue bonds 2007 Series A and $59,000 of taxable subordinate lien public utility revenue bonds 2007 Series B. Gross proceeds from the 2007 Series A bonds totaled $234,923, including $15,661 of original issue premium. Approximately $30,000 was used to repay outstanding commercial paper, and $2,824 was used to pay the underwriter's discount, insurance and the cost of issuance.

(11) Long-Term Debt (Continued)

The scheduled payments of principal and interest on 2007 Series A bonds are guaranteed by a municipal bond insurance policy issued by the Financial Guaranty Insurance Company ("FGIC"). Gross proceeds from the 2007 Series B bonds totaled $59,000. Proceeds from the 2007 Series B bonds were used entirely to fund the Authority's share of capital improvements to the Washington Aqueduct. The scheduled payments of principal and interest on 2007 Series B bonds are guaranteed by a municipal bond insurance policy issued by CIFG Assurance North America, Inc. During fiscal year 2015, the Authority advance refunded $103,135 of the 2007 Series A bonds. During fiscal year 2016, the Authority advance refunded $67,295 of the 2007 Series A bonds and current refunded $48,285 of the remaining portion of 2007 series A bonds. Details of the advance refunding and current refunding are discussed above.

Notes payable to the Federal government for the Jennings Randolph Reservoir are considered subordinate debt under the Master Indenture and contain no pledge of property, sinking fund provisions, or restrictive covenants. The proceeds of the notes were used to make improvements to the Jennings Randolph Reservoir for back-up and peak-day water supply.

(c) Bond Covenants

The Master Indenture sets forth the establishment of accounts, the application of revenues, and certain other covenants to ensure proper operation and maintenance of the water and wastewater system and payment of debt service. Management believes the Authority was in compliance with all bond covenants as of and for the years ended September 30, 2017 and 2016. The primary requirements of the Master Indenture are summarized below:

Rate Covenant — The Authority has covenanted to establish and maintain rates and charges to produce revenues sufficient to pay operating expenses and annual debt service on senior and subordinate debt, to fund certain required reserves, to fund any payment in lieu of taxes, and to produce net revenues sufficient at least equal to the sum of: (1) 120% of annual debt service on senior debt and (2) 100% of annual debt service on subordinate debt. Net revenues are defined generally as all Authority revenues (excluding capital contributions from wholesale customers, Federal grants, or any proceeds derived from the sale of capital assets), less operating and maintenance expenses (excluding any payment in lieu of taxes, depreciation and amortization charges and certain extraordinary, nonrecurring expenses).

Debt Service Reserve Fund — The Authority has established debt service reserve accounts for certain series of bonds, which are only to be used to pay debt service in the event of insufficient funds. The 1998 Series bonds debt service reserve account balance as of September 30, 2017 and 2016 was $23,624 and $23,594, respectively, and is required to be maintained at 125% of current and future average annual 1998 Series debt service.

Operating Reserve Fund — The Master Indenture creates an Operating Reserve Fund in which the Authority must maintain a balance equal to at least 60 days of operating and maintenance expenses of the prior year. Moneys in the Operating Reserve Fund shall be used to pay, to the extent necessary, operating expenses of the Authority.

(11) Long-Term Debt (Continued)

In addition, to the extent that moneys on deposit in the Bond Fund are insufficient to make the required interest and principal payments, moneys in the Operating Reserve Fund shall be used prior to any withdrawal from the Debt Service Reserve Fund to satisfy any such deficiencies. The Board has adopted a policy of funding operating reserves to a level in excess of that required by the Master Indenture.

(d) Debt Service to Maturity

The future debt-service obligations at September 30, 2017 are as follows:

Fiscal year	Principal	Interest	Total
2018	$ 30,840	$ 137,914	$ 168,754
2019	36,038	136,234	172,272
2020	39,697	134,398	174,095
2021	46,135	132,353	178,488
2022	53,516	129,968	183,484
2023 - 2027	309,260	609,222	918,482
2028- 2032	384,954	526,096	911,050
2033 - 2037	495,252	424,783	920,035
2038 - 2042	552,192	302,823	855,015
2043 - 2047	536,410	165,700	702,110
2048 - 2052	156,580	98,373	254,953
2053 - 2057	13,000	84,570	97,570
2058 - 2062	—	84,245	84,245
2063 - 2067	—	84,245	84,245
2068 - 2072	—	84,245	84,245
2073 - 2077	—	84,245	84,245
2078 - 2082	—	84,245	84,245
2083 - 2087	—	84,245	84,245
2088 - 2092	—	84,245	84,245
2093 - 2097	—	84,245	84,245
2098 - 2102	—	84,245	84,245
2103 - 2107	57,489	80,126	137,615
2108 - 2112	169,760	46,658	216,418
2113 - 2117	122,751	6,094	128,845
	$ 3,003,874	$ 3,773,517	$ 6,777,391

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2017 and 2016

(In thousands)

(11) Long-Term Debt (Continued)

(e) Outstanding Debt Defeased

The Authority defeased certain revenue bonds in current and prior years by placing cash or the proceeds of new revenue bonds in irrevocable trusts to provide for all future debt service payments on the defeased bonds. Accordingly, the Trust account assets and the liability for the defeased bonds are not reflected in the Authority's financial statements. At September 30, 2017 and 2016, the following outstanding revenue bonds are considered defeased.

Bond issue	Principal Outstanding
2009 Series A Public Utility Revenue Bonds: interest at 3.0% to 6.0%, maturing in 2039	$ 273,645
2008 Series A Public Utility Revenue Bonds: interest at 4.0% to 5.0%, maturing in 2034	235,115
2007 Series A Public Utility Revenue Bonds: interest at 4.75% to 5.50%, maturing in 2041	170,430
Total Principal Outstanding	$ 679,190

(12) Commitments and Contingencies – Other Liabilities

A schedule of other liabilities as of September 30, 2017 and 2016 is shown below:

Description	2017	2016
Risk management contingency	$ 11,670	$ 11,818
Rolling owner controlled insurance program	7,141	6,518
Litigation contingency	669	2,998
Contractual obligations	825	825
Retirement health savings plan	2,760	2,536
Total other liabilities	23,065	24,695
Less: current portion	13,621	11,926
Noncurrent portion	$ 9,444	$ 12,769

The current portion of other liabilities represents management's estimate of the amounts that will be paid in next fiscal year.

(In thousands)

(12) Commitments and Contingencies – Other Liabilities (Continued)

(a) Risk Management

The Authority is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. Effective April 7, 1998, the Authority purchased certain commercial insurance coverage. Prior to that date, the Authority was either self-insured or covered under District self-insurance programs.

For each of the three most recent years, settlement of claims has not exceeded insurance coverage. Additionally, there has not been a significant reduction in insurance coverage from coverage in the prior year.

The Authority has purchased $1,000,000 property coverage (Property Policy) to protect its owned or leased facilities, buildings and contents. Except for catastrophic on-site protection provided on the Property Policy, the Authority self-insures its fleet of vehicles. The deductible for each claim for buildings and contents is $1,000 per occurrence. A lower deductible of $10 per occurrence applies to scheduled watercraft and mobile equipment.

The Authority has purchased liability insurance coverage to protect it from claims alleging damages and injuries caused by automobile accidents, damaged utilities, construction, and other activities. Limits of $100,000 have been secured in excess of a self-insured retention of $1,000 for each occurrence. Public Officials' liability insurance has been secured with limits of $20,000 in excess of a deductible of $250 per claim.

The Authority self-insures the first $1,000 per occurrence of workers' compensation claims costs. In order to mitigate the potential self-insured costs of medical expenses, rehabilitation and lost wages, the Authority purchased an Excess Workers' Compensation Policy with unlimited coverage. The Authority contracts with a third-party administrator to support the workers' compensation claims management program.

Liabilities are recognized when it is probable that losses have occurred and the amounts of the losses can be reasonably estimated. Liabilities include an amount for claims that have been incurred but not reported to date and include a provision for allocated and unallocated claim adjustment expenses.

Because actual claims liabilities depend on such complex factors as inflation, changes in governing laws and standards, and court awards, the process used in computing claims liabilities is reevaluated periodically to take into consideration the history, frequency and severity of recent claims and other economic and social factors.

These liabilities are computed using a combination of actual claims experience and statistically estimated amounts. The Authority has not discounted these estimated liabilities to present value.

(12) Commitments and Contingencies – Other Liabilities (Continued)

Changes in the Authority's estimated risk management liabilities related to workers' compensation and general liability claims during the years ended September 30, 2017, 2016 and 2015 were as follows:

Description	2017	2016	2015
Balance, beginning of year	$ 11,818	$ 11,615	$ 11,645
Current year claims and changes in estimates	2,169	2,935	2,796
Claim payments	(2,317)	(2,732)	(2,826)
Balance, end of year	$ 11,670	$ 11,818	$ 11,615

(b) Rolling Owner Controlled Insurance Program

The Authority procures insurance for the majority of its construction contractors through the Authority's Rolling Owner Controlled Insurance Program (ROCIP). Construction contractors who do not participate in the ROCIP are required to procure insurance on their own. Coverage for participating construction contractors includes general liability, umbrella and workers' compensation insurance. Both general liability and workers' compensation have a $500 per occurrence deductible. There is also $100,000-$200,000 excess general liability coverage in place. The workers' compensation loss coverage is statutory, and unlimited above the retention. For each of the three most recent years, settlement of claims has not exceeded insurance coverage. Additionally, there has not been a significant reduction in insurance coverage from coverage in the prior year.

Liabilities for the self-insured exposure for workers' compensation claims and general liability claims under the ROCIP are recognized when it is probable that losses have occurred and the amounts of the losses can be reasonably estimated. Liabilities include an amount for claims that have been incurred but not reported to date and include a provision for allocated and unallocated claim adjustment expenses. Because actual claims liabilities depend on such complex factors as inflation, changes in governing laws and standards, and court awards, the process used in computing claims liabilities is reevaluated periodically to take into consideration the history, frequency and severity of recent claims and other economic and social factors.

These liabilities are computed using a combination of actual claims experience and statistically estimated amounts. The Authority has not discounted these estimated liabilities to present value.

Changes in the Authority's estimated ROCIP liabilities related to workers' compensation and general liability claims during the years ended September 30, 2017, 2016 and 2015 were as follows:

Description	2017	2016	2015
Balance, beginning of year	$ 6,518	$ 5,702	$ 5,242
Current year increase (decrease) in ROCIP liability	11,245	12,239	5,163
ROCIP administration and claim payments	(10,622)	(11,423)	(4,703)
Balance, end of year	$ 7,141	$ 6,518	$ 5,702

(In thousands)

(12) Commitments and Contingencies – Other Liabilities (Continued)

(c) Litigation

The Authority is a party in various administrative proceedings, legal actions and claims brought by or against it in the normal course of operations by employees, contractors, and other parties. The following table reflects the changes in the Authority's estimated liabilities for litigation contingencies where the risk of loss is probable during the years ended September 30, 2017 and 2016:

Description	2017	2016
Balance, beginning of year	$ 2,998	$ 3,024
Current year claims and changes in estimates	1,264	2,050
Claim payments	(3,593)	(2,076)
Balance, end of year	$ 669	$ 2,998

Although the ultimate outcome of these legal proceedings are unknown, in the opinion of the Authority's management and legal counsel, the ultimate resolution of these actions and claims will not materially affect the financial position, results of operations, or cash flows of the Authority.

(d) Federal Grants

The Authority's federal capital grants are subject to financial and compliance audits by the federal grantors or their representatives. The Authority's management does not expect that the results of these audits will have a material adverse effect on the accompanying financial statements.

(e) Construction and Other Significant Commitments

The Authority's contractual commitments are primarily associated with the long-term capital improvement program. Outstanding contractual commitments related to the capital improvement program as of September 30, 2017 and 2016 were $1,134,208 and $861,685, respectively. Outstanding construction commitments are not recorded in the financial statements until goods and services have been received by the Authority in accordance with the terms of the related contracts.

(f) Lease Commitments

The Authority conducts a portion of its operations from leased facilities. Most of the leases contain renewal options. All of the leases for equipment and facilities are operating leases, and the rental payments under these leases are charged to operations as incurred.

(12) Commitments and Contingencies – Other Liabilities (Continued)

The Authority's rental expense for the years ended September 30, 2017 and 2016 were as follows:

Description	2017	2016
Facilities leases	$ 2,100	$ 1,396
Automobile equipment leases	116	65
Machinery leases	588	216
Other Rentals	4	-
Total	$ 2,808	$ 1,677

Future minimum non-cancelable lease payments on existing operating leases at September 30, 2017, which have an initial term of one year or more, are as follows.

Fiscal Year	Amount
2018	$1,772
2019	580
2020	212
2021	219
2022	223
2023-2027	576
Total	$3,582

(13) Related Party and Similar Transactions

(a) Water and Wastewater User Charges

The enabling legislation, described in Note 1, established that the District would pay for water and wastewater services. The Authority recorded revenues of $30,428 and $28,890 from the District government and $10,055 and $9,295 from the District of Columbia Housing Authority ("DCHA") for fiscal years 2017 and 2016, respectively. Both the District government and DCHA revenues are included in water and wastewater user charges in the accompanying statements of revenues, expenses and changes in net position.

(b) PILOT and ROW Fees

On October 2, 2014, DC Water entered into a Right-of-Way memorandum of understanding (ROW MOU) establishing an annual payment of $5,100 to the District in fiscal years 2015 through 2024. DC Water will make the payment in four equal quarterly installments of $1,275 due on the 15th of November, February, May and August of each year.

(In thousands)

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(13) Related Party and Similar Transactions (Continued)

On December 15, 2014, DC Water entered into a Payment In Lieu of Taxes memorandum of understanding (PILOT MOU) establishing a fiscal year 2015 PILOT payment of $15,337 to the District for services provided in fiscal year 2015. In fiscal years 2016 through 2024, DC Water will increase the PILOT payment by 2.0% per annum based upon the amount of the prior fiscal year's annual PILOT payment. In addition, the MOU stipulates that the Authority is entitled to offset this payment for services rendered to the District under our fire protection program.

The Authority recorded an expense of $15,957 and $15,644 for payments-in-lieu-of-taxes (PILOT) to the District for services such as road repairs, fire protection, police protection, and other services for each of the years ended September 30, 2017 and 2016.

The Authority also recorded an expense of $5,100 for the District's right-of-way (ROW) fee, respectively charged to all area utilities for infrastructure occupancy in public streets, for each of the years ended September 30, 2017 and 2016. As of September 30, 2017 there was no outstanding balance due to the District related to these fees.

(c) Due from District Government

The amounts due from the District government as of September 30, 2017 and 2016 were $45,241 and $53,275, respectively. Such amounts were comprised of the following at September 30, 2017 and 2016, respectively:

Description	2017	2016
Northeast Boundary Neighborhood Protection Project	$ 46,864	$ 52,271
Storm Water Fees (13 d)	(2,446)	(1,123)
Other miscellaneous items	823	2,127
Total due from District government	45,241	53,275
Less: current portion	4,235	6,411
Noncurrent portion	$ 41,006	$ 46,864

On September 11, 2014, the District and the Authority entered into a Memorandum of Understanding (MOU) whereby the District agreed to fund up to $58,579 of costs incurred by the Authority on the Northeast Boundary Neighborhood Protection Project. Amounts due from the District as of September 30, 2017 and 2016 under this agreement amounted to $46,864 and $52,271, respectively. Amendment No. 1 of the MOU dated September 1, 2015, calls for ten (10) equal installment payments of $5,858. The parties agreed that each installment payment is due on January 15th of each year until the costs are paid in full.

(13) Related Party and Similar Transactions (Continued)

(d) Storm Water Fee Billings and Collections

The District of Columbia Council created the Storm Water Compliance Amendment Act of 2000 which established the Authority as the Storm Water Administrator and a fund was established. The administration of the fund was transferred to the District Department of the Environment ("DDOE") in 2007. The Authority continues to bill and collect storm water fees as a separate item and transfers the funds to the DDOE quarterly.

During the years ended September 30, 2017 and 2016, the activity associated with the Authority providing this service to the District was as follows:

Description	2017	2016
Due from (to) the District-beginning of year	$ (1,123)	$ 3,335
Collections on behalf of the District	(13,431)	(15,567)
Remittances to the District	12,583	11,123
Expenses incurred by the Authority	1,124	934
Expenses reimbursed by the District	(1,599)	(948)
Due from (to) the District-end of year	$ (2,446)	$ (1,123)

Billings and collections associated with the District's Storm Water fees are not reflected in the Authority's financial statements as these are not billings and collections of the Authority. However, reimbursable expenses incurred and the related revenues from the District to cover such expenses are reflected in the accompanying statements of revenues, expenses and changes in net position.

The due (to) from the District has been reported in Due from District Government on the statement of net position as of September 30, 2017 and 2016, respectively.

(14) Employee Benefits

(a) Federal Benefit Plans

Certain DC Water employees who were previously employed by the District of Columbia government prior to October 1, 1987, are eligible to continue to participate in certain federal benefit plans administered by the federal government's Office of Personnel Management ("OPM"). The plans provide retirement and disability benefits, annual cost-of- living adjustments, and death benefits to plan participants and beneficiaries. In fiscal years 2017 and 2016, there were 106 and 133 DC Water employees covered by these plans, respectively.

The OPM issues a publically available financial report that includes financial statements and required supplementary information, which may be obtained at www.opm.gov.

Employees and the Authority each contribute 7% of the employees' salaries to OPM. The contribution requirements of the plan members are established by OPM. During fiscal years 2017, 2016 and 2015, the Authority's contributions to the plans were $649, $791 and $924, respectively. These amounts were 100% of the required contributions under the plans for each of the fiscal years presented.

DC Water is only responsible for funding the employer contributions for participating employees while employed by the Authority. DC Water is not responsible for any unfunded liability for this plan. Under current law, this liability will be paid off eventually through the series of 30-year amortizations payments from the general fund of the U.S. Treasury to the Civil Service Retirement and Disability Fund.

(b) Defined Contribution Plans

Defined Contribution Plan - Employees who were hired after September 30, 1987, participate in the U.S. Social Security system and a defined contribution plan administered by the Authority. The District of Columbia Water and Sewer Authority Defined Contribution Plan is a qualified trust under Internal Revenue Code Section 401(a).

The Authority established a retirement plan committee that oversees the 401(a) and 457(b) retirement plans. The committee meets on a semiannual basis to make decisions regarding the plan. Pursuant to the 401(a) plan, employees not reaching the 100% vesting period of three years of service will forfeit amounts related to Basic, Matching, and Discretionary Contributions and may be used to pay for plan expenses or reduce future Authority contributions. There are no amounts of forfeitures reflected in the pension expense reported in fiscal years 2017, 2016, and 2015.

As Plan Administrator, the Authority maintains the plans' records, determines issues related to eligibility as they relate to participation and benefits, interprets the plans, communicates with participants and their beneficiaries and responsible for the plans' operations. Fidelity Investments is the Plan Trustee.

(14) Employee Benefits (Continued)

Defined Contribution Plan - During fiscal years 2017, 2016 and 2015, the Authority's contribution was 7% of base pay up to the social security wage base, plus 5% of base pay in excess of the social security wage base for each eligible employee. Employees do not contribute to the plan.

457(b) Plan - Starting in January 2000, employees who were hired after September 30, 1987, participate in the U.S. Social Security system and a 457(b) Deferred Compensation plan administered by the Authority. The District of Columbia Water and Sewer Defined Contribution Plan is a qualified trust under Internal Revenue Code Section 401.

The Authority makes a matching contribution of 100% of the amount that the employee defers to the 457(b) Deferred Compensation Plan; up to a maximum contribution of 5% of base pay for eligible employees. There is no waiting period before an employee can elect to become a participant of this plan and employees are always 100% vested in their contributions.

The Authority's matching contribution is vested after three years of service. During fiscal years 2017, 2016 and 2015, the Authority's contributions to both defined contribution plans were $9,286, $8,357 and $7,519 respectively. The amount of the Authority's outstanding liability at the end of fiscal years 2017, 2016 and 2015 were $746, $638, and $1,122, respectively.

(c) Post-Employment Insurance Plans

The Authority does not provide post employment health and life insurance benefits to any employees hired after September 30, 1987. The federal government provides healthcare and life insurance benefits to certain retired employees under the Federal Employees' Health Benefits Program and the Federal Employee's Group Life Insurance Program at no cost to the Authority.

(d) Retirement Health Savings Plan

In fiscal year 2007, the Authority implemented a Retirement Health Savings Plan for non-union employees hired after September 30, 1987. The Plan allows eligible employees to receive a benefit for their unused sick leave upon separation of service. Funds are transferred to a third party (Maritain) to pay for post-employment medical expenses at the termination of employment.

(15) Subsequent Events

The Authority has evaluated events subsequent to September 30, 2017 through December 20, 2017, the date the financial statements were available to be issued. During this period, the Authority has determined there have not been any events that have occurred that would require adjustments to the financial statements.

(16) Blended Component Unit Condensed Financial Statements

The following are the condensed financial statements of Blue Drop, LLC as of and for the year ended September 30, 2017. As required, all intra-entity activities between Blue Drop and the Authority have been eliminated in the consolidation of Blue Drop, LLC's financial statements with those of the Authority. Such intra-entity activities were comprised of: $863 of support provided by DC Water to Blue Drop including $308 in cash transfers, shared services of $434 for donated employee time, and $84 for donated office space; $31 in marketing fees paid by DC Water to Blue Drop; and intra-entity receivables and payables amounting to $22 and $15, respectively.

Condensed Statement of Net Position - Blended Component Unit - Blue Drop, LLC as of September 30, 2017:

Current assets	$	330
Due from DC Water		22
Total assets		352
Current liabilities		12
Due to DC Water		15
Total liabilities		27
Unrestricted net position	$	325

Condensed Statement of Revenues, Expenses, and Changes in Net Position - Blended Component Unit - Blue Drop, LLC for the year ended September 30, 2017:

DC Water support	$	863
Sales of Bloom, Net of cost of sales		(59)
Consulting revenue		128
Marketing fees, DC Water		31
Total revenues		963
Personnel services		495
Contractual services		42
Supplies		16
Utilities and rent		85
Total operating expenses		638
Change in Net Position		325
Net Position, Beginning of Year		-
Net Position, End of Year	$	325

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Notes to the Financial Statements

September 30, 2017 and 2016

(In thousands)

(16) Blended Component Unit Condensed Financial Statements (Continued)

Condensed Statement of Cash Flows - Blended Component Unit - Blue Drop, LLC
For the year ended September 30, 2017

Net cash provided by operating activites	$	302
Increase in cash		302
Cash, Beginning of Year		-
Cash, End of Year	$	302

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Statistical Section
(Unaudited)

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Statistical Section (Unaudited)

This section contains statistical tables that reflect financial trends information, revenue capacity information, debt capacity information, demographic and economic information, and operating information. These tables differ from the basic financial statements because they usually cover more than two fiscal years and may present non-accounting data.

The statistical section is divided into five sections as follows:

1. Financial Trends
2. Revenue Capacity
3. Debt Capacity
4. Demographic and Economic Information
5. Operating Information

1. Financial Trends

These schedules contain trend information to better understand how the Authority's financial performance and well-being have changed over time.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 1
CHANGE IN NET POSITION
LAST TEN FISCAL YEARS
($000)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Operating revenues										
Residential, commercial and multi-family customers	$ 401,246	$ 382,552	$ 335,711	$ 295,209	$ 275,337	$ 256,846	$ 241,475	$ 209,796	$ 191,543	$ 183,553
Federal government	67,672	63,417	54,274	39,001	45,187	48,381	43,033	37,845	35,195	35,888
District government and DC Housing Authority	40,483	38,185	32,948	28,852	21,677	24,713	25,123	21,947	16,804	16,193
Charges for w holesale w astew ater treatment	101,619	91,873	112,522	96,845	87,178	94,549	90,414	87,505	85,519	82,854
Other	32,149	19,762	14,460	13,917	9,700	16,077	8,210	6,655	3,337	3,846
Total Operating Revenues	643,169	595,789	549,915	473,824	439,079	440,566	408,255	363,748	332,398	322,334
Operating expenses										
Personnel services	132,124	124,239	115,233	108,467	103,908	97,784	93,240	88,210	82,248	75,838
Contractual services	72,611	74,086	66,241	68,172	68,417	64,939	71,055	69,497	64,513	58,730
Chemicals, supplies and small equipment	33,381	29,524	32,935	31,748	28,987	28,815	28,188	29,003	29,074	28,816
Utilities and rent	24,262	23,934	30,848	29,939	26,098	26,786	29,429	29,929	32,813	37,843
Depreciation and amortization	97,900	89,512	83,857	77,833	77,330	74,342	70,209	64,425	59,291	54,418
Water purchases	26,796	26,345	29,109	28,407	27,223	28,389	27,170	27,587	25,371	25,746
Payment in lieu of taxes and right of w ay fee	21,057	20,744	20,437	11,458	21,982	21,982	21,982	20,474	19,183	17,525
Total operating expenses	408,131	388,384	378,660	356,024	353,945	343,037	341,273	329,125	312,493	298,916
Operating income	235,038	207,405	171,255	117,800	85,134	97,529	66,982	34,623	19,905	23,418
Non-operating revenue (expenses)										
Interest income	3,740	2,629	1,316	977	1,144	749	2,036	1,343	1,704	11,444
Interest expense and other nonoperating expenses	(68,293)	(69,118)	(61,409)	(69,288)	(63,905)	(74,001)	(73,335)	(57,479)	(53,197)	(44,338)
Total non-operating (expenses)	(64,553)	(66,489)	(60,093)	(68,311)	(62,761)	(73,252)	(71,299)	(56,136)	(51,493)	(32,894)
Change in net position before capital contributions	170,485	140,916	111,162	49,489	22,373	24,277	(4,317)	(21,513)	(31,588)	(9,476)
Capital contributions	24,066	32,431	67,965	94,690	58,310	58,957	47,374	30,403	27,752	42,208
Change in net position	194,551	173,347	179,127	144,179	80,683	83,234	43,057	8,890	(3,836)	32,732
Net position, beginning of year	1,703,289	1,529,942	1,350,815	1,206,636	1,125,953	1,042,719	999,662	990,772	994,608	961,876
Net position, end of year	$ 1,897,840	$ 1,703,289	$ 1,529,942	$ 1,350,815	$ 1,206,636	$ 1,125,953	$ 1,042,719	$ 999,662	$ 990,772	$ 994,608

Source: FY 2008 - 2017 Statements of Revenues, Expenses and Changes in Net Position.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

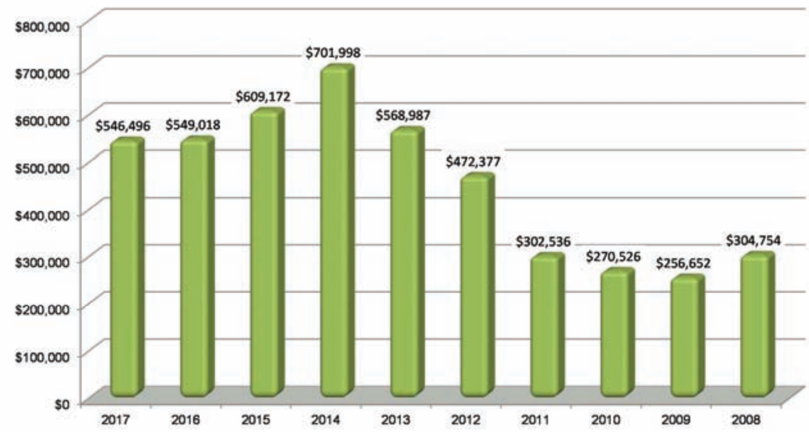
EXHIBIT 2
SUMMARY OF NET POSITION
LAST TEN FISCAL YEARS
($000)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Net investments in capital assets	$ 1,655,867	$ 1,491,925	$ 1,348,056	$ 1,130,952	$ 1,042,620	$ 956,397	$ 874,356	$ 818,001	$ 765,709	$ 726,747
Restricted	33,276	33,135	27,054	28,863	29,010	27,297	26,825	17,257	10,244	8,297
Unrestricted	208,697	178,229	154,832	191,000	135,006	142,259	141,538	164,404	214,819	259,564
Total net postion	$ 1,897,840	$ 1,703,289	$ 1,529,942	$ 1,350,815	$ 1,206,636	$ 1,125,953	$ 1,042,719	$ 999,662	$ 990,772	$ 994,608

Source: FY 2008 - 2017 Statements of Net Position.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 3
CAPITAL DISBURSEMENTS
LAST TEN FISCAL YEARS
($000)



Note: These disbursements include DC Water's share of Washington Aqueduct's capital disbursements.

Source: FY 2008 – 2017 Statements of Cash Flows.

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2. Revenue Capacity

These schedules contain information regarding the Authority's most significant revenue sources.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 4
OPERATING REVENUES AND RATE INCREASES
LAST TEN FISCAL YEARS
($000)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Operating Revenues										
Retail Customers										
Residential, Commercial and Multifamily	$ 401,246	$ 382,552	$ 335,711	$ 295,209	$ 275,337	$ 256,846	$ 241,475	$ 209,796	$ 191,543	$ 183,553
Federal Government	67,672	63,417	54,274	39,001	45,187	48,381	43,033	37,845	35,195	35,888
DC Government	30,429	28,890	24,453	21,205	14,714	18,213	17,827	15,628	10,116	9,391
DC Housing Authority	10,054	9,295	8,495	7,647	6,963	6,500	7,296	6,319	6,688	6,802
Other Revenues	32,149	19,762	14,460	13,917	9,700	16,077	8,210	6,655	3,337	3,846
Total Retail Customers	541,550	503,916	437,393	376,979	351,901	346,017	317,841	276,243	246,879	239,480
Wholesale Customers	101,619	91,873	112,522	96,845	87,178	94,549	90,414	87,505	85,519	82,854
Total Operating Revenues	$ 643,169	$ 595,789	$ 549,915	$ 473,824	$ 439,079	$ 440,566	$ 408,255	$ 363,748	$ 332,398	$ 322,334
Retail Rate Increases	5.00%	6.50%	7.50%	5.50%	5.50%	4.50%	12.50%	9.00%	7.50%	5.50%

Source: FY 2008 - 2017 Statements of Revenues, Expenses and Changes in Net Position

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 5
NUMBER AND TYPE OF CUSTOMER ACCOUNTS
LAST TEN FISCAL YEARS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Retail Accounts										
Residential	105,762	106,120	105,735	104,965	104,477	103,887	103,857	103,315	103,665	103,674
Commercial [(A)]	18,807	18,828	18,947	19,433	19,343	19,242	19,165	19,049	19,060	18,528
Governmental										
Federal	560	558	550	542	542	538	549	546	540	533
District of Columbia	650	641	638	641	630	605	607	603	606	590
DC Housing Authority	1,457	1,462	1,446	1,452	1,460	1,435	1,431	1,431	1,220	1,218
Total Retail Accounts	127,236	127,609	127,316	127,033	126,452	125,707	125,609	124,944	125,091	124,543
DC Water	39	39	39	37	36	36	35	35	30	30
Washington Aqueduct	2	2	2	2	2	2	2	1	2	2
Wholesale	7	7	7	7	7	7	7	7	7	7
Total Number of Accounts	127,284	127,657	127,364	127,079	126,497	125,752	125,653	124,987	125,130	124,582

[(A)] Included in commercial are multi-family and exempt accounts

Source: D.C. Water Department of Customer Service

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 6
TEN LARGEST COMMERCIAL CUSTOMERS
LAST TEN FISCAL YEARS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Howard University	$ 3,957,007	$ 3,823,023	$ 3,237,999	$ 2,662,949	$ 2,699,376	$ 2,596,564	$ 1,862,880	$ 1,735,598	$ 1,640,815	$ 1,706,124
George Washington University	2,477,970	2,338,974	2,763,055	2,609,611	2,161,183	2,530,632	2,122,176	1,618,618	1,777,659	2,020,849
William C Smith & Co	2,226,722	2,455,990	2,076,534	2,277,833	1,782,719	1,787,150	1,709,334	1,505,145	-	-
Washington Hospital Center	1,624,588	1,991,344	1,830,586	1,671,855	1,693,655	933,027	1,270,788	1,113,672	823,743	514,275
Georgetown University	1,438,247	1,324,563	1,413,714	2,605,884	1,865,068	1,842,860	2,238,766	2,100,705	2,135,768	2,055,644
Metropolitan Washington Airports Authority	1,068,877	1,008,250	923,394	807,803	716,929	661,509	-	-	-	-
Amtrak	983,224	1,019,570	1,028,989	984,336	1,004,177	937,430	903,475	761,235	963,925	795,825
Georgetown University Hospital	808,884	920,681	720,247	955,353	1,053,659	1,643,380	1,371,035	-	-	-
Medstar-Georgetown Medical Center	807,540	-	-	-	-	-	-	-	-	-
American University	750,235	1,001,742	1,078,412	1,125,050	1,253,038	869,211	-	694,565	1,524,262	773,109
Horning Brothers	-	1,335,613	-	1,347,287	1,258,995	1,163,586	1,122,879	993,115	-	-
Shoreham Hotel	-	-	1,035,982	-	-	-	-	-	656,182	458,828
The Barac Company	-	-	-	-	-	-	927,022	776,134	-	-
Soldiers Home	-	-	-	-	-	-	897,121	804,533	818,641	948,708
Marriott Wardman Park Hotel	-	-	-	-	-	-	-	-	1,037,663	681,480
JW Marriott Hotel	-	-	-	-	-	-	-	-	556,985	-
Children's Hospital	-	-	-	-	-	-	-	-	-	841,774
Washington Hilton Hotel	-	-	-	-	-	-	-	-	-	792,227
Total	$ 16,143,294	$ 17,219,750	$ 16,108,912	$ 17,047,961	$ 15,488,799	$ 14,965,349	$ 14,425,476	$ 12,103,320	$ 11,935,643	$ 11,588,843
% of Total Operating Revenues	2.51%	2.89%	2.93%	3.60%	3.53%	3.40%	3.53%	3.33%	3.59%	3.60%

Source: DC Water Department of Customer Service

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 7
TEN LARGEST GOVERNMENT CUSTOMERS
LAST TEN FISCAL YEARS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
D.C. Housing Authority	$ 7,492,820	$ 6,999,037	$ 6,922,176	$ 6,308,902	$ 5,879,383	$ 5,669,475	$ 6,277,722	$ 5,750,927	$ 6,266,786	$ 6,339,434
U.S. General Services Administration	7,092,342	11,670,623	6,425,889	7,598,077	7,184,034	7,443,691	6,877,787	6,575,977	6,773,195	8,199,985
National Park Service	4,621,035	3,656,234	2,233,857	1,363,657	2,577,096	2,481,144	2,217,698	2,384,771	2,844,549	2,257,749
U.S. Congress	4,597,331	3,223,507	6,524,863	4,019,627	4,926,790	5,225,952	4,214,640	3,559,903	4,028,564	4,096,695
Smithsonian Institution	3,635,763	2,768,661	3,219,324	2,810,786	3,038,455	2,681,705	3,997,326	2,564,033	3,605,478	4,325,576
Bolling Air Force Base	3,115,393	2,602,439	2,509,536	1,928,617	2,265,348	2,925,847	-	-	2,279,861	-
D.C. Board of Education	2,497,561	2,228,498	2,166,846	2,391,393	2,092,748	2,213,636	2,142,907	2,534,044	2,292,454	3,062,431
Federal Naval Research Lab	1,853,214	1,975,742	1,802,150	1,542,370	1,833,491	1,788,497	-	-	-	-
Department of the Navy	1,662,225	1,708,908	-	-	1,521,264	1,886,750	3,832,568	2,851,611	3,504,547	3,011,883
D.C. Recreation and Parks	1,604,350	1,695,630	1,702,488	1,216,398	-	-	-	-	-	-
Department Defense VA	-	-	4,020,624	3,275,936	3,275,936	3,527,613	2,873,310	2,759,264	2,136,653	2,425,139
D.C. Department of Human Services	-	-	-	-	-	-	3,272,747	2,047,213	-	1,914,251
Department of Defense DC	-	-	-	-	-	-	2,151,529	1,608,642	2,248,076	3,292,402
Total	$ 38,172,034	$ 38,529,279	$ 37,527,753	$ 32,455,763	$ 34,594,545	$ 35,844,310	$ 37,858,234	$ 32,636,385	$ 35,980,163	$ 38,925,545
% of Total Operating Revenues	5.93%	6.47%	6.82%	6.85%	7.88%	8.14%	9.27%	8.97%	10.82%	12.08%

Source: DC Water Department of Customer Service

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 8
RETAIL WATER AND SEWER RATES
LAST TEN FISCAL YEARS

FISCAL YEAR	(a) METERING FEE	(b) WATER SYSTEM REPLACEMENT FEE	(c) DISTRICT PUBLIC SPACE OCCUPANCY FEE AND PILOT	(d) WATER CONSUMPTION RATE	(e) SEWER CONSUMPTION RATE	(f) COMBINED CONSUMPTION RATE	(g) IMPERVIOUS SURFACE AREA CHARGE [2]	AVERAGE MONTHLY BILL [1]
2008	2.010	-	0.47	2.14	3.23	5.37	-	38.22
2009	2.010	-	0.52	2.30	3.31	5.61	1.240	41.26
2010	2.010	-	0.57	2.51	3.61	6.12	2.20	45.69
2011	3.860	-	0.63	3.10	3.79	6.89	3.45	53.93
2012	3.860	-	0.64	3.24	3.96	7.20	6.64	59.11
2013	3.860	-	0.66	3.42	4.18	7.60	9.57	64.64
2014	3.860	-	0.70	3.61	4.41	8.02	11.85	69.77
2015	3.860	-	0.63	3.88	4.74	8.62	16.75	77.96
2016	3.860	6.30	0.64	3.36	5.44	8.80	20.30	88.99
2017	3.860	6.30	0.65	3.52 [3]	5.71	9.23	22.24	93.66

[1] Average residential customer consumption is 6.2 Ccf per month. The average monthly bill is calculated as follows (a)+(b)+(g)+(((c)+(f)) x 6.2 Ccf)

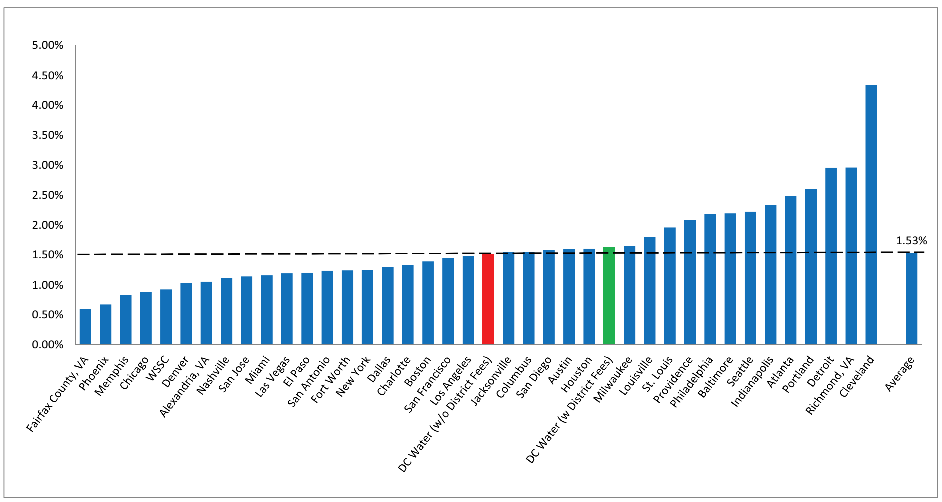
[2] Per Equivalent Residential Unit (ERU).

[3] Weighted average water rate for residential customers.

Source: D.C. Water Department of Finance & Budget

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 9
RESIDENTIAL WATER AND WASTEWATER BILL COMPARISONS AS A PERCENTAGE OF MEDIAN HOUSEHOLD INCOME (1)

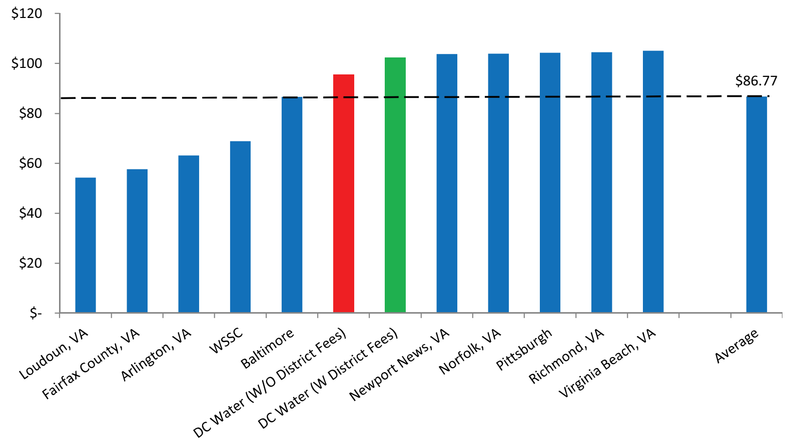


(1) This analysis is based on a single family residential monthly bill as a percentage of median household income for large national utilities based on rates in effect fall 2017.

Source: DC Water Department of Finance & Budget

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 10
RESIDENTIAL WATER AND WASTEWATER BILL COMPARISONS
TO LOCAL AND REGIONAL UTILITIES (1)



(1) This analysis represents single family residential average monthly bill based on rates in effect fall 2017.

Source: DC Water Department of Finance & Budget

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3. Debt Capacity

These schedules present information showing the Authority's current levels of outstanding debt and the Authority's ability to issue additional debt in the future.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 11
OUTSTANDING DEBT AND DEBT RATIOS
LAST TEN FISCAL YEARS
($000, EXCEPT PER CAPITA)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Senior Debt:										
2017 Series A Public Utility Revenue Bonds	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017 Series B Public Utility Revenue Bonds	200,000	-	-	-	-	-	-	-	-	-
2014 Public Utility Revenue Bonds	350,000	350,000	350,000	350,000	-	-	-	-	-	-
2009 Series A Public Utility Revenue Bonds	8,040	11,535	159,520	291,145	293,720	296,205	298,225	300,000	300,000	-
1998 Public Utility Revenue Bonds	156,605	170,525	183,660	196,050	207,735	218,815	229,315	239,270	248,705	257,645
Total Senior Debt	814,645	532,060	693,180	837,195	501,455	515,020	527,540	539,270	548,705	257,645
Subordinate Debt:										
2016 Series A Public Utility Revenue Bonds	389,110	389,110	-	-	-	-	-	-	-	-
2016 Series B Public Utility Revenue Bonds	25,000	25,000	-	-	-	-	-	-	-	-
2015 Series A Public Utility Revenue Bonds	100,000	100,000	-	-	-	-	-	-	-	-
2015 Series B Public Utility Revenue Bonds	250,000	250,000	-	-	-	-	-	-	-	-
2014 Series B-1 Public Utility Revenue Bonds	50,000	50,000	50,000	50,000	-	-	-	-	-	-
2014 Series B-2 Public Utility Revenue Bonds	50,000	50,000	50,000	50,000	-	-	-	-	-	-
2014 Series C Public Utility Revenue Bonds	377,110	377,110	377,700	-	-	-	-	-	-	-
2013 Series A Public Utility Revenue Bonds	300,000	300,000	300,000	300,000	300,000	-	-	-	-	-
2012 Series A Public Utility Revenue Bonds	158,740	163,655	168,405	172,990	177,430	177,430	-	-	-	-
2012 Series B-1 Public Utility Revenue Bonds	-	-	-	52,690	52,690	52,690	-	-	-	-
2012 Series B-2 Public Utility Revenue Bonds	-	-	47,310	47,310	47,310	47,310	-	-	-	-
2012 Series C Public Utility Revenue Bonds	163,215	163,215	163,215	163,215	163,215	163,215	-	-	-	-
2010 Series A Public Utility Revenue Bonds	300,000	300,000	300,000	300,000	300,000	300,000	300,000	-	-	-
2008 Series A Public Utility Revenue Bonds	13,600	20,200	168,190	268,095	274,210	279,955	285,540	290,000	290,375	290,375
2007 Series A Public Utility Revenue Bonds	-	-	115,580	218,715	218,715	218,715	218,715	218,715	218,715	218,715
2003 Public Utility Revenue Bonds	-	-	-	-	-	-	176,220	176,220	176,220	176,220
Notes Payable to the Federal										
Government for Bloomington Dam	12,454	12,841	13,217	13,580	13,932	14,273	14,603	14,922	15,232	15,532
DC General Obligation Bonds	-	-	-	-	-	-	245	1,490	5,180	9,905
Notes Payable to WSSC for Little Seneca	-	-	-	-	-	63	104	142	179	216
Total Subordinate Debt	2,189,229	2,201,131	1,753,617	1,636,595	1,547,502	1,253,651	995,427	701,489	705,901	710,963
Total Senior and Subordinate debt	3,003,874	2,733,191	2,446,797	2,473,790	2,048,957	1,768,671	1,522,967	1,240,759	1,254,606	968,608
Unamortized bond premiums	222,786	198,677	104,060	76,098	79,313	79,674	28,255	29,929	31,102	31,255
Unamortized bond discounts	(2,093)	(2,222)	(2,351)	(2,480)	(2,608)	(2,784)	(2,879)	(2,968)	(3,053)	(3,134)
Total Debt	$ 3,224,567	$ 2,929,646	$ 2,548,506	$ 2,547,408	$ 2,125,662	$ 1,845,561	$ 1,548,343	$ 1,267,720	$ 1,282,655	$ 996,729
Debt - per capita	N/A	$ 4,301	$ 3,791	$ 3,866	$ 3,288	$ 2,919	$ 2,505	$ 2,096	$ 2,166	$ 1,718
Debt - percentage of personal income	N/A	5.65%	5.17%	5.54%	4.37%	3.90%	3.40%	2.94%	3.18%	2.43%

N/A: population and personal income not available

See exhibits 13 and 14 for per capita personal income and population data.

Total debt doesn't include outstanding debt associated with DC Water's short-term debt (commercial paper) program.

Source: D.C. Water Department of Finance & Budget

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 12
CALCULATION OF DEBT SERVICE COVERAGE
FY 2017 ($000)

Prepared in accordance with the Authority's Master Trust Indenture, which corresponds closely to the cash basis of accounting.

Calculation of Debt Service Coverage:	
Cash Receipts (Revenues)	
Retail	$ 474,462
Wholesale	81,136
Other Non-Operating	61,419
Transfer from (Contributions to) Rate Stabilization Fund	(10,000)
Total Cash Receipts (A)	607,017
Cash Disbursements (Operating Expenses) (B)	292,812
Cash Receipts Less Cash Disbursements (C=A-B)	$ 314,205
Debt Service:	
Senior Debt Service (D)	$ 51,945
Subordinate Debt Service (E)	109,263
Total Outstanding and Projected Debt Service (F=D+E)	$ 161,208
Calculation of Net Cash Receipts Available for Senior Debt Service:	
Cash Receipts Less Cash Disbursements (C)	$ 314,205
Prior Year Federal Billing Reconciliation	(19,201)
(Refund to)/Payment from Wholesale Customers	(10,906)
Net Cash Receipts Available for Senior Debt Service (G)	$ 284,098
Senior Debt Service Coverage (G/D)	**5.47**
Calculation of Subordinate Debt Service Coverage:	
Net Cash Receipts Available for Senior Debt Service (G)	$ 284,098
Less Senior Debt Service (D)	(51,945)
Net Cash Receipts Available for Subordinate Debt Service (G-D)	$ 232,153
Subordinate Debt Service Coverage ((G-D)/E)	**2.12**
Combined Debt Service Coverage (G/F)	**1.76**

Source: D.C. Water Department of Finance & Budget

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4. Demographic and Economic Information

These schedules offer demographic and economic data to help explain the environment within which the Authority's financial activities take place.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 13
POPULATION OF SERVICE AREA JURISDICTIONS
LAST TEN CALENDAR YEARS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
District of Columbia	N/A	681,170	672,228	658,893	646,449	632,323	617,996	604,912	592,228	580,236
Montgomery County, MD	N/A	1,043,863	1,040,116	1,030,447	1,016,677	1,004,709	989,794	975,439	959,013	942,748
Prince George's County, MD	N/A	908,049	909,535	904,430	890,081	881,138	871,233	865,219	856,161	850,167
Fairfax County, VA	N/A	1,176,830	1,180,139	1,175,622	1,168,405	1,155,292	1,135,992	1,121,054	1,099,347	1,077,509
Loudoun County, VA	N/A	385,945	375,629	363,050	349,679	336,898	325,405	315,305	303,661	292,570

N/A: Not Available

Source: U.S. Department of Commerce, Bureau of Economic Analysis

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 14
PERSONAL INCOME OF SERVICE AREA JURISDICTIONS
LAST TEN CALENDAR YEARS
($000)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
District of Columbia	N/A	$ 51,842,801	$ 49,275,917	$ 46,015,860	$ 48,696,519	$ 47,280,666	$ 45,597,835	$ 43,082,099	$ 40,326,374	$ 41,014,705
Montgomery County, MD	N/A	84,518,332	79,946,266	75,720,017	73,958,785	73,551,167	69,050,166	65,904,393	62,962,957	65,845,731
Prince George's County, MD	N/A	41,922,938	40,806,805	40,215,913	38,595,921	38,481,250	35,036,640	33,888,631	33,156,357	33,026,742
Fairfax County, VA	N/A	89,412,959	88,419,380	88,180,013	83,835,355	82,727,342	78,392,046	75,161,493	71,954,372	75,302,775
Loudoun County, VA	N/A	27,486,217	26,254,562	24,463,869	20,886,046	20,107,077	18,626,729	16,971,112	15,340,608	15,147,096

N/A: Not Available

Source: U.S. Department of Commerce, Bureau of Economic Analysis

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 15
PER CAPITA PERSONAL INCOME OF SERVICE AREA JURISDICTIONS
LAST TEN CALENDAR YEARS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
District of Columbia	N/A	$ 76,108	$ 73,302	$ 69,838	$ 75,329	$ 74,773	$ 73,783	$ 71,220	$ 69,093	$ 70,686
Montgomery County, MD	N/A	80,967	76,863	73,483	72,746	73,206	69,762	67,564	65,654	69,844
Prince George's County, MD	N/A	46,168	44,866	44,465	43,362	43,672	40,215	39,168	38,727	38,847
Fairfax County, VA	N/A	75,978	74,923	75,007	71,752	71,607	69,008	67,045	65,452	69,886
Loudoun County, VA	N/A	71,218	69,895	67,384	59,729	59,683	57,242	53,824	50,519	51,773

N/A: Not Available

Source: U.S. Department of Commerce, Bureau of Economic Analysis

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 16
UNEMPLOYMENT RATES
LAST TEN CALENDAR YEARS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
District of Columbia	6.2%	6.5%	6.9%	7.0%	7.3%	8.2%	10.2%	10.1%	9.7%	6.6%
Montgomery County, MD	3.4%	3.2%	4.0%	4.1%	4.5%	4.7%	5.2%	5.8%	5.6%	3.2%
Prince George's County, MD	4.3%	4.1%	5.1%	5.5%	6.2%	6.5%	7.0%	7.7%	7.3%	4.4%
Fairfax County, VA	3.4%	3.3%	3.3%	3.6%	3.7%	3.6%	4.3%	4.9%	4.9%	2.9%
Loudoun County, VA	3.4%	3.3%	3.3%	3.6%	3.9%	3.7%	4.2%	4.8%	4.8%	2.8%

Source: U.S. Department of Labor, Bureau of Labor Statistics

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 17
EMPLOYMENT BY SECTOR

	DISTRICT OF COLUMBIA	MONTGOMERY COUNTY	PRINCE GEORGE'S COUNTY	FAIRFAX COUNTY	LOUDOUN COUNTY
Agriculture, Forestry, Mining, etc.	0.06%	0.33%	0.09%	0.22%	0.76%
Construction	2.06%	5.56%	8.76%	4.45%	8.16%
Manufacturing	0.22%	1.93%	1.89%	0.81%	3.37%
Transportation & Public Utilities	1.56%	2.44%	5.32%	2.50%	6.19%
Wholesale & Retail Trade	3.64%	9.37%	13.32%	8.06%	11.87%
Finance, Insurance & Real Estate	6.12%	11.74%	6.47%	9.66%	8.23%
Services	58.09%	54.80%	42.95%	60.93%	50.29%
Government (Federal, State & Local)	26.64%	12.75%	19.57%	12.26%	10.59%
Military	1.58%	1.09%	1.63%	1.11%	0.54%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

Source: U.S. Department of Commerce, Bureau of Economic Analysis
Latest available data is for 2016

5. Operating Information

These schedules contain information about the Authority's operations and resources to help the reader understand how the Authority's financial information relates to the activities it perform.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 18
WATER DELIVERED (PUMPED) AND BILLED (SOLD)
LAST TEN FISCAL YEARS

FISCAL YEAR	TREATED WATER DELIVERED (MG)	WATER BILLED (MG)	SOLD/PUMPED RATIO
2008	40,755	30,603	75.09%
2009	39,998	29,344	73.36%
2010	38,589	29,004	75.16%
2011	37,556	29,040	77.32%
2012	36,930	27,988	75.79%
2013	34,714	26,316	75.81%
2014	34,708	25,374	73.11%
2015	38,146	26,748	70.12%
2016	36,363	26,325	72.40%
2017	35,827	25,845	72.14%

Source: DC Water Department of Customer Service

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 19
WATER DEMAND
LAST TEN FISCAL YEARS

FISCAL YEAR	ANNUAL DELIVERIES TO SYSTEM (MG)	AVERAGE DAY (MG)	MAXIMUM MONTH AVERAGE (MGD)	MAXIMUM DAY (MGD)	TOTAL ANNUAL WATER SOLD (MG)	AVERAGE DAY (MGD)
2008	40,755	111.7	130.1	150.5	30,603	83.8
2009	39,998	109.6	123.2	150.4	29,344	80.4
2010	38,589	105.7	130.5	146.9	29,004	79.5
2011	37,556	102.9	121.6	143.7	29,040	79.6
2012	36,930	100.9	125.3	142.9	27,988	76.7
2013	34,714	95.1	111.3	129.7	26,316	71.9
2014	34,708	95.1	106.6	123.7	25,374	72.1
2015	38,146	104.5	117.7	148.4	26,748	73.3
2016	36,363	99.4	113.8	127.7	26,325	72.1
2017	35,827	98.2	107.4	122.7	25,845	70.8

Source: DC Water Department of Water Services and Washington Aqueduct

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 20
MISCELLANEOUS STATISTICS ABOUT AUTHORITY OPERATIONS
LAST TEN FISCAL YEARS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Utilities and supplies per day at Blue Plains										
Electric power (kwh) - Total Used	632,220	615,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	745,000
Electric power (kwh) - Generated On Site	138,347	-	-	-	-	-	-	-	-	-
Sodium hypochlorite (gallons)	12,880	10,051	10,051	6,850	6,850	6,850	6,850	6,850	6,850	6,850
Sodium bisulfite (pounds)	9,085	7,880	7,880	5,600	5,600	5,600	5,600	5,600	5,600	5,600
Water (gallons)	525,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000
Lime (tons, pounds), dry	-	-	39,000	72,050	72,050	72,050	72,050	72,050	72,050	72,050
Lime (gallons), slurry	3,095	-	-	-	-	-	-	-	-	-
Sodium hydroxide (pounds)	2,854	14,766	14,766	26,100	26,100	26,100	26,100	26,100	26,100	26,100
Methanol (gallons)	20,705	19,428	19,428	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Ferric chloride (10% Iron) (gallons)	16,054	19,060	19,060	12,900	12,900	12,900	12,900	12,900	12,900	12,900
Wastewater treatment capacity										
Average day (mgd)	384	370	370	370	370	370	370	370	370	370
Peak 4 hour flow, through complete process (mgd)	511	511	511	740	740	740	740	740	740	740
Excess storm flow, primary treatment only (mgd)	336	336	336	336	336	336	336	336	336	336
Peak flow (mgd)	847	847	847	1,076	1,076	1,076	1,076	1,076	1,076	1,076
DC Water employees	1,134	1,121	1,164	1,079	1,080	1,051	1,032	1,004	1,000	961

Source: D.C. Water Department of Wastewater Treatment Operations

(CONTINUED ON NEXT PAGE)

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EXHIBIT 20
MISCELLANEOUS STATISTICS ABOUT AUTHORITY OPERATIONS
(CONTINUED)

Wastewater Plant Permit Limitations
September 30, 2012 through September 30, 2017

Parameter	Monthly	Weekly
Biochemical Oxygen Demand (carbonaceous)	5.0 mg/L (15,429 lbs./day)	7.5 mg/l (23.143 lbs./day)
Total Suspended Solids (TSS)	7.0 mg/l (21,600 lbs./day)	10.5 mg/l (32,400 lbs./day)
Ammonia Nitrogen		
Summer (5/1 – 10/31)	4.2 mg/l (12,960 lbs./day)	6.1 mg/l (18,823 lbs./day)
Winter 1 (1/1 – 2/14)	11.1 mg/l (34,253 lbs./day)	14.8 mg/l (45,670 lbs./day)
Winter 2 (2/15 – 4/30)	12.8 mg/l (39,500 lbs./day)	17.0 mg/l (52,460 lbs./day)
Total Phosphorus (annual average)	0.18 mg/l (555 lbs./day)	0.35 mg/l (1080 lbs./day)
Dissolved Oxygen		
Minimum daily average	5.0 mg/l	
Not less than	4.0 mg/l	
pH		
Minimum	6.0 units	
Maximum	8.5 units	
Total Chlorine	Non detectable	
E.coli	123 cu/100ml Geometric (30 day)	
Chesapeake Bay Voluntary Agreement Total Nitrogen (Annual Average)	8,467,200 lbs./yr	
U.S. Environmental Protection Agency Total Nitrogen (Annual Average)	4,337,580 lbs./yr	

Wastewater Plant Processes
Primary Treatment

Influent Pumping Capacity	1,300 MGD
Number of bar screens	13
Number of aerated grit chambers	16
Total volume of aerated grit chambers	2.3 MG
Number of primary clarifiers	36
Average detention time (clarifiers)	2.5 hours
Average hydraulic loading (clarifiers)	1,008 gallons/square foot/day
Maximum hydraulic loading (clarifiers)	2,929 gallons/square foot/day

EXHIBIT 20
MISCELLANEOUS STATISTICS ABOUT AUTHORITY OPERATIONS
(CONTINUED)

Secondary Treatment

Number of reactors	6
Total reactor volume	27.7 MG
Number of clarifiers	24
Average reactor detention time	1.6 hours
Average clarifier hydraulic loading	763 gal/sq ft./day
Number of centrifugal blowers	6
Total blower capacity	280,000 cu ft. /min
Average MLSS	2,200 mg/L
Average SRT	1.6 days
Average SVI	80-100 ml/g
Effluent dissolved oxygen	2-3 mg/L
Effluent alkalinity	140 mg/L as CaCO3

Nitrification / Denitrification

Number of Nitrification reactors	12
Total reactor volume	55.2 MG
Number of Denitrification reactors	8
Total reactor volume	36.7 MG
Number of clarifiers	28
Average reactor detention time	3.3 hours
Average clarifier hydraulic loading	755 gallons/square ft./day
Average MLSS	2000 mg/L
Average pH	7.0 units
Average SRT	21 days
Average SVI	80-110 ml/g
Effluent alkalinity	110 mg/L as CaCO3

Effluent dissolved oxygen	3.8 – 7.2 mg/L
(Post – Aeration)	
Dual Purpose sedimentation tanks	
	4 Secondary Treatments
	4 Nitrification Treatments
Total Dual Purpose Surface Area	197,160 sq. ft.

Filtration & Disinfection

Number of filters	40
Total filter area	83,200 sq. ft.
Average filtration rate	3.4 gal/ minute/ sq. ft.
Average filter run time	55 hours
Depth of anthracite media	24 inches
Depth of sand media	12 inches
Depth of Gravel Support Layer	12 inches
Number of chlorine contact tanks	4
Average contact time	42 minutes

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 21
SCHEDULE OF INSURANCE
AS OF SEPTEMBER 30, 2017

TYPE OF COVERAGE	COMPANY	POLICY PERIOD	COVERAGE LIMITS
Blanket Property and Boiler & Machinery	Alliant Public Entity Property Insurance Program (PEPIP)	July 1, 2017– July 1, 2018	$1,000,000,000 Blanket Buildings and Contents – (Specified Locations) and Mobile Equipment $100,000,000 Boiler and Machinery $25,000,000 Miscellaneous Locations $100,000,000 Earth Movement $100,000,000 Excess Flood (over NFIP), except $25,000,000 Locations within 100 Year Flood Zone (e.g. Blue Plains) Terrorism: $650,000,000 per occurrence, $1,250,000,000 annual aggregate ($250,000,000 of occurrence and aggregate limit dedicated solely to DC Water) $25,000,000 Transit Per Shipment Deductibles: $1,000,000 Any Loss, except $10,000 Equipment
Fidelity & Crime Insurance	Travelers Insurance	July 1, 2017– July 1, 2018	$10,000,000 - Employee Dishonesty, Forgery, Funds Transfer, Fraud, Money & Securities Deductible: $200,000 Per Occurrence
Commercial General Liability	Self-Funded		$1,000,000 each occurrence
Commercial Automobile	Self-Funded		$1,000,000 any one accident 100% Physical Damage - self-funded
Worker's Compensation	Self-Funded		$1,000,000 each accident Statutory WC Benefits Employer's Liability - $1,000,000 Each Accident; $1,000,000 Disease/ Employee
Excess Worker's Compensation Insurance	Safety National	July 1, 2017– July 1, 2018	Unlimited - WC Benefits; $3,000,000 - Employer's Liability (Included - Terrorism) Retentions: $1,000,000/accident; $1,000,000 Disease/ Employee.
Excess General Liability, Automobile Liability, and Employers Liability Insurance	AEGIS	July 1, 2017– July 1, 2018	$35,000,000 in excess of $1,000,000
Excess Liability	EIM	July 1, 2017– July 1, 2018	$65,000,000 in excess of $35,000,000
Public Official Liability	RSUI Indemnity / Hiscox Insurance Company	July 1, 2017– July 1, 2018	$20,000,000 Each Loss / Aggregate Retentions: $250,000 per wrongful act
Fiduciary Liability	Travelers Insurance	July 1, 2017– July 1, 2018	$5,000,000 Each Loss / Aggregate Deductible: $0 per claim
Cyber	Beazley	July 1, 2017– July 1, 2018	$5,000,000 Each Loss/Aggregate Deductible: $100,000
Professional Liability	Lloyds of London	July 1, 2017– July 1, 2018	$2,000,000 Each Loss Deductible: $10,000
National Flood	NFIP	July 1, 2017– July 1, 2018	$500,000 building/contents Deductible: $50,000 per building/contents

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 22
SUMMARY OF MAJOR PERMITS AND ADMINISTRATIVE ORDERS
AS OF SEPTEMBER 30, 2017

Wastewater	Description	Expiration Date	Current Status
National Pollutant Discharge Elimination System Permit # DC0021199	Authorizes discharge of treated wastewater from Blue Plains Advanced Wastewater Treatment Plant (Plant) into the Potomac River and from the combined sewer system into Rock Creek, the Anacostia River, and the Potomac River. Prescribes operating conditions for the Plant and sewer system.	September 30, 2015(1)	In Compliance
National Pollutant Discharge Elimination System Municipal Separate Strom Sewer (MS4) Permit # DC0000221	Permit issued to Government of District of Columbia which prescribes certain actions that DC Water has agreed to perform including: • Responding to sanitary sewer overflows (SSO) • Reporting SSOs that overflow to MS4 system to public health agencies • Cleaning catch basins and removing trash from waterbodies • Maintaining storm sewer system infrastructure • Collecting stormwater fees for the government of the District of Columbia	October 7, 2016(1)	In Compliance
1995 Consent Decree Civil Action No.: 90-1643-JGP and 84-2842-JGP	Requires certain actions including: • Review procurement practices & maintenance procedures • Undertake Operational Capability Review • Conduct a pilot project for biological nitrogen reduction	N/A	In Compliance All items completed; awaiting action to terminate decree
1996 Stipulated Agreement & Order Civil Action No.: 96-669-TFH	Requires certain actions including: • Rehabilitate and maintain certain facilities and capital equipment in good operating condition • Maintain certain records and data for status reports and prepare monthly reports on status of compliance • Maintain user fees in separate accounts and make timely payment of invoices	N/A	In Compliance All items completed; awaiting action to terminate agreement and order
2003 Consent Decree Civil Action No.: 1:00CV00183TFH Civil Action No.: 02-2511 (TFH)	Requires certain actions including: • Replacement/repair of control structures • Cleaning/inspection of catch basins • Rehabilitation of pumping stations • Rehabilitation of Blue Plains grit chambers and influent screens • Inspection of certain sewers and siphons • Public education/outreach activities • Payment of civil penalty of $250,000 • Conduct/support of supplemental environmental projects	N/A	In Compliance
2005 Modified Consent Decree for CSS LTCP Consolidate Civil Action No; 1:00CV00183TFH	Requires implementing projects for various components of the combined sewer system (CSS) long term control plan (LTCP). On January 14, 2016, the Court entered the First Amendment to the Consent Decree to incorporate DC Water's Total Nitrogen Wet Weather Plan and modify the requirement for the Potomac and Rock Creek watersheds to include Green/Gray Infrastructure in Potomac watershed, and Gray Infrastructure in the Rock Creek watershed. The Consent Decree does not have an expiration date.	N/A	In Compliance
DC Department of Energy and the Environment	Permit to construct the enhanced nitrogen removal facility	2/20/2015(2)	In Compliance
DC Department of Energy and the Environment	Permit to construct biosolids project – main process train/combined heat & power/final dewatering facility	3/15/2015(2)	In Compliance

(1)Administratively extended in accordance with the terms of the permit.
(2)Extended monthly pending issuance of revised Air permit.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 23
BUDGETARY COMPARISON SCHEDULE
FOR FISCAL YEAR 2017

	Approved Budget	Actual Expenditures	Variance
Expenditures			
Personnel services	$ 144,761	$ 149,294	$ (4,532)
Contractual services	82,760	72,930	9,830
Water purchases	29,278	26,796	2,482
Chemicals and supplies	34,709	31,373	3,336
Utilities and rent	28,670	24,260	4,410
Small equipment	1,230	1,178	52
Interest and fiscal charges (debt service)	169,346	165,836	3,510
Payment in lieu of tax & right of way fee	21,057	21,057	(0)
Cash financed capital improvements	24,014	-	24,014
Total budgetary basis expenditures	$ 535,825	$ 492,724	$ 43,102

		Actual Expenditures	
Reconciliation between total budgetary basis expenditures and total expenses reported in statements of revenues, expenses and changes in net position			
Capitalized personnel expenditures		(17,231)	
Depreciation expense		97,900	
Long-term debt - principal payments		(29,317)	
Long-term debt - capitalized interest		(77,003)	
Build America Bonds subsidy		5,316	
Inventory issuances		814	
Blue Drop		(241)	
Non-budgeted expenses		3,462	
Total expenses reported in statements of revenues, expenses and changes in net position		$ 476,424	

(CONTINUED ON NEXT PAGE)

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

EXHIBIT 23
BUDGETARY COMPARISON SCHEDULE
FOR FISCAL YEAR 2017
(CONTINUED)

BUDGETARY ACCOUNTING AND CONTROL

Budget Law

The Authority prepares its operating and capital budgets under the provisions of its enabling legislation. In accordance with those provisions, the following process is used to adopt the annual budget.

- Development of the 10-year financial plan
- Development of individual departmental operating budgets, based on the financial framework in the 10-year financial plan
- Review and development of the Authority wide proposed budget by the General Manager
- Presentation of proposed budget to the Board of Directors
- Review and development of proposed budget by the Board of Directors
- Adoption of proposed budget by the Board of Directors
- Submission of proposed budget to the District of Columbia for inclusion in its budget
- District of Columbia budget submission to U.S. Congress
- Approval of proposed budget by U.S. Congress and President

Budgetary Accounting

The Authority is a single enterprise fund and maintains accounting records using the accrual basis of accounting, in accordance with U.S. generally accepted accounting principles (GAAP). Under this basis of accounting, revenues are recognized when earned, and expenses are recognized when goods and services are received. The Authority's expenditure budget is prepared on a comparable basis to GAAP, with the exception of debt service, which is budgeted in full when due, including principal and interest. Depreciation is not budgeted; depreciation is recorded as an expense for financial statement purposes. Certain other items are also not budgeted such as bad debt expense or (recovery) and loss (gain) on disposals of fixed assets or inventory.

Budgetary Requirements

After the U.S. Congress approves the budget, the operating and capital budgets are loaded into the Authority's financial management system, which prevents overspending without appropriate approvals. The Department of Finance, Accounting and Budget prepares monthly management reports for each operating unit, management staff, the Board of Directors, and its various committees. The reports are consistently reviewed each month to ensure the Authority complies with its authorized budget levels.

APPENDIX C

GLOSSARY AND SUMMARY OF THE INDENTURE

GLOSSARY

In addition to the terms defined elsewhere in this Official Statement, the following are definitions of certain terms used in this Official Statement, and the Indenture. Terms used but not defined herein shall have the meanings set forth in the Master Indenture, as previously amended and supplemented and as further amended and supplemented by the Twenty-Fourth Supplemental Indenture and Twenty-Sixth Supplemental Indenture.

"Account" shall mean any of the various Accounts, sometimes created within a fund, under the Indenture.

"Annual Budget" shall mean the budget by that name referred to in the Indenture.

"Annual Debt Service" shall mean the amount of payments required to be made for principal of and interest on any specified Indebtedness, including mandatory sinking fund redemptions and payments pursuant to agreements with providers of credit enhancement or liquidity support with respect to such Indebtedness, to reimburse such providers for debt service payments made, with respect to such Indebtedness, scheduled to come due within a specified Fiscal Year, but excluding any capitalized interest funded from proceeds of Bonds. For purposes of calculating Annual Debt Service, the following assumptions are to be used to calculate the principal and interest due in such specified Fiscal Year:

(a) In determining the principal amount due in the Fiscal Year, payment shall be assumed to be made in accordance with any amortization schedule established for such Indebtedness (unless a different subsection of this definition applies for purposes of determining principal maturities or amortization), including any scheduled redemption of such specified Indebtedness on the basis of accreted value and, for such purpose, the redemption payment shall be deemed a principal payment;

(b) If any of the specified Indebtedness constitutes Tender Indebtedness, then Annual Debt Service on the options or obligations of the holders of such Indebtedness to tender the same for purchase or payment prior to their stated maturity or maturities shall be treated as a principal maturity occurring on the first date on which owners of such Indebtedness may or are required to tender such Indebtedness, except that any such option or obligation to tender Indebtedness shall be ignored and not treated as a principal maturity if (1) such Indebtedness is rated at least in the "A" rating category (without regard to any rating refinement or gradation by numerical modifier or otherwise) by a Rating Agency, or such Indebtedness is rated in the two highest short-term note or commercial paper rating categories by a Rating Agency, and (2) any obligation the Authority may have, other than its obligation on such Indebtedness, to reimburse any provider of a credit or liquidity facility or a bond insurance policy, or similar arrangement, shall either be subordinate to the obligation of the Authority on such Indebtedness, or shall have been incurred under and shall have met the tests and conditions for the issuance of such specified indebtedness set forth in the Indenture;

(c) If any of the specified Indebtedness constitutes Variable Rate Indebtedness, the interest rate on such Indebtedness shall be assumed to be 100% of the greater of (1) the daily average interest rate on such Indebtedness during the 12 months ending with the month preceding the date of calculation, or such shorter period that such Indebtedness shall have been Outstanding or (2) the rate of interest on such indebtedness on the date of calculation; provided that, with respect to any Variable Rate Indebtedness which is being issued on the date of computation, the initial rate of such indebtedness upon such issuance shall be used;

(d) If any of the specified Indebtedness constitutes Balloon Indebtedness, then, for purposes of determining the annual amount payable on account of principal of and interest on such Indebtedness, such Indebtedness that is or would be Balloon Indebtedness shall be amortized on a level debt service basis over the lesser of a term of 30 years or the actual term of the Indebtedness; and the interest rate used for such computation shall be the rate quoted in the 30-year revenue bond index, or revenue bond index related to the actual term of the Indebtedness, as applicable, published by The Bond Buyer no more than two weeks prior to the date of calculation, or if that index is no longer published, another similar index selected by the Authority, or if the Authority fails to select a replacement index, an interest rate equal to 80% of the yield for outstanding United States Treasury bonds having an equivalent maturity as the Indebtedness on the date of issuance, or if there are no such Treasury bonds having equivalent maturities, 80% of the lowest prevailing prime rate of any of the five largest commercial banks in the United States of America ranked by assets;

(e) If any of the specified Indebtedness constitutes Short-Term Obligations, then for purposes of determining the Annual Debt Service on such Indebtedness, the Authority shall include the amount of any interest payments due on such Indebtedness if such interest is payable from Net Revenues during such Fiscal Year, and ignore any principal payments due on such Indebtedness if (1) such Indebtedness is rated at least in the "A" rating category (without regard to any rating refinement or gradation by numerical modifier or otherwise) by a Rating Agency, or such Indebtedness is rated in the two highest short-term note or commercial paper rating categories by a Rating Agency, (2) there is in place a letter of credit, liquidity facility, a bond insurance policy, or similar arrangement (a "Credit Facility"), and the Authority's obligation to reimburse the provider of such Credit Facility is subordinate to the Authority's obligation to pay debt service on Bonds, and (3) there are no unreimbursed draws under any Credit Facility securing any Short-Term Obligations. If there are any unreimbursed draws under a Credit Facility related to such Indebtedness, the principal payment obligation due on such Indebtedness shall be determined to be the principal due under such Credit Facility and shall be calculated in accordance with the amortization schedule set forth with respect to such Credit Facility.

(f) If any of the specified Indebtedness constitutes Bond Anticipation Notes, then for purposes of determining the annual amount payable on account of principal of and interest on such Indebtedness, such Indebtedness shall be amortized on a level debt service basis over a term of 30 years. Interest on such Indebtedness shall equal the actual fixed rate of interest payable during the Fiscal Year. If such Indebtedness is Variable Rate Indebtedness, interest payable during such Fiscal Year shall be calculated in accordance with subsection (c) above.

(g) For any Indebtedness for which a binding commitment, letter of credit or other credit arrangement providing for the extension of such Indebtedness beyond its original maturity date exists, the computation of the annual amount payable on account of principal and interest on such Indebtedness shall, at the option of the Authority, be made on the assumption that such Indebtedness will be amortized in accordance with such credit arrangement; and

(h) Except for Hedge Agreements, Interest Rate Swaps are to be disregarded in calculating the Series Debt Service Reserve Requirement. Upon incurrence of a Hedge Agreement, all calculations, including for the annual amount on account of principal and interest on Indebtedness subject to the Hedge Agreement, shall be made using the Hedge Fixed Rate for the applicable period and such Indebtedness shall not be considered as Variable Rate Indebtedness for such period.

"Authority" shall mean the District of Columbia Water and Sewer Authority, an independent authority of the District.

"Authorized Representative of the Authority" shall mean such person or persons as may be designated to act on behalf of the Authority by a certificate executed by the Chairman of the Board of Directors and on file with the Trustee.

"Balloon Indebtedness" shall mean indebtedness having a term of longer than 60 months and 25% or more of the principal of which matures on the same date and which portion of the principal of such indebtedness is not required to be amortized by payment or redemption prior to such date. If any indebtedness consists partially of Variable Rate Indebtedness and partially of indebtedness bearing interest at a fixed rate, the portion constituting Variable Rate Indebtedness and the portion bearing interest at a fixed rate shall be treated as separate issues for purposes of determining whether any such indebtedness constitutes Balloon indebtedness.

"Board of Directors" shall mean the board of directors that was established to govern the Authority pursuant to Section 204 of the WASA Act, codified, as amended, at D.C. Code Section 34-2202.04.

"Bond Anticipation Notes" shall mean any notes issued in anticipation of the issuance of Bonds.

"Bond Counsel" shall mean an attorney or firm of attorneys nationally recognized on the subject of municipal bonds.

"Bond Fund" shall mean the Bond Fund established in the Indenture.

"Bondholders" or **"holders"** of Bonds shall mean the registered owners of Bonds.

"Bonds" shall mean any bonds, notes or other obligations issued from time to time pursuant to Article III, including Bond Anticipation Notes, but not including Other System Indebtedness and Subordinate Debt.

"Business Day" shall mean a day on which banking business is transacted, but not including a Saturday, Sunday or legal holiday, or any day on which banking institutions are authorized by law to close in the city in which the Trustee has its principal corporate trust office or in the District of Columbia.

"Cash Reserve Requirement" shall mean those certain balances required to be maintained by the Authority pursuant to the annual credit policies established by the Authority.

"Code" shall mean the Internal Revenue Code of 1986, as amended, including applicable regulations, rulings and revenue procedures promulgated or applicable thereunder.

"Connection Fees" shall mean all nonrecurring fees that the Authority collects from developers, builders or others (1) to compensate the Authority for providing System capacity, and (2) to connect facilities related to installation of and expansion to the System.

"Contracted Services" shall mean (a) services rendered or facilities provided to the Authority in respect to the System or (b) the performance of functions for or on behalf of the Authority that are similar to those performed by the System, from a specific project or system, pursuant to a contract, lease, service agreement or another similar arrangement. No designation or characterization of payments pursuant to the terms of a particular Service Contract will affect the Authority's right to make designations as to the Debt Service Component, Operating Component, and Remaining Component of the Cost of Contracted Services thereunder.

"Construction Fund" shall mean the Construction Fund established in the Indenture.

"Consulting Engineer" shall mean (a) an Independent Consulting Engineer or (b) the designated person(s) within the Authority or of any successor department who is (1) an engineer experienced in the field of water or wastewater or stormwater (as appropriate), and (2) licensed and registered as a professional engineer in the District.

"Cost" shall mean Cost as set forth in the Indenture.

"Cost of Contracted Services" shall mean the payments to be made by the Authority for Contracted Services under service contracts as set forth in the Indenture, which may consist of any of the following three components: a Debt Service Component, an Operating Component, and a Remaining Component, as designated by the CEO and General Manager or his designee for each Service Contract.

"Debt Service Component" shall mean the portion of the Cost of Contracted Services that an Authorized Representative of the Authority 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 Reserve Fund" shall mean the Debt Service Reserve Fund established in the Indenture.

"Depository" shall mean any securities depository that is a clearing agency under federal law operating and maintaining, with its participants or otherwise, a book-entry system to record ownership of book-entry interests in the Series 2019A/B/D Bonds, and to effect transfers of book-entry interests in the Series 2019A/B/D Bonds, and includes and means initially The Depository Trust Company (a limited purpose trust company), New York, New York.

"**Direct Payment**" means a credit payment allowed pursuant to Section 54AA(g) of the Code with respect to Direct Payment BABs that is payable to the Authority by the U.S. Treasury, as provided in Section 6431 of the Code, or any other payment by the U.S. Treasury to the Authority to subsidize or reimburse the Authority for all or a portion of the interest cost that the Authority may incur on Indebtedness that qualifies for such payment under any successor or substantially similar program to Direct Payment BABs.

"**Direct Payment BABs**" means Indebtedness that constitutes "Build America Bonds" within the meaning of Section 54AA(d) of the Code and that are qualified bonds within the meaning of Section 54AA(g), the interest on which is includible in gross income for federal income tax purposes and with respect to which the Authority shall have made an irrevocable election to receive one or more Direct Payments.

"District General Obligation Bonds" shall mean the District general obligation bonds issued to finance capital projects of the System and the Aqueduct.

"District MOU relating to the Payment of General Obligation Debt" shall mean the Memorandum of Understanding between the Office of the Chief Financial Officer of the District of Columbia and the Authority dated as of March 13, 1998.

"District MOU relating to the PILOT" shall mean the Memorandum of Understanding between the Office of the Chief Financial Officer of the District of Columbia and the Authority dated as of January 29, 1998, as amended, including, without limitation, pursuant to a September 4, 2014 Memorandum of Understanding, as further amended and restated on December 15, 2014.

"EPA Grants" shall mean grants provided by the Environmental Protection Agency for the construction of water and wastewater projects.

"EPA Grant Account" shall mean the EPA Grant Account established in the Indenture.

"Event of Default" shall mean any of the events enumerated in Section 901 of the Master Indenture or otherwise in the Indenture.

"Fiscal Year" shall mean the twelve-month period, beginning on October 1 of one year and ending on September 30 of the following year, or such other fiscal year of 12 months as may be selected by the Authority.

"Fitch" shall mean Fitch Ratings, Inc. or its successors.

"Government Certificates" shall mean certificates representing proportionate ownership of Government Obligations, which Government Obligations are held by a bank or trust company organized under the laws of the United States of America or any of its states in the capacity of custodian of such certificates.

"Government Obligation" shall mean (a) bonds, notes and other direct obligations of the United States of America, (b) securities unconditionally guaranteed as to the timely payment of principal, if applicable, and interest by the United States of America, or (c) bonds, notes and other obligations of any agency of the United States of America unconditionally guaranteed as to the timely payment of principal and interest by the United States of America.

"Hedge Agreement" shall mean an Interest Rate Swap, cap, collar, floor, forward or other hedging agreement, arrangement or security however denominated, expressly identified pursuant to its terms as being entered into in connection with and in order to hedge interest rate fluctuations on all or a portion of any Indebtedness where (a) interest on such Indebtedness or such portion of such Indebtedness is payable at a variable rate of interest for any future period of time or is calculated at a varying rate per annum, and (b) a fixed rate is specified by the Authority in such agreement, or such Indebtedness, taken together with such agreement, results in a net fixed rate payable by the Authority for such period of time (the "Hedge Fixed Rate"), assuming the Authority and the party(ies) with whom the Authority has entered into the agreement make all payments required to be made by the terms of the agreement, provided that no such agreement may be entered into by the Authority unless any termination or similar payment which may be payable by the Authority thereunder is expressly subordinate to the obligation of the Authority on the Indebtedness.

“Holder” shall mean the owner of Bonds, Other System Indebtedness or the Subordinate Debt, as the case may be.

“Home Rule Act” shall mean the District of Columbia Home Rule Act, approved December 24, 1973 (P.L.93-198; 87 Stat. 774; D.C. Official Code §§ 1-201.01 et. seq.), as amended.

“IMA Capital Payments” shall mean the payments made to the Authority for shared capital costs of the wastewater portion of the System by the signatories to the Blue Plains Intermunicipal Agreement of 1985.

“Indebtedness” shall mean Senior Debt and Subordinate Debt.

“Indenture” shall mean the Master Indenture, as supplemented or amended by one or more Supplemental Indentures, including the Twenty-Fourth Supplemental Indenture and the Twenty-Sixth Supplemental Indenture.

“Independent Consulting Engineer” shall mean an independent engineer, who is not an employee of the Authority, but is experienced in the field of water, wastewater or stormwater (as appropriate) and licensed and registered as a professional engineer in the District.

“Interest Account” shall mean the Interest Account in the Bond Fund established in the Indenture.

“Interest Payment Dates” for the Series 2019A/B/D Bonds shall mean each April 1 and October 1, commencing April 1, 2020, and thereafter during the time the Series 2019A/B/D Bonds are outstanding.

“Interest Rate Swap” shall mean a contract pursuant to which a party (the “Counterparty”) has agreed to make payments to the Authority during a particular period equal to the interest payable on specified Indebtedness or on a specified nominal amount at the actual rate or rates or, if on a nominal amount at a stated rate or rates, payable thereon and, in consideration therefor, the party obligated on the Indebtedness or otherwise executing the agreement agrees to make payments to the Counterparty equal to the interest required to be paid on the specified Indebtedness or stated to be due on the nominal amount during the period calculated as if the specified Indebtedness or nominal amount bore an assumed rate of interest specified in the contract.

“Master Indenture” shall mean the Master Indenture of Trust dated as of April 1, 1998, by and between the Authority and the Trustee.

“Moody’s” shall mean Moody’s Investors Service, Inc., New York, New York, or its successors.

“Net Proceeds” shall mean the gross proceeds from any insurance recovery or recovery in any condemnation proceeding remaining after payment of attorneys’ fees, fees and all other expenses incurred in collection of such gross proceeds.

“Net Revenues” shall mean Revenues less Operating Expenses.

“Operating Component” shall mean the portion of the Cost of Contracted Services (excluding any Debt Service Component) reasonably determined by an Authorized Representative of the Authority, in a certificate delivered to the Trustee from time to time, to be directly or indirectly attributable to the portion of the Costs of Contracted Services that represents operating expense for the provision of the Contracted Services; provided, however, if no such determination is made, all of the Cost of Contracted Services (excluding any Debt Service Component) will be treated as Operating Component.

“Operating Expenses” shall mean all current expenses directly or indirectly attributable to the ownership or operation of the System, including reasonable and necessary usual expenses of administration, operation, maintenance and repair, costs for billing and collecting the rates, fees and other charges for the use of or the services furnished by the System, the cost of purchased water, amounts to reimburse the Authority for administrative expenses incurred in connection with the System, insurance and surety bond premiums, credit enhancement and liquidity support fees, legal, engineering, auditing and financial advisory expenses, expenses and compensation of the Trustee, and deposits into a self-insurance program as described in the Indenture. Operating Expenses shall not include any payments in lieu of taxes, allowance for depreciation and amortization. Operating Expenses shall also exclude expenses which constitute extraordinary, nonrecurring and non-continuing expenses of the System in the written opinion of the Qualified Independent Consultant.

"Operating Fund" shall mean the Operating Fund established in the Indenture.

"Operating Reserve Fund" shall mean the Operating Reserve Fund established in the Indenture.

"Operating Reserve Requirement" shall mean an amount equal to 60 days of Operating Expenses based on the Operating Expenses relating to the Fiscal Year prior to such calculation, or an amount determined by a Qualified Independent Consultant.

"Opinion of Counsel" shall mean an opinion of any attorney or firm of attorneys acceptable to the Trustee, who may be counsel for the Authority, but who shall not be an employee of either the Authority or the Trustee.

"Other System Indebtedness" shall mean (a) any Debt Service Component that the Authority is required, or has elected, to treat as payable on a parity with the Bonds with respect to the pledge of Net Revenues, and (b) any other Indebtedness incurred by the Authority pursuant to the Indenture that the Authority is required, or has elected, to treat as payable on a parity with the Bonds with respect to the pledge of Net Revenues, including, but not limited to, the Treasury Loans.

"Outstanding" shall mean, when used as descriptive of obligations, that such obligations have been authorized, issued, authenticated and delivered under the Indenture or a different document and have not been canceled or surrendered to the Trustee or a comparable trustee for cancellation, deemed to have been paid as provided in the Indenture, have had other obligations issued in exchange therefor or had their principal become due and moneys sufficient for their payment deposited with the Trustee as provided in the Indenture or, for Indebtedness other than Bonds or Subordinate Debt issued under the Indenture, otherwise so treated under comparable issuance documents. In determining whether holders of a requisite aggregate principal amount of the Outstanding Indebtedness have concurred in any request, demand, authorization, direction, notice, consent or waiver under the Indenture or other documents, words referring to or connoting "principal of" or "principal amount of" Outstanding Indebtedness shall be deemed also to be references to, to connote and to include the accreted value of Indebtedness of any Series as of the immediately preceding interest compounding date for such Indebtedness. Indebtedness that is owned by the Authority shall be disregarded and deemed not to be Outstanding for the purpose of any such determination.

"Permitted Investments" shall mean: (i) direct obligations of the United States of America (including obligations issued or held, in book-entry only form on the books of the Department of the Treasury of the United States of America and including certificates or other instruments evidencing ownership interests in such direct obligations of the United States of America) or obligations the timely payment of the principal of and interest on which are fully guaranteed by the United States of America; (ii) obligations issued or guaranteed by Federal Home Loan Bank System, Export-Import Bank of the United States, Federal Financing Banks, Government National Mortgage Association, Federal National Mortgage Association, Farmer's Home Administration, Federal Home Loan Mortgage Corporation or Federal Housing Administration; or by any agency, department or instrumentality of the United States if such obligations are rated in one of the two highest rating categories by Fitch, S&P and Moody's if in any such case the timely payment of principal and interest on such obligations is backed by the full faith and credit of the United States of America; (iii) investment agreements meeting the investment criteria issued by a credit enhancer; (iv) interest-bearing bankers acceptances or certificates of deposit of, or time deposits in any bank (including the Trustee), lead bank of a parent holding company, or any savings and loan associations whose unsecured obligations are rated in one of the two highest rating categories by Fitch, S&P and Moody's, provided such deposits are either (a) secured at all times, in the manner and to the extent provided by law, by collateral security (described in clause (i) or (ii) of this definition) of a market value of no less than the amount of moneys so invested or (b) fully insured by the Federal Deposit Insurance Corporation; (v) repurchase agreements which satisfy the following criteria: (a) repurchase agreement which provides for the transfer of securities from dealer banks or securities firms to the Trustee or its agents, and the transfer of cash from the Trustee to the dealer bank or securities firm with an agreement that the dealer bank or securities firm will repay the cash, plus a yield to the Trustee, in exchange for the securities at a specified date; (b) repurchase agreement must be between the Trustee and a dealer bank or securities firm which are either a primary dealer on the Federal Reserve reporting dealer list or a bank rated "A" or above by Fitch, S&P and Moody's; (c) the written repurchase agreement must include the following terms: (1) securities which are acceptable for transfer are (A) direct United States government obligations, or (B) obligations of federal agencies backed by the full faith and credit of the United States government; (2) with respect to control of the collateral, if the dealer bank or securities firm supplied the collateral pursuant to the repurchase agreement, it may not retain possession of such collateral and the collateral must be delivered to the Trustee (unless the Trustee is supplying the collateral) or a third party acting as agent for the Trustee before or simultaneous with payment; and (3) the securities must be valued weekly, marked-to-market at current market price plus accrued interest, the value of collateral must be equal to 102% of the amount of cash transferred by the Trustee to the dealer bank or securities firm under the repurchase agreement, plus accrued interest, and if the value of securities held as collateral is less than 102% of the value of the cash transferred by Trustee, then additional cash and/or acceptable securities must be transferred; and (d) to the extent required by a credit enhancer, an opinion of Bond Counsel, to the effect that such repurchase agreements are obligations in which public funds are permitted to be invested under District law, shall be delivered to the Trustee, with a copy to the Series 1998 Bond Insurer; (vi) commercial paper of "prime" quality of the highest ranking or the highest rating category as provided by Fitch, S&P and Moody's; (vii) obligations, the interest on which is exempt from federal income taxation, and which, if rated by the Rating Agencies, are rated by Fitch, Moody's and S&P in one of the two highest rating categories of such rating agencies; (viii) a time deposit account drawn on the Trustee for amounts whose aggregation is less than $5,000; (ix) mutual funds, including any such fund of the Trustee or any affiliate of the Trustee, which invest exclusively in any investment described in clauses (i) through (viii) otherwise left uninvested in the funds; and (x) Federally tax-exempt bonds which are not subject to the AMT for individuals and subject to a put option at par at least semi-annually and rated at least "double-A" by Moody's, S&P or Fitch, and in the highest short-term rating category by such rating agency.

"Principal Account" shall mean the Principal Account in the Bond Fund established in the Indenture.

"Qualified Independent Consultant" shall mean an independent professional consultant having the skill and experience necessary to provide the particular certificate, report or approval required by the Indenture or any Supplemental Indenture in which such requirement appears, including an Independent Consulting Engineer and an independent certified public accountant.

"Rate Covenant" shall mean the obligation of the Authority to fix, charge, collect and revise rates, fees and other charges for the use of, and the services furnished by, the System sufficient to meet the requirements of the Indenture.

"Rate Stabilization Fund" shall mean the fund so designated which is established pursuant to the Indenture.

"Rating Agency" or **"Rating Agencies"** shall mean Fitch, Moody's or Standard & Poor's, or any of them, and their successors. The Authority may seek a rating from any other nationally recognized securities rating agency.

"Remaining Component" shall mean the portion of the Cost of Contracted Services which is not embraced in the definition of Debt Service Component or Operating Component.

"Renewal and Replacement Reserve Fund" shall mean the Renewal and Replacement Reserve Fund established in the Indenture.

"Renewal and Replacement Reserve Requirement" shall mean $35,000,000 or such other amount as may be determined by a Qualified Independent Consultant, subject to approval by the Board of Directors.

"Reserve Determination Date" shall mean (a) each interest payment date for the Bonds, or (b) any other date established in writing by an Authorized Representative of the Authority for the valuation of obligations on deposit in any Series Debt Service Reserve Account.

"Revenues" shall mean all moneys received as income, rates, fees, charges, receipts, profits and other moneys derived by the Authority from its ownership and operation of the System, and for the use of and for the services furnished by the System, including Connection Fees, transfers from the Rate Stabilization Fund to the

Revenue Fund, proceeds of any business interruption insurance, and investment earnings on all of the funds held by the Trustee under the Indenture and the Authority, except any rebate fund that may be created under the Indenture. Revenues shall not include refundable customer deposits, the IMA Capital Payments or other payments solely in aid of construction, the EPA Grants or similar payments, or the proceeds resulting from the sale of all or a portion of the System. For purposes of determining the total amount of Revenues in any year, there shall be deducted an amount equal to the amount transferred from the System Fund to the Rate Stabilization Fund pursuant to the Indenture.

"Senior Debt" shall mean Bonds, including the Series 1998 Bonds, the Series 2014A Bonds, the Series 2017A Bonds, the Series 2017B Bonds, the Series 2018A Bonds, and the Series 2018B Bonds and Other System Indebtedness.

"Series" or **"Series of Bonds"** shall mean a separate series of Bonds issued under the Indenture and a Supplemental Indenture.

"Series Debt Service Reserve Requirement" for any Series of Bonds shall have the meaning set forth in the Supplemental Indenture authorizing such Series of Bonds.

"Series 2019A Bonds" shall mean the Authority's Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds), issued pursuant to the Twenty-Fourth Supplemental Indenture.

"Series 2019A Construction Account" shall mean the Series 2019A Construction Account established by the Twenty-Fourth Supplemental Indenture in the Construction Fund.

"Series 2019A Costs of Issuance Subaccount" shall mean the Series 2019A Costs of Issuance Subaccount established by the Twenty-Fourth Supplemental Indenture in the Series 2019A Construction Account of the Construction Fund.

"Series 2019B Bonds" shall mean the Authority's Public Utility Subordinate Lien Revenue Bonds, Series 2019B, issued pursuant to the Twenty-Fourth Supplemental Indenture.

"Series 2019B Construction Account" shall mean the Series 2019B Construction Account established by the Twenty-Fourth Supplemental Indenture in the Construction Fund.

"Series 2019B Costs of Issuance Subaccount" shall mean the Series 2019B Costs of Issuance Subaccount established by the Twenty-Fourth Supplemental Indenture in the Series 2019B Construction Account of the Construction Fund.

"Series 2019A/B Bonds" shall means the Series 2019A Bonds and the Series 2019B Bonds.

"Series 2019A/B Rebate Fund" shall mean the Series 2019A/B Rebate Fund established by the Twenty-Fourth Supplemental Indenture.

"**Series 2019A/B Resolution**" shall mean the Resolution adopted by the Authority's Board on September 5, 2019 authorizing the Series 2019A/B Bonds.

"Series 2019A/B Subordinate Bonds Interest Subaccount" shall mean the Series 2019A/B Subordinate Bonds Interest Subaccount established by the Twenty-Fourth Supplemental Indenture in the Interest Account in the Bond Fund.

"Series 2019A/B Subordinate Bonds Principal Subaccount" shall mean the Series 2019A/B Subordinate Bonds Principal Subaccount established by the Twenty-Fourth Supplemental Indenture in the Principal Account in the Bond Fund.

"Series 2019D Bonds" shall mean the Authority's Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable), issued pursuant to the Twenty-Sixth Supplemental Indenture.

"Series 2019D Construction Account" shall mean the Series 2019D Construction Account established by the Twenty-Sixth Supplemental Indenture in the Construction Fund.

"Series 2019D Costs of Issuance Subaccount" shall mean the Series 2019D Costs of Issuance Subaccount established by the Twenty-Sixth Supplemental Indenture in the Series 2019D Construction Account of the Construction Fund.

"Series 2019D Escrow Account" shall mean the Series 2019D Escrow Account established by this Twenty-Sixth Supplemental Indenture.

"Series 2019D Resolution" shall mean the Resolution adopted by the Authority's Board on September 27, 2019, respectively, authorizing the Series 2019D Subordinate Bonds.

"Series 2019D Subordinate Bonds Interest Subaccount" means the Series 2019D Subordinate Bonds Interest Subaccount established by this Twenty-Sixth Supplemental Indenture in the Subordinate Interest Account in the Subordinate Bond Fund.

"Series 2019D Subordinate Bonds Principal Subaccount" means the Series 2019D Subordinate Bonds Principal Subaccount established by this Twenty-Sixth Supplemental Indenture in the Subordinate Principal Account in the Subordinate Bond Fund.

"Series 2019A/B/D Bonds" shall mean, together, the Series 2019A Bonds, the Series 2019B Bonds and the Series 2019D Bonds.

"Service Contracts" shall mean any contracts or agreements for Contacted Services entered into by the Authority from time to time.

"Short-Term Obligations" shall mean Subordinate Debt issued pursuant to the Indenture, the payment of principal of which is scheduled to be payable within one year from the date of issuance and is contemplated to be refinanced either (a) through the issuance of additional Short-Term Obligations pursuant to a commercial paper or other similar program, or (b) through the issuance of Indebtedness.

"Sinking Fund Account" shall mean the Sinking Fund Account in the Bond Fund created in the Indenture.

"Standard and Poor's" shall mean Standard & Poor's Global Ratings Services, New York, New York, or its successors.

"Subordinate Bond Fund" shall mean the Subordinate Bond Fund created in the Indenture.

"Subordinate Debt" shall mean the Series 2010A Bonds, the Series 2012A Bonds, the Series 2012C Bonds, the Series 2013A Bonds, the Series 2014B Bonds, the Series 2014C Bonds, the Series 2015A Bonds, the Series 2015B Bonds, the Series 2016A Bonds, and the Series 2016B Bonds, the Series A EMCP Notes, and the Series C CP Notes (taxable), and any other bonds, notes or other obligations issued in connection with the System (a) which are expected to be paid from Net Revenues and designated by the Authority as Subordinate Debt, and (b) which have pledged to their payment Net Revenues as a subordinate lien pledge after the pledge of Net Revenues to Senior Debt, including but not limited to any Debt Service Component and Remaining Component that the Authority is required, or has elected, to treat as Subordinate Debt, and the District General Obligation Bonds.

"Subordinate Debt Service Reserve Fund" shall mean the Subordinate Debt Service Reserve Fund created in the Indenture.

"Supplemental Indenture" shall mean any Supplemental Indenture supplementing or modifying the provisions of the Indenture entered into by the Authority and the Trustee pursuant to the Indenture.

"System" shall mean all plants, systems, facilities, equipment, real and personal property and tangible and intangible property, together with all future extensions, improvements, enlargements and additions thereto, and all replacements thereof, used, or to be used, in connection with the collection, transmission, treatment and disposal of wastewater and stormwater flow, and the supply, treatment, storage and distribution of water.

"Tender Indebtedness" shall mean any indebtedness a feature of which is an option or obligation on the part of the holders of such indebtedness to tender all or a portion of such indebtedness to a fiduciary for purchase or redemption prior to the stated maturity date of such indebtedness, which may include Variable Rate Indebtedness with such a feature.

"Term Bonds" shall mean any Bonds stated to mature on a specified date and required to be redeemed in part prior to maturity according to a sinking fund schedule.

"Treasury Loans" shall mean those certain obligations of the Authority to make payments related to debt service on certain promissory notes from the Secretary of the Army to the United States Treasury set forth in the Water Sales Agreement and any future obligations of the Authority to the United States of America consistent therewith.

"Trustee" shall mean Wells Fargo Bank, National Association, as successor to Norwest Bank Minnesota, National Association, or its successors serving as such under the Indenture.

"Trustee's Fees and Expenses" shall mean an initial acceptance fee and an annual administrative fee plus expenses in accordance with the fee schedule set forth in an agreement between the Trustee and the Authority, as the same may be renegotiated from time to time.

"Twenty-Fourth Supplemental Indenture" shall mean the Twenty-Fourth Supplemental Indenture of Trust, dated November 6, 2019 by and between the Authority and the Trustee.

"Twenty-Sixth Supplemental Indenture" shall mean the Twenty-Sixth Supplemental Indenture of Trust, dated November 6, 2019, by and between the Authority and the Trustee.

"Variable Rate Indebtedness" shall mean any indebtedness the interest rate on which is not established at the time of incurrence at a fixed or constant rate, provided that (a) the maximum interest rate on such indebtedness and the maximum rate payable to any liquidity provider with respect to such indebtedness shall be specified at the time of issuance of such indebtedness; (b) any liquidity facility of any liquidity provider shall cause such indebtedness to be rated by a Rating Agency in one of the two highest short-term rating categories of such Rating Agency; (c) any accelerated principal payments or any interest in excess of the bond interest rate payable to such liquidity provider shall be subordinate to the payment of debt service on Bonds, and (d) any two or more series of Bonds that are issued on the same date, the interest on which when such series are considered in the aggregate shall be a fixed or constant rate, shall not be considered Variable Rate Indebtedness.

"WASA Act" shall mean the Water and Sewer Authority Establishment and Department of Public Works Reorganization Act of 1996, as amended, D.C. Code Sections 34-2201.01 et seq.

"Water Sales Agreement" shall mean the Water Sales Agreement dated as of July 31, 1997, by and between the United States of America, acting through the Secretary of the Army, and the Authority.

SUMMARY OF INDENTURE

The following is a summary of certain provisions of the Indenture. It is not a complete recital of the terms of the Indenture. Unless otherwise noted, section numbers shown parenthetically refer to the Master Indenture; those preceded by the prefix "TSI" refer to the Twenty-Fourth Supplemental Indenture or the Twenty-Sixth Supplemental Indenture.

Security (Granting Clauses)

The Authority, to provide for the payment of each Series of Bonds and Subordinate Debt issued under the Indenture and to secure the performance and observance of all the covenants, agreements and conditions in such Bonds, Subordinate Debt, Other System Indebtedness or credit enhancement agreements, does grant a security interest in, assign, transfer, pledge and grant and convey unto the Trustee and its successors and assigns forever, for the benefit of the holders of the Indebtedness and credit enhancers, if any, until the applicable credit enhancement is no longer outstanding and no amounts are due under the related documents, the following property: (A) amounts on deposit from time to time, and any investment earnings thereon, in the Bond Fund and Debt Service Reserve Fund (with respect to related Senior Debt), in the Subordinate Bond Fund and the Subordinate Debt Service Reserve Fund (with respect to related Subordinate Debt) and any other funds and accounts created pursuant to the Indenture, including the earnings thereon, subject to the provisions of the Indenture permitting the application thereof for the purposes and on the terms and conditions set forth therein; provided, however, that there expressly is excluded from any pledge, assignment, lien or security interest created by the Indenture any amount on deposit in the Operating Fund; (B) amounts constituting Net Revenues pledged pursuant to the Indenture; (C) any and all other property of any kind from time to time thereafter by delivery or by writing of any kind specifically conveyed, pledged, assigned or transferred, as and for additional security under the Indenture for the Bonds, by the Authority or by anyone on its behalf or with its written consent in favor of the Trustee, which is authorized to receive any and all such property at any and all times and to hold and apply the same subject to the terms of the Indenture; and (D) all right, title and interest of the Authority owned or hereafter acquired in and to proceeds from the sale of Bonds or Subordinate Debt issued under the Indenture required to be deposited in the Construction Account pursuant to the provisions of the Indenture (except as limited by the following provisos) and all right, title, and interest in and to the investments held in the Construction Account (except as limited by the following provisos) pursuant to the provisions of the Indenture; provided, however, that the Authority may establish one or more separate accounts in the Construction Account to be funded with proceeds of any particular Series of Bonds or Subordinate Debt issue, which accounts and the proceeds of the particular Series of Bonds deposited therein (together with all investments thereof and investment income earned thereon) may be pledged solely to the payment of one or more designated Series of Bonds or Subordinate Debt issue for any designated periods, or otherwise, all as permitted in the Indenture, including any Supplemental Indenture.

To have and to hold all properties pledged, assigned and conveyed by the Authority under the Indenture including all additional property which by the terms thereof has or may become subject to the encumbrance thereof, unto the Trustee and its successors in trust and its assigns forever, subject, however, to the rights reserved under the Indenture.

To have and to hold in trust upon the terms and trusts set forth in the Indenture for the equal and proportionate benefit, security and protection of all Holders from time to time of all Senior Debt issued thereunder or under other documents and secured by the Indenture, without privilege, priority or distinction as to lien or otherwise of any of the Senior Debt over any of the others except as otherwise provided in the Indenture, and on a basis subordinate and junior thereto, upon the terms and trusts therein set forth for the equal and proportionate benefit, security and protection of all Holders and related credit enhancers from time to time of all Subordinate Debt issued under the Indenture or under other documents and secured by the Indenture, without privilege, priority or distinction as to lien or otherwise of any of the Subordinate Debt over any of the others, except as otherwise provided in the Indenture.

However, if the Authority shall pay fully and promptly when due all liabilities, obligations and sums at any time secured thereby or provide for the payment thereof in accordance with the Indenture, and shall promptly, faithfully and strictly keep, perform and observe, or cause to be kept, performed and observed, all of the covenants, warranties and agreements of the Indenture and related documents, then the Indenture shall be and become void and of no further force and effect; otherwise, the same shall remain in full force and effect, and upon the trusts and subject to the covenants and conditions set forth in the Indenture.

Purposes of Bonds (Section 301)

Bonds may be issued (a) to pay Costs, (b) to refund any Indebtedness secured by or payable from Net Revenues, including any Bonds, or (c) for a combination of such purposes.

Parity Senior Debt (Section 302)

The Indenture constitutes a continuing irrevocable pledge of Net Revenues to secure payment of the principal of, premium, if any, and interest on all Senior Debt that may from time to time be issued and Outstanding. Each Senior Debt issue shall be issued pursuant to a Supplemental Indenture or evidenced by other documents and shall be equally and ratably secured by the pledge of Net Revenues under the Indenture, without preference, priority or distinction; provided, however, that the moneys in any Series Debt Service Reserve Account shall only secure the applicable Series of Senior Debt, and provided further that any Senior Debt may have additional revenues or other security pledged to its payment. Nothing in the Indenture shall be construed, as (a) requiring that any Senior Debt bear interest at the same rate or in the same manner as any other Senior Debt, have the same, or an earlier or later, maturity, or be subject to mandatory, optional or extraordinary redemption prior to maturity on the same basis as any other Senior Debt, (b) prohibiting the Authority from entering into financial arrangements designed to assure that moneys will be available for the payment of certain Senior Debt at its maturity, or (c) prohibiting the Authority front pledging moneys or assets of the Authority other than those pledged in the Indenture for the benefit of certain Senior Debt.

Conditions for Issuing Bonds (Section 303)

The Indenture requires that certain documents be filed with the Trustee prior to the issuance and authentication of any Series of Bonds. These requirements include a requirement that if the Bonds are issued to pay Costs, except in the case of the initial Series of Bonds issued under the Indenture, the Authority provide the Trustee with (1) evidence that upon issuance of such Bonds, each Series Debt Service Reserve Account within the Debt Service Reserve Fund will contain the applicable Series Debt Service Reserve Requirement, and (2) either (A) a certificate of the CEO and General Manager, the Chief Financial Officer or Authorized Representative of the Authority, stating that based on the Authority's financial records for any 12 consecutive months of the last 18 months prior to the issuance of such Bonds, the Authority would have been able to meet the Rate Covenant, taking into account (i) the maximum Annual Debt Service on the proposed additional Series of Bonds in the current or any future Fiscal Year, and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the Board of Directors at the time of the delivery of the proposed additional Series of Bonds, or (B) a written statement of a Qualified Independent Consultant that projects Operating Expenses, Revenues and Net Revenues for five full Fiscal Years following the date of issuance of such proposed additional Series of Bonds and that demonstrates that, on the basis of such projection, the Authority can comply with the Rate Covenant, taking into account those rates, fees and other charges which are in effect at the time of the delivery of the proposed additional Series of Bonds and any future changes therein as have been approved by the Board of Directors of the Authority at the time of the delivery of the proposed additional Series of Bonds.

The Indenture also requires as a condition of issuance where Bonds are issued to refund any Indebtedness, the following: (1) evidence that the Authority has made provision as required by the Indenture for the payment or redemption of all indebtedness to be refunded; (2) either (A) a written determination by the CEO and General Manager, the Chief Financial Officer, or Authorized Representative of the Authority, or other evidence satisfactory to the Trustee that after the issuance of such Bonds and the provision for payment or redemption of all Indebtedness to be refunded, the Annual Debt Service requirements for each Fiscal Year in which there will be Outstanding Indebtedness not to be refunded will not increase more than 5% over what the Annual Debt Service requirements for such Fiscal Year would have been on all Senior Debt immediately prior to the issuance of such Bonds, including the Indebtedness to be refunded (if such Indebtedness was Senior Debt), and that the final maturity of Indebtedness being refunded has not been extended, or (B) a certificate of the CEO and General Manager, the Chief Financial Officer or Authorized Representative of the Authority, stating that based on the Authority's financial records for any 12 consecutive months of the last 18 months prior to the issuance of such Bonds, the Authority would have been able to meet the Rate Covenant, taking into account (i) the maximum Annual Debt Service on the proposed additional Series of Bonds in the current or any future Fiscal Year, but not the actual debt service on the Indebtedness to be refunded, and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the Board of Directors at the time of the delivery of the proposed additional Series of Bonds, or (C) a written statement of a Qualified Independent Consultant that projects Operating Expenses, Revenues and Net Revenues for five full Fiscal Years following the date of issuance of such proposed additional Series of Bonds, which such projection does not include the actual debt service for any Indebtedness to be refunded, and demonstrates, on the basis of such projection, that the Authority can comply with the Rate Covenant, taking into account those rates, fees and other charges which are in effect at the time of the delivery of the proposed additional Series of Bonds and any future changes therein as have been approved by the Board of Directors at the time of the delivery of the proposed additional Series of Bonds.

Other System Indebtedness (Section 304)

The Authority may incur or refinance Other System Indebtedness provided that (1) the documents relating to the Other System Indebtedness acknowledge that such debt constitutes Other System Indebtedness under the Indenture and is subject to the applicable terms and conditions thereof, specify the amounts and due dates of Annual Debt Service with respect to the Other System Indebtedness, (2) certain requirements of the Indenture for issuing Bonds described under "Conditions for Issuing Bonds (Section 303)" have been met as if the Other System Indebtedness was an additional Series of Bonds, (3) the Trustee receives written notice of the issuance of the Other System Indebtedness and the material terms and conditions thereof, and the Trustee shall register the holder as owner thereof as such on its books and records, and (4) the Trustee receives an Opinion of Counsel that the documents creating the Other System Indebtedness have been duly authorized, executed and delivered on behalf of the Authority and constitute valid, binding and enforceable obligations. In connection with the incurrence of any Other System Indebtedness, the Trustee shall enter into an intercreditor arrangement with the holder of such Other System Indebtedness, the terms of which shall be determined at the time of incurrence of such Other System Indebtedness. The Authority shall fulfill its obligations under all contracts or agreements creating Other System Indebtedness as they may exist from time to time.

Parity Subordinate Debt (Section 305)

Notwithstanding anything in the Indenture to the contrary, the Authority may at any time issue additional Subordinate Debt on a parity with the Outstanding Subordinate Debt and pledge Net Revenues thereto so long as rates, fees and charges are in effect or scheduled to go into effect to meet the Rate Covenant immediately after the issuance of such Subordinate Debt. Subordinate Debt may not be accelerated if any Senior Debt is outstanding.

Treatment of Direct Payments in Connection with Additional Indebtedness (Section 306)

For the purposes of computing Annual Debt Service on any Direct Payment BABs or other Indebtedness as to which Direct Payments are expected to be made (whether previously issued or proposed to be issued by the Authority) in connection with any proposed issuance of additional Subordinate Debt, the amount of any Direct Payment expected to be received by the Authority or the Trustee in the then current or any future Fiscal Year shall be credited against the Annual Debt Service on such Direct Payment BABs.

Custody and Application of Bond Proceeds (Section 501; TSI Section 501)

The proceeds of Bonds which are issued to pay Costs of the System shall be held in trust by the Trustee and used solely to pay Costs of the System. The proceeds of Bonds which are issued to refund any Indebtedness secured by or payable from Net Revenues, shall be held by the Trustee, an escrow agent or other party, as specifically provided in the Supplemental Indenture related to such refunding. The Indenture establishes a Construction Fund, to be held by the Authority. Amounts on deposit in the Construction Fund shall be used to pay Costs. The Trustee established a Construction Account, for the benefit of the holders of the Bonds which shall be considered part of the Construction Fund. The Authority established an EPA Grant Account and a Payments in Aid of the Construction Account in the Construction Fund to be held by the Authority. The proceeds of a Series of Bonds shall be deposited in the related Series Construction Subaccount. Reimbursements from EPA Grants and similar payments shall be deposited in the EPA Grant Account, IMA Capital Payments and other payments in aid of construction shall be deposited in the Payments in Aid of Construction Account. The Authority may establish additional Accounts and subaccounts within the Construction Fund as may be provided in a Supplemental Indenture. The Twenty-Fourth Supplemental Indenture establishes the Series 2019A Construction Account in the Construction Fund, which shall be used for payment of the

Costs of the System, and within the Series 2019A Construction Account, a Series 2019A Cost of Issuance Subaccount, which shall be used for the payment of costs of issuance of the Series 2019A Bonds. The Twenty-Fourth Supplemental Indenture also establishes the Series 2019B Construction Account in the Construction Fund, which shall be used for payment of the Costs of the System, and within the Series 2019B Construction Account, a Series 2019B Cost of Issuance Subaccount, which shall be used for the payment of costs of issuance of the Series 2018B Bonds. The Twenty-Sixth Supplemental Indenture establishes the Series 2019D Construction Account in the Construction Fund, which shall be used for payment of the Costs of the System, and within the Series 2019D Construction Account, a Series 2019D Cost of Issuance Subaccount, which shall be used for the payment of costs of issuance of the Series 2019D Bonds (TSI Section 501).

Deposits shall be made to the credit of the Construction Fund and any Accounts and subaccounts as provided in the applicable Supplemental Indenture. All earnings on moneys in each Account and subaccount shall be credited to such Account and subaccount. Payments from the Construction Account may be made upon submittal by the Chief Financial Officer of an appropriate requisition form to the Trustee on a bi-weekly, or less often basis. The Trustee shall pay the costs listed in the requisition within 2 days of receipt thereof. The Trustee shall retain copies of all such requisitions and shall pay the obligations set forth in the requisition out of money in the applicable Series Subaccount in the Construction Account. When all items of Costs have been paid or moneys have been reserved to pay all remaining unpaid Costs, the balance of any Bond proceeds remaining in excess of the amount to be reserved for payment of unpaid Costs shall be (a) transferred to the Bond Fund to be used solely to pay principal of and interest on the Series of Bonds which provided such proceeds to the extent approved by Bond Counsel, or (b) used to pay all or any portion of the Costs designated by the Authority and approved by Bond Counsel, but the balance of any Series 2019A/B/D Bond proceeds remaining in excess of the amount to be reserved for payment of unpaid Costs shall be deposited in the Bond Fund to be used solely to pay principal of and interest on the Series 2019A/B/D Bonds, to the extent approved by Bond Counsel.

Costs of the System (Section 502)

Costs shall mean any and all reasonable expenses related to the purposes or activities of the Authority including expenses for operating and maintenance activities; expenses for preconstruction and construction, acquisition, alteration, improvement, enlargement of furnishing, fixturing and equipping, reconstruction and rehabilitation of the water distribution and wastewater and stormwater collection, treatment, and disposal systems of the Authority, including without limitation, the purchase or lease expense for all lands, structures, real or personal property, rights, rights-of-way, roads, franchises, easements, and interest acquired or used for, or in connection with the Authority; the expenses of demolishing or removing buildings or structures on land acquired by the Authority, including the expenses incurred for acquiring any lands to which the buildings may be moved or located; the expenses incurred for all utility lines, structures or equipment charges, and interest on financial obligations incurred for a period as the Authority may reasonably determine to be necessary for the effective functioning of the water distribution and wastewater and stormwater collection, treatment, and disposal systems; provisions for reserves, enlargements, additions, and improvements; expenses incurred for architecture, engineering, energy efficiency technology, design and consulting, financial and legal services, letters of credit, bond insurance, debt service or debt service reserve insurance, surety bonds or similar credit enhancement instruments, plans, specification studies, surveys, and estimates of expenses and of revenues; expenses necessary or incident to determining the feasibility of improvements to the water distribution and wastewater and stormwater collection, treatment, and disposal systems, the financing of such improvements, including a proper allowance for contingencies, and the provision of reasonable initial working capital for operating the improved systems and expenses for obtaining potable water for distribution.

Rate Covenant (Section 601)

The Authority shall fix, charge and collect such rates, fees and other charges for the use of and the services furnished by the System and shall, from time to time and as often as shall appear necessary, revise such rates, fees and other charges so as to meet the following two independent requirements:

(1) Revenues, shall be sufficient in each Fiscal Year to pay (A) the actual Operating Expenses for such Fiscal Year, (B) the amount required to pay Annual Debt Service on Senior Debt in such Fiscal Year, (C) any amount necessary to be deposited in any Series Debt Service Reserve Account to restore the amount on deposit therein to the amount of the Series Debt Service Reserve Requirement, (D) the amount required to pay Annual Debt Service on

Subordinate Debt in such Fiscal Year (including reserves in connection therewith and the restoration thereof), (E) any amount necessary to be deposited in the Operating Reserve Fund and the Renewal and Replacement Reserve Fund to maintain the required balances therein, and (F) any amount necessary to make any payments in lieu of taxes in such Fiscal Year.

(2) Net Revenues shall be sufficient in each Fiscal Year to be at least equal to the sum of (A) 120% of the Annual Debt Service with respect to Senior Debt for such Fiscal Year, and (B) 100% of Annual Debt Service with respect to Subordinate Debt for such Fiscal Year.

From and after the date of the Twelfth Supplemental Indenture, for purposes of determining the Authority's compliance with the Rate Covenant (but not for the purposes of determining compliance with the Indenture's restrictions on the Authority's issuance of additional Senior Debt or additional Subordinate Debt), the amount of any Direct Payment received by the Authority or the Trustee in any Fiscal Year shall be credited against (i) Annual Debt Service on Senior Debt in such Fiscal Year if such Direct Payment related to Senior Debt or (ii) Annual Debt Service on Subordinate Debt in such Fiscal Year if such Direct Payment related to Subordinate Debt.

If at the end of any Fiscal Year the Authority is not in compliance with the Rate Covenant, or if the Authority fails for three consecutive months to make the deposits required under "Disposition of Revenues" to the Interest Account and the Principal Account (or the Sinking Fund Account, as applicable) or there is a deficiency in a Series Debt Service Reserve Account for longer than three consecutive months, the Authority shall immediately request a Qualified Independent Consultant to submit a written report and recommendations with respect to increases in the Authority's rates, fees and other charges and improvements in the operations of and the services rendered by the System and the Authority's accounting and billing procedures necessary to bring the Authority into compliance with the Rate Covenant. The report and recommendations shall be filed with the Trustee and the Authority within 120 days from the date of discovery of noncompliance with the Rate Covenant. The Authority shall promptly revise its rates, fees and charges, and alter its operations and services to conform with the report and recommendations of the Qualified Independent Consultant to the extent permitted by law. If the Authority promptly revises its rates, fees, charges, operations, services and procedures in conformity with the report and recommendations of the Qualified Independent Consultant and otherwise follows such recommendations to the extent permitted by law so that the Authority is expected to be, when its actions become fully effective, in compliance with the Rate Covenant, then any failure to meet the Rate Covenant will not constitute an Event of Default under the Indenture so long as no other Event of Default has occurred and is continuing.

Annual Budget (Section 602)

Before the beginning of each Fiscal Year, the Authority shall adopt a budget for the operation of the System for the ensuing Fiscal Year, which shall be called the Annual Budget. The Annual Budget shall be prepared in such manner as to show in reasonable detail (1) Revenues estimated to be received during such Fiscal Year, (2) Operating Expenses expected to be incurred during such Fiscal Year, (3) the amount of principal of, premium, if any, and interest on the Bonds that will become due during such Fiscal Year, (4) the amount of principal of, premium, if any, and interest on Other System Indebtedness that will become due during such Fiscal Year, (5) any amount necessary to be deposited in the Debt Service Reserve Fund to restore the amount on deposit in each Account therein to the amount of the applicable Series Debt Service Reserve Requirement, (6) any amount necessary to be deposited in the Operating Reserve Fund to restore the amount on deposit therein to the amount of the Operating Reserve Requirement, (7) any amount necessary to be deposited in the Renewal and Replacement Reserve Fund to restore the amount on deposit therein to the amount of the Renewal and Replacement Reserve Requirement, (8) the amount of principal of, premium, if any, and interest on the Subordinate Debt that will become due during such Fiscal Year, (9) any amount necessary to be deposited in the Subordinate Debt Service Reserve Fund to restore the amount on deposit therein to the amount of the Subordinate Debt Service Reserve Requirement, and (10) the amount of Net Revenues available during such Fiscal Year to meet the Rate Covenant. The Annual Budget shall be prepared in sufficient detail to show the amounts to be deposited in the various funds, Accounts and subaccounts created by or under the Indenture or funds and accounts otherwise required to be maintained on behalf of the System. The Authority may amend the Annual Budget at any time during the Fiscal Year. If for any reason an Annual Budget has not been adopted within the time required in the Indenture, the last previously adopted Annual Budget shall be deemed to provide for and regulate and control expenditures during such Fiscal Year until an Annual Budget for such Fiscal Year has been adopted. A copy of the Annual Budget and any amendments thereto shall be filed promptly with the Trustee.

Funds and Accounts (Section 603)

The Indenture establishes the following funds and Accounts to be held by the Authority or Trustee, as applicable: (a) Revenue Fund to be held by the Authority, subject to the lien of the Indenture (the Water and Sewer Authority Enterprise Fund created pursuant to Section 207 of the WASA Act, codified, as amended, at D.C. Code Section 34-2202.07, constitutes the Revenue Fund); (b) Operating Fund to be held by the Authority not subject to the lien of the Indenture (the Operating and Maintenance Account created pursuant to Section 154 of Public Law 104-134, codified at D.C. Code Section 34-2202.41, constitutes the Operating Fund); (c) Bond Fund, in which there shall be established an Interest Account, a Principal Account and a Sinking Fund Account, and a separate subaccount in each such Account with respect to each Series of Bonds or Other System Indebtedness issued under the Indenture, as applicable, to be held by the Trustee, subject to the lien of the Indenture; (d) Debt Service Reserve Fund, in which there shall be established a Series Debt Service Reserve Account for each Series of Bonds or Other System Indebtedness issue which has a Series Debt Service Reserve Requirement, to be held by the Trustee, subject to the lien of the Indenture; (e) Operating Reserve Fund to be held by the Authority, subject to the lien of the Indenture; (f) Renewal and Replacement Reserve Fund to be held by the Authority, subject to the lien of the Indenture; (g) Subordinate Bond Fund to be held by the Trustee, subject to the lien of the Indenture; (h) Subordinate Debt Service Reserve Fund to be held by the Trustee, subject to the lien of the Indenture; (i) Rate Stabilization Fund to be held by the Authority, subject to the lien of the Indenture; and (j) System Fund to be held by the Authority, subject to the Lien of the Indenture.

Disposition of Revenues (Section 604)

All Revenues shall be deposited in the Revenue Fund to be held by the Authority; provided, however, that upon an Event of Default, the Authority will transfer all amounts in all the Authority held funds to the Trustee, and the Trustee shall hold such moneys in trust for the beneficiaries under the Indenture. From and after the occurrence of such Event of Default, the Authority shall deliver all Revenues to the Trustee as and when received. Prior to any such Event of Default, throughout the month, but no later than the last Business Day of each month, the Authority shall transfer from the Revenue Fund to the Operating Fund an amount sufficient to pay Operating Expenses during such month. Thereafter, Net Revenues shall be disbursed on the last Business Day of each month in the following order (except that no distinction or preference shall exist in the use in an amount sufficient to make the following deposits of Net Revenues for payment into the Interest Account, the Principal Account or the Sinking Fund Account of the Bond Fund, such accounts being on a parity with each other as to payment from Net Revenues):

(a) To the Bond Fund:

(1) to the subaccounts established for each Series of Bonds or Other System Indebtedness in the Interest Account, the amounts, if any, set forth in the applicable Supplemental Indenture with respect to each Series of Bonds or Other System Indebtedness; provided, however, that if such Other System Indebtedness is evidenced by documents other than a Supplemental Indenture, to the related interest accounts set forth therein, as applicable; and such deposits shall be adjusted to give credit for any other available money then in such interest account or subaccount, or otherwise available and designated to be used for such purpose. Moneys in the Interest Account shall be used to pay interest required to be paid on any interest payment date related to such Series of Bonds or Other System Indebtedness, as applicable.

(2) to the subaccounts established for each Series of Bonds or Other System Indebtedness in the Principal Account and Sinking Fund Account, the amounts, if any, set forth in the applicable Supplemental Indentures with respect to each Series of Bonds or Other System Indebtedness; provided, however, that if such Other System Indebtedness is evidenced by documents other than a Supplemental Indenture, to the related principal account and sinking fund account set forth therein, as applicable; and such deposits shall be adjusted to give credit for any other available money then in the principal or sinking fund account or subaccount or otherwise available and designated to be used for such purpose. Moneys in the Principal Account shall be used to pay principal required to be paid on any principal payment date related to such Series of Bonds or Other System Indebtedness, as applicable. Moneys in the Sinking Fund Account shall be used to pay the amount required for mandatory sinking fund redemption on the applicable redemption date related to such Series of Bonds or Other System Indebtedness, as applicable,

(b) To the applicable Account in the Debt Service Reserve Fund with respect to each Series of Bonds, the amounts, if any, necessary to restore the amount on deposit therein to the related Series Debt Service Reserve Requirement; and to the extent applicable, amounts necessary to restore the amount on deposit in the debt service reserve fund related to Other System. Indebtedness to the amounts required to be on deposit therein, and such amounts shall be transferred to such fund.

(c) To the Operating Reserve Fund, the amounts, if any, necessary to restore the amounts on deposit therein to the Operating Reserve Requirement. Such amounts shall be funded within 24 months of withdrawal by depositing in such fund 1/24 of the Operating Reserve Requirement on the last Business Day of each month after such withdrawal, if necessary. Moneys in the Operating Reserve Fund shall be used to pay, to the extent necessary, Operating Expenses of the Authority. In addition, to the extent that moneys on deposit in the Bond Fund are insufficient to make the required interest and principal payments, moneys in the Operating Reserve Fund shall be used prior to any withdrawal from the Debt Service Reserve Fund, to satisfy any such deficiencies.

(d) To the Renewal and Replacement Reserve Fund, an amount equal to the Renewal and Replacement Reserve Requirement. Such amounts shall be funded within 24 months of the applicable Closing Date to the extent not already deposited by depositing 1/24 of the Renewal and Replacement Reserve Requirement on the last Business Day of each month in such fund. In addition, to the extent that there has been a withdrawal from such fund, the Trustee shall deposit Net Revenues to the fund, in the amounts necessary to make the amounts on the deposit therein equal to the Renewal and Replacement Reserve Requirement. Such withdrawn amounts shall be funded within 24 months by depositing in such fund 1/24 of the Renewal and Replacement Reserve Requirement on the last Business Day of each month after such withdrawal. Moneys in the Renewal and Replacement Reserve Fund may be used to pay for any capital expenditures related to the System. In addition, to the extent that moneys on deposit in the Bond Fund and the Operating Reserve Fund are insufficient to make the required interest and principal payments, moneys in the Renewal and Replacement Reserve Fund shall be used prior to any withdrawal from the Debt Service Reserve Fund to satisfy any such deficiencies.

(e) To the Subordinate Bond Fund, the amount equal to the deposits to such funds and accounts required by the related Supplemental Indenture or other documents evidencing such debt. To the extent that Subordinate Debt is issued pursuant to Subordinate Debt documents, applicable amounts shall be transferred to the respective Subordinate Debt trustee.

(f) To the applicable Account, if any, in the Subordinate Debt Service Reserve Fund with respect to each Subordinate Debt issue, the amounts, if any, necessary to restore the amount on deposit therein to the related debt service reserve requirement or to reimburse the provider of any Qualified Reserve Credit Facility for amounts drawn thereunder and to pay related costs. To the extent that the Subordinate Debt is issued pursuant to Subordinate Debt Documents, applicable amounts shall be transferred to the respective Subordinate Debt trustee.

(g) To the System Fund, any moneys remaining in the Revenue Fund after all deposits and transfers required by subsections (a) through (f) of Section 604 have been made. Moneys in the System Fund may be used for any authorized purpose. On the following dates, moneys on deposit in the System Fund were required or are required be used to make the following payments:

(1) on each May 15 and quarterly thereafter, to the District to make the payment in lieu of taxes required by the District MOU relating to the PILOT;

(2) on September 1, 1998, an amount retained by the Authority in the System Fund necessary to satisfy the Cash Reserve Requirement;

(3) on each September 1, commencing September 1, 1999: (a) an amount to the District to make those certain principal and interest prepayments related to the District General Obligation Bonds pursuant to the District MOU relating to the Payment of General Obligation Debt; and (b) an amount retained by the Authority in the System Fund necessary to satisfy the Cash Reserve Requirement; and

(4) at any time to the Rate Stabilization Fund, the amount that the CEO and General Manager may determine, in his discretion, to transfer to the Rate Stabilization Fund.

With respect to prepayments made pursuant to section (g)(3)(a) above, if the Authority does not have Net Revenues sufficient to make such payment on September 1 of such fiscal year, the Authority must make such payment no later than November 1 of such fiscal year. Failure to make such payment prior to November 1 shall not constitute an Event of Default.

The Authority shall provide the Trustee with a monthly certificate which certifies that the transfers required by subsections (c), (d) and (g) have been made and sets forth the respective balances of such funds. If the Authority fails to make the transfers required by subsections (a) through (g) the Trustee shall give notice of such failure to the Authority within 10 days of such failure. Notwithstanding anything in the Indenture to the contrary, at any time that the Authority is required to make transfers pursuant to subsections (a) through (g), and there are insufficient Net Revenues to make all required transfers pursuant to such subsections, the Authority shall make the transfers in the order set forth above first from Net Revenues, then from any other legally available monies. In the event the balance on deposit in the Principal Account, Sinking Fund Account or the Interest Account is insufficient for the purposes thereof, the Authority shall transfer to the Trustee for deposit in such Accounts such amounts as may be necessary therefor first from the Operating Reserve Fund, second from the Renewal and Replacement Fund, and then from the applicable Series Debt Service Reserve Account pursuant to the section entitled "Debt Service Reserve Fund (Section 606)". The Trustee shall provide for a mandatory sinking fund redemption of any Term Bonds in accordance with the schedules set forth in the Supplemental Indenture for such Bonds; provided, however, that on or before the 70th day next preceding any such sinking fund payment date, the Authority may: (1) deliver to the Trustee for cancellation Term Bonds of the maturity required to be redeemed on such sinking fund payment date in any aggregate principal amount desired; or (2) instruct the Trustee to apply a credit against the Authority's next sinking fund redemption obligation for any such Term Bonds that previously have been redeemed (other than through the operation of the sinking fund) and canceled but not theretofore applied as a credit against any sinking fund redemption obligation. Upon the occurrence of any of the events described in the subsections (1) or (2) above, the Trustee shall credit against the Authority's sinking fund redemption obligation on the next sinking fund payment date the amount of such Term Bonds so delivered or previously redeemed. Any principal amount of such Term Bonds in excess of the principal amount required to be redeemed on such sinking fund payment date shall be similarly credited in such order as may be determined by the Authority against future payments to the Sinking Fund Account and shall similarly reduce the principal amount of the Term Bonds of the applicable Series to be redeemed on the next sinking fund payment date. Within seven days of receipt of such Term Bonds or instructions to apply as a credit, any amounts remaining in the Sinking Fund Account in excess of the amount required to fulfill the remaining required sinking fund redemption obligation on the next sinking fund payment date shall be used in such manner as determined at the direction of the Authority. In the event the amount on deposit in the Interest Account on any interest payment date shall exceed the amount required to pay interest on the Senior Debt on the next interest payment date, the Authority shall, if the amount on deposit in any Series Debt Service Reserve Account is less than the applicable Series Debt Service Reserve Requirement, instruct the Trustee to transfer such excess to any Series Debt Service Reserve Account to the extent of such deficiency, and otherwise retain any remaining excess in the Interest Account or instruct the Trustee to transfer any remaining excess to the related Principal Account to be credited against subsequent required deposits thereto, as determined by the Authority.

If the amount on deposit in the Principal Account or Sinking Fund Account on any principal or mandatory redemption payment date exceeds the amount required on such date to pay Bonds at maturity or to redeem Term Bonds pursuant to mandatory sinking fund requirements, the Authority shall, if the amount on deposit in any Series Debt Service Reserve Account is less than the applicable Series Debt Service Reserve Requirement, instruct the Trustee to transfer such excess to the Series Debt Service Reserve Account to the extent of such deficiency, and otherwise retain such excess in the Principal Account or instruct the Trustee to transfer such excess to the Interest Account to be credited against subsequent required deposits thereto, as determined by the Authority.

With respect to the Direct Payments by providing that, upon receipt of any Direct Payment, the Authority or the Trustee shall cause it to be deposited (i) in the appropriate subaccounts in the Interest Account in the Bond Fund if such Direct Payment relates to Bonds or Other System Indebtedness, and (ii) in the appropriate subaccount in the Subordinate Interest Account in the Subordinate Bond Fund if such Direct Payment relates to Subordinate Debt, and shall cause it to be applied solely to the purposes to which the Indenture permits funds in such subaccount, account and fund to be applied.

Rate Stabilization Fund (Section 605)

The Rate Stabilization Fund authorized by the Indenture shall be held by the Authority in an Account separate and apart from all other funds and Accounts of the Authority and payments therefrom shall be made as provided in the Indenture. Moneys may be transferred by the Authority to the Rate Stabilization Fund from the System Fund as provided in the section captioned "Disposition of Revenues (Section 604)" as determined by the Authority. At any time the Authority may transfer from the Rate Stabilization Fund to the Revenue Fund the amount determined by the Authority to be transferred from the Rate Stabilization Fund.

Debt Service Reserve Fund (Section 606)

Each Supplemental Indenture under which a Series of Bonds is issued shall establish an Account in the Debt Service Reserve Fund related to such Series of Bonds that shall be funded pursuant to the terms of a Supplemental Indenture. The Series Debt Service Reserve Requirement shall be deposited in the Account related to such Series. Amounts in each Account in the Debt Service Reserve Fund shall be used to pay debt service on the related Series of Bonds on the date such debt service is due when insufficient funds for that purpose are available in the Bond Fund; provided, however, that all amounts in an Account in the Debt Service Reserve Fund shall be used, together with other amounts available for such purpose under the Indenture, to provide for payment of the related Series of Bonds when the aggregate of such amounts is sufficient for such purpose. Amounts in each Account of the Debt Service Reserve Fund shall be pledged to Holders of Bonds of the related Series. The Debt Service Reserve Fund has not been pledged as security for the payment of any Subordinate Debt.

In lieu of or in addition to cash or investments, at any time the Authority may cause to be deposited to the credit of any Series Debt Service Reserve Account any form of credit facility, including a surety bond, in the amount of all or a portion of the Series Debt Service Reserve Requirement, irrevocably payable to the Trustee as beneficiary for the Holders of the respective Series of Bonds, provided that the Trustee has received evidence satisfactory to it that (a) the provider of the credit facility has a credit rating in one of the two highest credit rating categories by two Rating Agencies, (b) the obligation of the Authority to pay the fees of and to reimburse the provider of the credit facility is subordinate to its obligation to pay debt service on the respective Series of Bonds, (c) the term of the credit facility is at least 36 months, (d) the only condition to a drawing under the credit facility is insufficient amounts in the applicable funds and Accounts held by the Trustee with respect to such Series of Bonds when needed to pay debt service on such Series or the expiration of the credit facility, and (e) the provider of the credit facility shall notify the Authority and the Trustee at least 24 months prior to the expiration of the credit facility. If (1) the Authority receives such expiration notice and the provider of such credit facility does not extend its expiration date, (2) the Authority receives notice of the termination of the credit facility, or (3) the Authority receives notice that the provider of such credit facility no longer has a credit rating in one of the two highest credit rating categories by two Rating Agencies, the Authority immediately shall (A) provide a substitute credit facility that meets the requirements set forth in the foregoing sentences, (B) deposit the Series Debt Service Reserve Requirement to the respective Series Debt Service Reserve Account (i) in equal monthly installments over the next succeeding 24 months in the case of receipt of an expiration notice, (ii) prior to the termination date in the case of receipt of a termination notice, or (iii) immediately in the case of such reduction in credit rating, or (C) instruct the Trustee to draw on such credit facility in the amount of the Series Debt Service Reserve Requirement (i) 12 months prior to expiration of the credit facility in the case of receipt of an expiration notice, (ii) prior to the termination date in the case of receipt of a termination notice, or (iii) immediately in the case of such reduction in credit rating and deposit the amount drawn to the Series Debt Service Reserve Account.

If a disbursement is made pursuant to any credit facility, the Authority shall either (a) reinstate the maximum limits of such credit facility, or (b) deposit to the credit of the applicable Series Debt Service Reserve Account moneys in the amount of the disbursement made under such credit facility from available Net Revenues. To the extent such moneys are still insufficient, then the Authority shall transfer to the Trustee from any legally available moneys the amount of such deficiency as soon as practicable and in any event within 24 months by depositing one-twenty-fourth of the required amount each month.

Amounts, if any, released from any Series Debt Service Reserve Account, upon deposit to the credit of such Account of a credit facility, upon designation by an Authorized Representative of the Authority and accompanied by an Opinion of Bond Counsel that such use will not adversely affect the exclusion from gross income of interest on the respective Series of Bonds, shall be transferred (a) to the subaccount of the Principal Account with respect to such Series of Bonds and used to pay principal of or to redeem such Bonds, or (b) to the Authority to be used to pay all or any portion of the Costs designated by the Authority and approved by Bond Counsel.

On or within five days after each Reserve Determination Date, the Trustee shall determine if the balance on deposit in each Series Debt Service Reserve Account was, as of the Reserve Determination Date, at least equal to the applicable Series Debt Service Reserve Requirement. In making such determination, any obligations in the Series Debt Service Reserve Account shall be valued in accordance with the Indenture. In the event the amount on deposit in a Series Debt Service Reserve Account exceeds the applicable Series Debt Service Reserve Requirement, the Trustee shall (a) transfer such excess to the Bond Fund to be deposited in the related Series subaccount in the Interest Account and the related Series subaccount in the Principal Account to the extent amounts in such subaccounts are less than the amounts required to be paid on the next interest payment date and principal payment date, respectively, (b) thereafter transfer such excess to the Bond Fund to be deposited, as directed by an Authorized Representative of the Authority, in the Interest Account or the Principal Account to the extent amounts in such accounts are less than the amounts required to be paid on the next interest payment date and principal payment date, respectively, and (c) transfer such excess to the Authority to be used to pay all or any portion of Costs designated by the Authority and approved by Bond Counsel; provided, however, that if an Authorized Representative of the Authority calls for a Reserve Determination Date in connection with the refunding and/or defeasance of a Series of Bonds, then the Trustee is authorized to take such refunding and/or defeasance into account in valuing the Series Debt Service Reserve Account securing such Series of Bonds and is further authorized to apply the amount of any surplus arising from such valuation to reduce the amount of the refunding bonds and/or to provide for the defeasance of the Series of Bonds in such manner as the Authorized Representative of the Authority may direct.

Payments in Aid of Construction (Section 607)

The Authority shall use any payments made to the Authority by any persons as payment for constructing water, wastewater or stormwater facilities at the request of such persons, whether such payments are made prior to or after such construction, only to pay the cost of such construction. After completion of such construction, the Authority may use any moneys remaining after such construction is completed to pay all or any portion of Costs designated by the Authority and approved by Bond Counsel.

Other Funds and Accounts (Section 608)

The Authority may establish in each Supplemental Indenture such other funds and Accounts within funds as the Authority may determine to be desirable.

Pledge of Net Revenues and Certain Funds and Accounts (Section 609; TSI Section 601)

Net Revenues are pledged equally and ratably to the payment of principal of and interest on all Senior Debt, subject only to the right of the Authority to make application thereof to other purposes as provided in the Indenture. All funds created under the Indenture other than the Operating Fund shall be trust funds and are pledged (except as provided in the next sentence and as described in the next paragraph hereof) equally and ratably to the payment of the principal of and interest on all Senior Debt, subject only to the right of the Authority to make application thereof, or to direct the Trustee to make application thereof, to other purposes as provided in the Indenture. The lien and trust created under the Indenture are for the benefit of the Holders of Senior Debt and for their additional security until all the Senior Debt has been paid; provided, however, that the moneys in each Series Debt Service Reserve Account and each Series Construction Account or subaccount shall only secure the applicable Series of Bonds that provided such moneys, and moneys in any account of the Bond Fund relating to a particular Senior Debt shall only secure such Senior Debt. Notwithstanding the foregoing and anything else in the Indenture to the contrary, pursuant to the terms of the Water Sales Agreement, to the extent that the United States of America, acting through the Secretary of the Army, requires that the Authority establish a special fund consisting of separately identifiable fees, charges, rents and rates (the "Special Revenues") assessed by the Authority on its retail customers after the effective date of the Indenture in order to pay for the principal and interest due on the Treasury Loans, the Department of the Treasury shall have a security interest in such Special Revenues only, and the Treasury Loans shall no longer be secured by the remaining Net Revenues, nor be considered Indebtedness for the purposes of the Indenture. The Treasury Loan holder shall have an interest senior to the interest of holders of Indebtedness in such Special Revenues. All further terms and conditions of such Special Fund shall be set forth in a Supplemental Indenture related thereto.

The Series 2019A/B/D Bonds are secured as Subordinate Debt under the Indenture and, as such, are secured by a pledge of (i) Net Revenues subordinate to the pledge of Net Revenues that secures Senior Debt and on a parity with the pledge of Net Revenues that secures Subordinate Debt, including, without limitation, any other Subordinate Debt that the Authority may issue in the future, without preference, priority or distinction of any Series 2019A/B/D Bond over any other Series 2019A/B/D Bond or of any Subordinate Debt over any other Subordinate Debt, as provided in the Indenture; and (ii) the moneys and Permitted Investments in the Subordinate Bond Fund on a parity with the pledge of Net Revenues that secures other Subordinate Debt, including, without limitation, any other Subordinate Debt that the Authority may issue in the future, without preference, priority or distinction of any Series 2019A/B/D Bond over any other Series 2019A/B/D Bond or of any Subordinate Debt over any other Subordinate Debt, as provided in the Indenture. (TSI Section 601).

Covenant of the District of Columbia (TSI Section 601)

Under to the WASA Act, the District pledges to the Authority and any holders of its bonds that, except as provided in the WASA Act, the District will not limit or alter rights vested in the Authority to fulfill agreements made with holders of the bonds, or in any way impair the rights and remedies of the holders of the bonds until the bonds, together with the interest thereon, with interest on any unpaid installments of interest, and all costs and expenses in connection with any action or proceedings by or on behalf of the holders of the bonds are fully met and discharged.

Payment of Indebtedness; Limited Obligations (Section 801)

The Authority shall promptly pay or cause to be paid when due the principal of (whether at maturity, by acceleration, call for redemption or otherwise), premium, if any, and interest on the Indebtedness at the places, on the dates and in the manner provided in the Indenture and in the Indebtedness according to the true intent and meaning thereof; provided, however, that such obligations are not general obligations of the Authority, but are limited obligations payable solely from Net Revenues, except to the extent payable from the proceeds of Indebtedness, the income, if any, derived from the investment thereof, certain reserves, proceeds of credit enhancement, income from investments pursuant to the Indenture or proceeds of Insurance, which Net Revenues and other moneys are specifically pledged to such purposes in the manner and to the extent provided in the Indenture. The Series 2019A/B/D Bonds are special and limited obligations of the District. The Series 2019A/B/D Bonds shall be without recourse to the District. The Series 2019A/B/D Bonds shall not be general obligations of the District, shall not be a pledge of or involve the faith and credit or the taxing power of the District, and shall not constitute lending of the public credit for private undertakings.

Limitations on Indebtedness (Section 802)

The Authority shall not issue any bonds, notes or other obligations that shall be secured by a pledge of Net Revenues (a) senior to the pledge of Net Revenues securing the Senior Debt, (b) except in compliance with the Indenture, on a parity with the pledge of Net Revenues securing the Senior Debt, or (c) except in compliance with the section captioned "Subordinate Debt (Section 305)", subordinate to the pledge of Net Revenues securing the Senior Debt. The Authority shall not issue Bonds, Other System Indebtedness or Subordinate Debt unless the Authority complies with the Indenture, including those provisions described in "Conditions for Issuing Bonds (Section 303)," "System Indebtedness (Section 304)" and "Subordinate Debt (Section 305)," as applicable.

Covenants and Representations of the Authority (Section 803)

The Authority shall faithfully observe and perform all covenants, conditions and agreements on its part contained in the Indenture, in every issue of Indebtedness issued thereunder and in all proceedings of the Authority pertaining thereto. The Authority represents that it is duly authorized under the WASA Act to issue the Indebtedness, to execute the Indenture, and to pledge Net Revenues in the manner and to the extent set forth in the Indenture. The

Authority covenants that it will take all action necessary for issuance of the Indebtedness and the execution of the Indenture, and that upon issuance the Indebtedness will be valid and enforceable obligations of the Authority according to the import thereof.

Covenants with Credit Banks, Insurers, etc. (Section 804)

The Authority may make such covenants and agreements in a Supplemental Indenture as it may determine to be appropriate with any Insurer, credit bank or other financial institution that agrees to insure or to provide credit or liquidity support to enhance the security or the value of any Indebtedness. Such covenants and agreements may be set forth in the applicable Supplemental Indenture and shall be binding on the Authority and all the holders of Indebtedness the same as if such covenants were set forth in full in the Indenture.

Operation and Maintenance (Section 805)

The Authority shall establish and enforce reasonable rules and regulations governing the use of and the services furnished by the System, shall maintain and operate the System in an efficient and economical manner, shall maintain the same in good repair and sound operating condition and shall make all necessary repairs, replacements and renewals. All compensation, salaries, fees and wages paid by the Authority in connection with the operation and maintenance of the System shall be reasonable. The Authority shall observe and perform all of the terms and conditions contained in the WASA Act and the Water Sales Agreement and shall comply with all valid acts, rules, regulations, orders and directions of any legislative, executive, administrative or judicial body applicable to the System or the Authority.

Free Service, Competing Service, Billing and Enforcement of Charges (Section 806)

The Authority shall not permit connections to or use of the System or provide any services of the System without making a charge therefor in accordance with the Authority's schedule of rates, fees and charges for the System other than those connections, use or services already in existence; provided, however, the Authority may accept proffers and other forms of payment in lieu of cash payments that the Authority deems are in its best interest to accept, provided that such proffers do not cause a violation of the Rate Covenant. The Authority shall not provide, grant any franchise to provide, or give consent for anyone else to provide any services which would compete with the System unless the Authority determines that such franchise or provision of services would provide services that the Authority has determined are not in its best interest to provide and would not materially impair the interests of the holders of Indebtedness.

The Authority shall bill customers for the services of the System no less frequently than quarterly. If any rates, fees or other charges for the use of or for the services furnished by the System shall not be paid within 60 days after the same shall become due and payable, or within such shorter time as may be determined by the Authority, the Authority shall at the expiration of such period, to the extent permitted by applicable laws and regulations, disconnect the premises from the System or otherwise suspend service to such premises until such delinquent rates, fees or other charges and any interest, penalties or charges for reconnection of service to such delinquent customer shall have been paid in accordance with the policies of the Authority, or a payment plan with respect to such amounts has become effective. The Authority shall take all such action as may be necessary to perfect liens upon real estate for the amount of any unpaid rates, fees or other charges described in Section 806 of the Indenture or any unpaid connection charges or other charges so that such liens will be binding upon subsequent bona fide purchasers for valuable consideration without actual notice thereof.

Sale or Encumbrance of System (Section 807)

Neither the System nor any integral part thereof shall be leased, sold, mortgaged or otherwise disposed of without an Independent Consulting Engineer's certification that such disposition will not have a negative impact on the overall viability of the System unless the proceeds of such disposition, together with any other legally available moneys, are sufficient to pay the principal of, premium, if any, and interest on all Indebtedness then Outstanding and the proceeds are used for such purpose; provided, that the Authority may from time to time sell, exchange or otherwise dispose of any equipment, motor vehicles, machinery, fixtures, apparatus, tools, instruments or other movable property if it determines that such articles are no longer needed or are no longer useful in connection with the System, and the proceeds thereof may be used for any lawful purpose determined by the Authority. The Authority shall not create or suffer to be created any lien or charge upon the System or any part thereof or any lien or charge upon Net Revenues and other moneys pledged herein ranking equally with, prior to, or subordinate to the lien and charge of the Indebtedness, except as provided in the Indenture. Notwithstanding anything in the Indenture to the contrary, the Authority may acquire items of personal property constituting part of the System under lease purchase agreements or similar financing arrangements entered into in the ordinary course of business which may be subject to purchase money security interests or other liens in an aggregate amount not to exceed five percent (5%) of the net amount of plant, property and equipment.

Notwithstanding the provisions of the preceding paragraph, the Authority may sell, transfer or otherwise dispose of all or substantially all of the System for purposes of consolidating the System with or merging the System into one or more regional water, wastewater or stormwater systems of which the Authority is a participating member jurisdiction if: (1) the successor entity assumes in writing all of the Indebtedness then Outstanding, (2) the successor entity covenants in writing to comply with the Rate Covenant, (3) the Authority obtains an opinion of Bond Counsel, subject to the customary exceptions and qualifications, substantially to the effect that the assumption by the successor entity of all of the Indebtedness then Outstanding shall not have an adverse effect on the tax-exempt status of the interest on any such Indebtedness the interest on which was excludable from gross income for purposes of Federal income taxation when issued, and (4) the ratings on the Indebtedness then Outstanding will not adversely be affected by such assumption.

Notwithstanding the provisions of the preceding paragraph, the Authority may lease or sell the Blue Plains Wastewater Treatment Plant if: (1) the lessor [sic] or purchaser entity assumes in writing all of the Indebtedness then Outstanding relating to the plant, (2) the successor entity covenants in writing to comply with the Rate Covenant, as applicable, (3) the Authority obtains an opinion of Bond Counsel, subject to the customary exceptions and qualifications, substantially to the effect that the assumption by the lessor [sic] or purchaser entity of all of the Indebtedness then Outstanding shall not have an adverse effect on the tax-exempt status of the interest on any such Indebtedness the interest on which was excludable from gross income for purposes of Federal income taxation when issued, and (4) the ratings on such Indebtedness then Outstanding will not adversely be affected by such assumption.

Insurance (Section 808)

The Authority shall continuously maintain insurance with recognized responsible commercial insurance companies against such risks and in such amounts as are customary for public bodies owning and operating similar systems, including (a) insurance against loss or damage to the System, (b) public liability insurance against liability for bodily injury, including death resulting therefrom, and for damage to property, including loss of use thereof, arising out of the ownership or operation of the System, and (c) workers' compensation insurance with respect to the System. In lieu of insurance written by commercial insurance companies, the Authority may maintain a program of self-insurance or participate in group risk financing programs, including sponsored insurance programs, risk pools, risk retention groups, purchasing groups and captive insurance companies, and in state or Federal insurance programs; provided, however, that the Authority shall obtain and maintain on file a tri-annual favorable written opinion of a Qualified Independent Consultant that such alternative is reasonably acceptable with respect to the coverages under all the circumstances.

Damage, Destruction, Condemnation and Loss of Title (Section 809)

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 Authority shall restore promptly the property destroyed or damaged to substantially the same condition as before such destruction, damage, condemnation or loss of title with such alterations and additions as the Authority may determine and which will not impair the capacity or character of the System for the purpose for which it is then being used or is intended to be used. The Authority shall apply so much as may be necessary of such Net Proceeds received on account of any such destruction, damage, condemnation or loss of title to payment of the cost of such restoration, either on completion or as the work progresses. If such Net Proceeds are not sufficient to pay in full the cost of such restoration, the Authority shall pay so much of the cost as may be in excess of such Net Proceeds from any legally available moneys. Any balance of such Net Proceeds remaining after payment of the cost of such restoration shall be deposited in the Bond Fund.

Records and Accounts; Inspections and Reports (Section 810)

The Authority shall keep proper books of records and accounts, separate from any of its other records and accounts, showing complete and correct entries of all transactions relating to the System, and the Trustee shall have the right at all reasonable times to inspect the System and all records, accounts and data relating thereto. The Authority shall also cause a certified audit of its records and accounts to be made in accordance with generally accepted accounting principles by an independent certified public accountant at the end of each Fiscal Year which shall reflect in reasonable detail the financial condition and results of operation of the System and whether the Authority has complied with the Rate Covenant and to deliver such report to the Trustee. The Authority shall cause an Independent Consulting Engineer at least once every five years to inspect the System and make a written report thereof which shall include such Independent Engineer's findings and recommendations as to the maintenance of the System and the construction of additions, extensions and improvements to the System and capital replacements thereof. Such report shall be completed in sufficient time so that the Authority may take into account any recommendations thereof in preparing its next Annual Budget.

Capital Budget (Section 811)

The Authority shall annually adopt a multiyear financial plan for capital expenses encompassing at least the forthcoming five fiscal years.

Service Contracts (Section 812)

The Authority may enter into Service Contracts for the benefit of the System, provided that the Authority specifies in writing the items payable as the Debt Service Component, Operating Component or Remaining Component of the Cost of Contracted Services and provided, further that the Authority shall not enter into any Service Contracts that would create Debt Service Components that constitute Other System Indebtedness unless the Authority satisfies the test set forth in the section entitled "Conditions for Issuing Bonds (Section 303)" for Bonds issued to pay Costs, except in the case of the initial Series of Bonds. The Authority shall faithfully fulfill all lawful requirements of all Service Contracts and shall require all other parties thereto to fulfill their lawful obligations thereunder. The Authority shall determine in writing on or before the effective date of any Service Contract the amounts and due dates of any Debt Service Component and the interest and principal portions of such components.

Events of Default – General (Section 901)

Each of the following events shall be an Event of Default:

(a) Default in the due and punctual payment of the principal of, premium, if any, on any Bond (whether at maturity, call for redemption or otherwise);

(b) Default in the due and punctual payment of the interest on any Bond;

(c) Failure by the Authority to observe the covenant set forth in Section 604(g)(3)(a) of the section entitled "Disposition of Revenues";

(d) Subject to the remedial provisions of the Rate Covenant, failure of the Authority to observe and perform any of its other covenants, conditions or agreements under the Indenture or in the Bonds for a period of 60 days after written notice either from the Trustee or Holders of not less than 25% in aggregate principal amount of Bonds then Outstanding (unless the Trustee agrees in writing to an extension of such time prior to its expiration), specifying such failure and requesting that it be remedied, or in the case of any such default that cannot with due diligence be cured within such 60 day period, failure of the Authority to proceed promptly to cure the same and thereafter prosecute the curing of such default with due diligence within 60 days thereafter; provided, however, any such cure period shall not exceed an aggregate of 120 days without the prior written consent of Financial Security Assurance, Inc., as long as any of the Authority's $266,120,000 Public Utility Revenue Bonds, Series 1998 are Outstanding;

(e) The Authority shall fail to make any required payment with respect to any Other System Indebtedness, and any period of grace with respect thereto shall have expired, or an event of default as defined in any mortgage, indenture, or instrument under which there may be issued, or by which there may be secured or evidenced any Other System Indebtedness, shall occur, which event of default shall not have been waived by the holder of such mortgage, indenture or instrument provided, however, that such default shall not constitute an Event of Default within the meaning of Section 901 of the Indenture if within 30 days, or within the time allowed for service of a responsive pleading if any proceeding to enforce payment of the Other System Indebtedness is commenced, the Authority in good faith shall commence proceedings to contest the obligation to pay or the existence of such Other System Indebtedness;

(f) (l) commencement by the Authority of a voluntary case under the Federal bankruptcy laws, as now or hereafter constituted, or any other applicable Federal or state bankruptcy, insolvency or similar law, (2) consent by the Authority to the appointment of a receiver, liquidator, assignee, trustee, custodian, sequestrator or other similar official for the Authority, the System or any substantial part of the Authority's property, or to the taking possession by any such official of the System or any substantial part of the Authority's property, (3) making by the Authority of any assignment for the benefit of creditors, or (4) taking corporate action by the Authority in furtherance of any of the foregoing

(g) The entry of any (1) decree or order for relief by a court having jurisdiction over the Authority or its property in an involuntary case under the Federal bankruptcy laws, as now or hereafter constituted, or any other applicable Federal or state bankruptcy, insolvency or other law, (2) appointment of a receiver, liquidator, assignee, trustee, custodian, sequestrator or similar official for the Authority, the System or any substantial part of the Authority's property, or (3) order for the termination or liquidation of the Authority or its affairs; or

(h) Failure of the Authority within 60 days after the commencement of any proceedings against it under the Federal bankruptcy laws, or any other applicable Federal or state bankruptcy, insolvency or similar law, to have such proceedings dismissed or stayed.

Notice to Holders of Senior Debt of Certain Default (Section 902)

If the Trustee is required to draw moneys from the Debt Service Reserve Fund to pay principal or interest on the Bonds and the Authority fails to begin replenishing the Debt Service Reserve Fund within 60 days in accordance with the replenishment requirements of the Indenture or fails to make any deposit required by the Indenture, then the Trustee shall send a notice to the Holders of Senior Debt that have related Debt Service Reserve Accounts, notifying them of the Authority's failure to replenish such draws.

Acceleration of Bonds (Section 903)

Upon the occurrence and continuation of an Event of Default, the Trustee may (and if requested by the holders of not less than 25% in aggregate principal amount of Bonds then Outstanding shall) by written notice to the Authority, declare the entire unpaid principal of the Bonds due and payable and, thereupon, the entire unpaid principal of the Bonds shall forthwith become due and payable. Upon any such declaration the Authority shall forthwith pay to the holders of the Bonds the entire unpaid principal of, premium, if any, and accrued interest on the Bonds, but only from Net Revenues and other moneys specifically pledged in the Indenture for payments of Bondholders. If at any time after such a declaration and before the entry of a final judgment or decree in any suit, action or proceeding instituted on account of such default or before the completion of the enforcement of any other remedy under the Indenture, the principal of all Bonds that have matured or been called for redemption pursuant to any sinking fund provision and all arrears of interest have been paid and any other Events of Default which may have occurred have been remedied, then the Trustee may, by written notice to the Authority, rescind or annul such declaration and its consequences. No such rescission or annulment shall extend to or affect any subsequent default or impair any right consequent thereon. <u>Subordinate Debt may not be accelerated if any Senior Debt is Outstanding</u>.

Other Remedies and Rights of Bondholders (Section 904)

Upon the occurrence and continuation of an Event of Default, the Trustee may (and if requested by the holders of not less than 25% in aggregate principal amount of Bonds Outstanding and if indemnified in accordance with prevailing industry standards shall) proceed to protect and enforce their rights by mandamus or other suit, action or proceeding at law or in equity, including an action for specific performance of any covenant or agreement contained in the Indenture. No remedy conferred by the Indenture upon or reserved to the Trustee and Bondholders is intended to be exclusive of any other remedy, but each such remedy shall be cumulative and shall be in addition to any other remedy given to the Trustee and holders of Bonds under the Indenture or now or hereafter existing at law, in equity or by statute. No delay or omission to exercise any right or power accruing upon any default or Event of Default shall impair any such right or power, or shall be construed to be a waiver of any such default or Event of Default or acquiescence therein, and every such right and power may be exercised from time to time and as often as may be deemed expedient. No waiver of any default or Event of Default under the Indenture by the Trustee or Bondholders shall extend to or affect any subsequent default or Event of Default or shall impair any rights or remedies consequent thereon.

Right of Bondholder to Direct Proceedings (Section 905)

Anything in the Indenture to the contrary notwithstanding, the holders of a majority in aggregate principal amount of Bonds then Outstanding shall have the right, at any time, by an instrument or instruments in writing executed and delivered to the Trustee, to direct the method and place of conducting all proceedings to be taken in connection with the enforcement of the terms and conditions of the Indenture or any other proceedings thereunder; provided, however, that such direction shall not be otherwise than in accordance with the provisions of law and of the Indenture.

Application of Moneys – General (Section 906)

All moneys received by the Trustee pursuant to any right given or action taken under the Indenture, after payment of the cost and expenses of the proceedings resulting in the collection of such moneys, the expenses, liabilities and advances incurred or made by the Trustee and its fees and the expenses of the Authority in carrying out the Indenture, shall be deposited in the Bond Fund and applied for no other purpose than as follows, unless the principal of all of the Bonds shall have become due or shall have been declared due and payable:

First – To the payment to the persons entitled thereto of all installments of interest then due on the Senior Debt, in the order of the maturity of the installments of such interest and; if the amount available shall not be sufficient to pay in full any particular installment, then to the payment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference, except as to any difference in the respective rates of interest specified in the Senior Debt; and

Second – To the payment to the persons entitled thereto of the unpaid principal of and premium, if any, on any of the Senior Debt which shall have become due (other than Senior Debt called for redemption for the payment of which moneys are held pursuant to the provisions of the Indenture), to pay in full Senior Debt due on any particular date and then to the payment of such principal and premium, if any, ratably, according to the amount of such principal due on such date, to the persons entitled thereto, without any discrimination or preference.

If the principal of all the Bonds shall have become due or shall have been declared due and payable, all such moneys shall be applied to the payment of the principal and interest then due and unpaid on the Senior Debt, including, to the extent permitted by law, interest on overdue installments of interest, without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Senior Debt over any other Senior Debt, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Senior Debt.

If the principal of all the Bonds shall have been declared due and payable and if such declaration shall thereafter have been rescinded and annulled under the provisions of the Indenture, then, subject to the provisions Section 906 of the Indenture in the event that the principal of all the Senior Debt shall later become due or be declared due and payable, the moneys shall be applied in accordance with the provisions of Section 906 of the Indenture. Whenever moneys are to be applied pursuant to the provisions of Section 906, such moneys shall be applied at such times and from time to time as the Trustee shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future.

Whenever the Trustee shall apply such moneys, it shall fix the date (which shall be an Interest Payment Date unless it shall deem another date more suitable) on which such application is to be made and, on such date, interest shall cease to accrue on the amounts of principal to be paid. The Trustee shall give such notice as it may deem appropriate of the deposit with it of any such moneys and of the fixing of any such date. Whenever there are moneys remaining after application to the Bond Fund for the payment of Senior Debt, the Trustee shall apply such remaining moneys, allocated in a similar manner as provided above, to the payment of Subordinate Debt. Whenever the principal of and premium, if any, and interest on all Indebtedness have been paid under the provisions of Section 906 of the Indenture, all payments required by the terms of any Supplemental Indenture have been paid and all expenses and charges of the Trustee have been paid, any balance remaining in the several funds created by the Indenture shall be paid to the Authority as provided in the Indenture.

Remedies Vested in Trustee (Section 907)

All rights of action (including the right to file proof of claims) under the Indenture or under any of the Bonds may be enforced by the Trustee without the possession of any of the Bonds or the production thereof in any trial or other proceeding relating thereto, and any such suit or proceeding instituted by the Trustee may be brought in its name as Trustee, without the necessity of joining as plaintiffs or defendants any Bondholders, and any recovery of judgment shall be for the equal benefit of the Bondholders.

Limitation on Suits (Section 908)

Except to enforce the rights described under "Other Remedies; Rights of Bondholders (Section 904)" and "Right of Bondholders to Direct Proceedings (Section 905)", no Bondholder shall have any right to institute any action, suit or proceeding at law or in equity for the enforcement of the Indenture or for the execution of any trust thereof or any other remedy under the Indenture, unless (a) a default has occurred and is continuing of which the Trustee has been notified as provided in the Indenture, or of which under the Indenture the Trustee is deemed to have notice, (b) such default has become an Event of Default and the holders of 25% in aggregate principal amount of Bonds then Outstanding have made written request to the Trustee and offered it reasonable opportunity either to proceed to exercise the powers hereinbefore granted or to institute such action, suit or proceeding in its own name, (c) such requesting Bondholders have offered to the Trustee indemnity as provided in the indenture, (d) the Trustee has thereafter failed or refused to exercise the powers granted under the Indenture, or to institute such action, suit or proceeding in its, own name, (e) no direction inconsistent with such written request has been given to the Trustee by the holders of a majority in aggregate principal amount of Bonds then Outstanding, and (f) notice of such action, suit or proceeding is given to the Trustee, it being understood and intended that no one or more holders of the Bonds shall have any right in any manner whatsoever to affect, disturb or prejudice the Indenture by its or their action, or to enforce any rights under the Indenture except in the manner therein provided, and that all proceedings at law or in equity shall be instituted and maintained in the manner herein provided and for the equal benefit of the holders of all Bonds then Outstanding. The notification, request and offer of indemnity set forth in the Indenture, at the option of the Trustee, shall be conditions precedent to the execution of the powers and trusts of the Indenture and to any action or cause of action for the enforcement of the Indenture or for any other remedy under the Indenture.

Waivers of Events of Default (Section 910)

The Trustee may in its discretion waive any Event of Default under the Indenture or any action taken pursuant to any Event of Default and rescind any acceleration of maturity of principal of and interest on the Bonds, and shall do so at the written request of the holders of (a) a majority in aggregate principal amount of Bonds then Outstanding in respect of which default in the payment of principal and/or premium, if any, and/or interest exists, or (b) a majority in aggregate principal amount of Bonds then Outstanding in the case of any other default, provided, however, that (1) there shall not be waived without the written consent of the holders of all Bonds then Outstanding (A) any Event of Default in the payment of the principal of any Outstanding Bonds (whether at maturity or by sinking fund redemption), or (B) any default in the payment when due of the interest on any such Bonds unless, prior to such waiver or rescission, (i) there shall have been paid or provided for all arrears of interest with interest, to the extent permitted by law, at the rate borne by the Bonds on overdue installments of interest, all arrears of principal of, premium, if any, and all expenses of the Trustee in connection with such default, and (ii) in case of any such waiver or rescission or in the case of any discontinuance, abandonment or adverse determination of any proceeding taken by the Trustee on account of any such default, the Authority, the Trustee, and the holders of Bonds shall be restored to their former positions and rights under the Indenture respectively; (2) no acceleration of maturity described under "Acceleration (Section 903)" made at the request of the holders of 25% in aggregate principal amount of Bonds then Outstanding shall be rescinded unless requested by the holders of at least 25% in aggregate principal amount of Bonds then Outstanding; and (3) any such waiver and/or rescission shall only be effective with respect to the Bonds if the holders of Other System Indebtedness shall have waived any event of default related to such Other System Indebtedness or any action taken pursuant to such event of default and\or rescinded any declaration of maturity of principal of and interest on the Other System indebtedness. No such waiver or rescission relating to the Bonds shall extend to any subsequent or other default, or impair any right consequent thereon.

Unconditional Right to Receive Principal, Premium and Interest (Section 911)

Nothing in the Indenture, however, shall affect or impair the right of the Trustee or any Bondholder to enforce, by action at law, payment of the principal of, premium, if any, or interest on any Bond at and after the maturity thereof, or on the date fixed for redemption or upon the same being declared due prior to maturity as herein provided, or the obligation of the Authority to pay the principal of, premium, if any, and interest on each of the Bonds issued under the Indenture to the respective holders thereof at the time and place, from the source and in the manner expressed in the Indenture and in the Bonds.

Supplemental Indentures Not Requiring Consent of Holders of Bonds (Section 1001)

The Authority and the Trustee may, without the consent of, or notice to, any of the Bondholders, enter into Supplemental Indentures as shall not be inconsistent with the intent of the terms and provisions of the Indenture, to (a) cure any ambiguity, formal defect or omission in the Indenture; (b) grant to or confer upon the Bondholders any additional rights, remedies, powers or authority that may lawfully be granted to or conferred on the Bondholders; (c) add to the covenants and agreements of the Authority in the Indenture other covenants and agreements to be observed by the Authority; (d) modify, amend or supplement the Indenture in such manner as required to permit the Authority to comply with the provisions of the Code relating to the rebate to the United States of America of earnings derived from the investment of the proceeds of Bonds, provided that such modification, amendment or supplement does not materially adversely affect the holders of all Outstanding Bonds; (e) modify, amend or supplement the Indenture in such manner as may be required by a Rating Agency to maintain or enhance its rating on the Senior Debt, provided that such modification, amendment or supplement does not materially adversely affect the holders of all Outstanding Bonds; (f) modify, amend or supplement the Indenture to implement any covenants or agreements contemplated by the Indenture; (g) authorize the issuance of and to secure one or more issues of Indebtedness pursuant to the Indenture; (h) amend any agreement with a securities depository relating to a book-entry only system to be maintained with respect to any Bonds; or (i) modify, amend or supplement the Indenture in any manner that the Trustee concludes is not materially adverse to the holders of all Outstanding Bonds.

Supplemental Indentures Requiring Consent of Bondholders (Section 1002)

Exclusive of Supplemental Indentures authorized by Section 1001 of the Indenture and subject to the terms and provisions contained in Section 1002 of the Indenture, the holders of not less than a majority in aggregate principal amount of Outstanding Bonds shall have the right, from time to time, notwithstanding anything in the Indenture to the contrary, to consent to the execution by the Authority and the Trustee of such other agreements or agreements supplemental to the Indenture as shall be deemed necessary or desirable by the Authority for the purpose of modifying, altering, amending, adding to or rescinding, in particular, any of the terms or provisions contained in the Indenture and any Supplemental Indentures; provided, however, that nothing in the Indenture shall permit, or be construed as permitting, (a) an extension of the maturity of the principal of or the interest on any Bonds, (b) a privilege or priority of any Senior Debt over any other Senior Debt, (c) a reduction in the aggregate principal amount of Bonds required for consent to any Supplemental Indentures, (d) a reduction in the principal amount of or premium, if any, on any Bonds or the rate of interest thereon, or (e) an extension of time or a reduction in amount of any payment required by any sinking fund that may be applicable to any Bonds, without the consent of the holders of all of the Outstanding Bonds; provided, however that there shall be no modification of the Net Revenue pledge which secures the Other System Indebtedness nor of the Net Revenue pledge which secures the Subordinate Debt, if such respective modification would adversely affect the interests of the holders of such debt.

If at any time the Authority shall request the Trustee to enter into any Supplemental Indenture, the Trustee shall cause notice of the proposed execution of such Supplemental Indenture to be sent by registered or certified mail to the registered owner of each Bond at his address as it appears on the registration books. Such notice shall briefly set forth the nature of the proposed Supplemental Indenture and shall state that a copy thereof is on file at the corporate trust office of the Trustee for inspection by all Bondholders. If, within 90 days or such longer period as shall be prescribed by the Authority following the giving of such notice, the holders of not less than a majority in aggregate principal amount of Outstanding Bonds, or in the case of (a) through (e) above, the holders of all Outstanding Bonds, shall have consented to and approved the execution thereof as herein provided, no holder of any Bond shall have any right to object to any of the terms and provisions contained therein, or the operation hereof, or in any manner to question the propriety thereof, or to enjoin or restrain the Trustee or the Authority from executing such Supplemental Indenture or from taking any action pursuant to the provisions thereof. Upon the execution of any such Supplemental Indenture as permitted and provided in the Indenture, the Indenture shall be and be deemed to be modified and amended in accordance therewith. Bonds owned or held by or for the account of the Authority shall not be deemed Outstanding for the purpose of consent or any calculation of Outstanding Bonds provided for in the Indenture. At the time of any such calculation, the Authority shall furnish the Trustee a certificate of an Authorized Representative of the Authority upon which the Trustee may rely, describing all Bonds so to be excluded.

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APPENDIX D

FORM OF CONTINUING DISCLOSURE AGREEMENT

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FORM OF CONTINUING DISCLOSURE AGREEMENT

This Continuing Disclosure Agreement (the "Disclosure Agreement") is executed and delivered by the District of Columbia Water and Sewer Authority (the "Issuer") in connection with the issuance of its Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds) (the "Series 2019A Bonds"), its Public Utility Subordinate Lien Revenue Bonds, Series 2019B (the "Series 2019B Bonds") and its Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable) (the "Series 2019D Bonds" and, together with the Series 2019A Bonds and the Series 2019B Bonds, the "Series 2019A/B/D Bonds"). The Series 2019A/B/D Bonds are being issued pursuant to the Master Indenture of Trust, dated as of April 1, 1998 (the "Master Indenture"), as amended and supplemented to the date of delivery of the Series 2019A Bonds and the Series B Bonds (the "Series 2019A/B Bonds") (the "Indenture"), including by the Twenty-Fourth Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Series 2019A/B Bonds (the "Twenty-Fourth Supplemental Indenture") and by the Twenty-Sixth Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Series 2019D Bonds (the "Twenty-Sixth Supplemental Indenture") each by and between the Authority and Wells Fargo Bank, N.A., as trustee (the "Trustee"). The Issuer covenants and agrees as follows:

SECTION 1. Purpose of the Disclosure Agreement. This Disclosure Agreement is being executed and delivered by the Issuer for the benefit of the Holders and Beneficial Owners of the Series 2019A/B/D Bonds and in order to assist the Participating Underwriter in complying with Securities and Exchange Commission ("S.E.C.") Rule 15c2-12(b)(5).

SECTION 2. Definitions. In addition to the definitions set forth in the Indenture, which apply to any capitalized term used in this Disclosure Agreement unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

"Annual Report" shall mean any Annual Report provided by the Issuer pursuant to, and as described in, Sections 3 and 4 of this Disclosure Agreement.

"Beneficial Owner" shall mean any person who has or shares the power, directly or indirectly, to make investment decisions concerning ownership of any Bonds (including persons holding Bonds through nominees, depositories or other intermediaries).

"Dissemination Agent" shall mean the Issuer, or any successor Dissemination Agent designated in writing by the Issuer and which has filed with the Issuer a written acceptance of such designation.

"Holder" shall mean the person in whose name any Bond shall be registered.

"Listed Events" shall mean any of the events listed in Section 5(a) or (b) of this Disclosure Agreement.

"MSRB" shall mean the Municipal Securities Rulemaking Board or any other entity designated or authorized by the Securities and Exchange Commission to receive reports pursuant to the Rule. Until otherwise designated by the MSRB or the Securities and Exchange Commission, filings with the MSRB are to be made through the Electronic Municipal Market Access (EMMA) website of the MSRB, currently located at http://emma.msrb.org.

"Participating Underwriter" shall mean the original underwriter of the Series 2019A/B/D Bonds required to comply with the Rule in connection with offering of the Series 2019A/B/D Bonds.

"Rule" shall mean Rule 15c2-12(b)(5) adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

SECTION 3. Provision of Annual Reports.

(a) The Issuer shall, or shall cause the Dissemination Agent to, not later than 240 days after the end of the Issuer's fiscal year (which shall be June 1 of each year, so long as the Issuer's fiscal year ends on September 30), commencing with the report for the fiscal year ending September 30, 2019 (which is due not later than June 1, 2019), provide to the MSRB an Annual Report which is consistent with the requirements of Section 4 of this Disclosure Agreement. The Annual Report may cross-reference other information as provided in Section 4 of this Disclosure Agreement; provided that the audited financial statements of the Issuer may be submitted separately from the balance of the Annual Report and later than the date required above for the filing of the Annual Report if they are not available by that date. If the Issuer's fiscal year changes, it shall give notice of such change in a filing with the MSRB. The Annual Report shall be submitted on a standard form in use by industry participants or other appropriate form and shall identify the Series 2019A/B/D Bonds by name and CUSIP number.

(b) Not later than 15 business days prior to said date, the Issuer shall provide the Annual Report to the Dissemination Agent (if other than the Issuer). If the Issuer is unable to provide to the MSRB an Annual Report by the date required in subsection (a), the Issuer shall, in a timely manner, send or cause to be sent to the MSRB a notice to that effect.

(c) The Dissemination Agent shall (if the Dissemination Agent is other than the Issuer) file a report with the Issuer certifying that the Annual Report has been provided pursuant to this Disclosure Agreement, stating the date it was provided to the MSRB.

SECTION 4. Content of Annual Reports. The Issuer's Annual Report shall contain or include by reference the following:

(a) the Issuer's comprehensive annual financial report (the "CAFR"), which includes audited financial statements prepared in accordance with generally accepted accounting principles in effect from time to time. If the Issuer's audited financial statements are not available by the time the Annual Report is required to be provided to the MSRB pursuant to Section 3(a), the Annual Report shall contain unaudited financial statements in a format similar to the financial statements contained in the final Official Statement, and the audited financial statements shall be provided to the MSRB in the same manner as the Annual Report when they become available; and

(b) to the extent not included in the CAFR, material historical financial and operating data concerning the Issuer and the Revenues of the Issuer generally of the type found in the tables included in the Issuer's Official Statement dated October 8, 2019 relating to the Series 2019A/B/D Bonds (the "Official Statement") under the captions "THE SYSTEM," "CAPITAL IMPROVEMENT PROGRAM," "CUSTOMER BASE, RATES AND CHARGES" and "FINANCIAL OPERATIONS."

Any or all of the items listed above may be set forth in one or a set of documents or may be included by specific reference to other documents, including Official Statements of debt issues of the Issuer or related public entities, which have been made available to the public on the MSRB's website. The Issuer shall clearly identify each such other document so included by reference.

SECTION 5. Reporting of Significant Events.

(a) The Issuer shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the Series 2019A/B/D Bonds in a timely manner not later than ten business days after the occurrence of the event:

1. Principal and interest payment delinquencies;

2. Unscheduled draws on debt service reserves reflecting financial difficulties;

3. Unscheduled draws on credit enhancements reflecting financial difficulties;

4. Substitution of credit or liquidity providers, or their failure to perform;

5. Adverse tax opinions or issuance by the Internal Revenue Service of proposed or final determination of taxability or of a Notice of Proposed Issue (IRS Form 5701 TEB);

6. Tender offers;

7. Defeasances;

8. Rating changes; or

9. Bankruptcy, insolvency, receivership or similar event of the obligated person.

Note: for the purposes of the event identified in subparagraph (9), the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for an obligated person in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the obligated person, or if such jurisdiction has been assumed by leaving the existing governmental body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the obligated person.

(b) The Issuer shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the Series 2019A/B/D Bonds, if material, in a timely manner not later than ten business days after the occurrence of the event:

1. Unless described in paragraph 5(a)(5), other material notices or determinations by the Internal Revenue Service with respect to the tax status of the Series 2019A/B/D Bonds or other material events affecting the tax status of the Series 2019A/B/D Bonds;

2. Modifications to rights of Bond holders;

3. Optional, unscheduled or contingent Bond calls;

4. Release, substitution, or sale of property securing repayment of the Series 2019A/B/D Bonds;

5. Non-payment related defaults;

6. The consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms;

7. Appointment of a successor or additional trustee or the change of name of a trustee;

8. Incurrence of a financial obligation of the Issuer or obligated person, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a financial obligation of the Issuer or obligated person, any of which affect security holders, if material; or

9. Default, event of acceleration, termination event, modification of terms, or other similar events under the terms of the financial obligation of the Issuer or obligated person, any of which reflect financial difficulties.

For purposes of items 8 and 9 above, "financial obligation" means: (i) a debt obligation; (ii) a derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (iii) a guarantee of (i) or (ii).

(c) Whenever the Issuer obtains knowledge of the occurrence of a Listed Event described in Section 5(b), the Issuer shall determine if such event would be material under applicable federal securities laws.

(d) If the Issuer learns of the occurrence of a Listed Event described in Section 5(a), or determines that knowledge of a Listed Event described in Section 5(b) would be material under applicable federal securities laws, the Issuer shall within ten business days of occurrence file a notice of such occurrence with the MSRB. Notwithstanding the foregoing, notice of the Listed Event described in subsections 5(a)(7) or 5(b)(3) need not be given under this subsection any earlier than the notice (if any) of the underlying event is given to Holders of affected Bonds pursuant to the Indenture.

SECTION 6. Format for Filings with MSRB. Any report or filing with the MSRB pursuant to this Disclosure Agreement must be submitted in electronic format, accompanied by such identifying information as is prescribed by the MSRB.

SECTION 7. Termination of Reporting Obligation. The Issuer's obligations under this Disclosure Agreement shall terminate upon the legal defeasance, prior redemption or payment in full of all of the Series 2019A/B/D Bonds. If such termination occurs prior to the final maturity of the Series 2019A/B/D Bonds, the Issuer shall give notice of such termination in a filing with the MSRB.

SECTION 8. Dissemination Agent. The Issuer 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 Dissemination Agent, with or without appointing a successor Dissemination Agent. The Dissemination Agent shall not be responsible in any manner for the content of any notice or report prepared by the Issuer pursuant to this Disclosure Agreement. The initial Dissemination Agent shall be the Issuer.

SECTION 9. Amendment; Waiver. Notwithstanding any other provision of this Disclosure Agreement, the Issuer may amend this Disclosure Agreement, and any provision of this Disclosure Agreement may be waived, provided that the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions of Sections 3(a), 4, 5(a) or 5(b), it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of an obligated person with respect to the Series 2019A/B/D Bonds, or the type of business conducted;

(b) The undertaking, as amended or taking into account such waiver, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the Series 2019A/B/D Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(c) The amendment or waiver does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the Holders or Beneficial Owners of the Series 2019A/B/D Bonds.

In the event of any amendment or waiver of a provision of this Disclosure Agreement, the Issuer shall describe such amendment in the next Annual Report, and shall include, as applicable, a narrative explanation of the reason for the amendment or waiver and its impact on the type (or in the case of a change of accounting principles, on the presentation) of financial information or operating data being presented by the Issuer. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements, (i) notice of such change shall be given in a filing with the MSRB, and (ii) the Annual Report for the year in which the change is made should present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

SECTION 10. Additional Information. Nothing in this Disclosure Agreement shall be deemed to prevent the Issuer 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 Report or notice required to be filed pursuant to this Disclosure Agreement, in addition to that which is required by this Disclosure Agreement. If the Issuer chooses to include any information in any Annual Report or notice in addition to that which is specifically required by this Disclosure Agreement, the Issuer shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event or any other event required to be reported.

SECTION 11. Default. In the event of a failure of the Issuer to comply with any provision of this Disclosure Agreement, any Holder or Beneficial Owner of the Series 2019A/B/D Bonds may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause the Issuer to comply with its obligations under this Disclosure Agreement; provided, that any such action may be instituted only in the District of Columbia. The sole remedy under this Disclosure Agreement in the event of any failure of the Issuer to comply with this Disclosure Agreement shall be an action to compel performance.

SECTION 12. Beneficiaries. This Disclosure Agreement shall inure solely to the benefit of the Issuer, the Dissemination Agent, the Participating Underwriter and Holders and Beneficial Owners from time to time of the Series 2019A/B/D Bonds, and shall create no rights in any other person or entity.

Date: November 6, 2019

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

By: ____________________________________

Matthew T. Brown
Chief Financial Officer and Executive Vice President, Finance and Procurement

APPENDIX E

DTC BOOK-ENTRY SYSTEM AND GLOBAL CLEARANCE PROCEDURES

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The information set forth in this Appendix E is subject to any change in or reinterpretation of the rules, regulations and procedures of DTC, Euroclear or Clearstream Banking (DTC, Euroclear and Clearstream Banking together, the "Clearing Systems") currently in effect. The information set forth in this Appendix E concerning the Clearing Systems has been obtained from sources that the Authority believes to be reliable, but none of the Authority, the Trustee or the Underwriters take any responsibility for the accuracy, completeness or adequacy of the information in this section. Investors wishing to use the facilities of any of the Clearing Systems are advised to confirm the continued applicability of the rules, regulations and procedures of the relevant Clearing System. The Authority will not have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Series 2019A/B/D Bonds held through the facilities of any Clearing System or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

NEITHER THE AUTHORITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATIONS TO DIRECT PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE PAYMENTS TO OR THE PROVIDING OF NOTICE FOR DIRECT PARTICIPANTS, INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS.

SO LONG AS CEDE & CO. IS THE REGISTERED OWNER OF THE SERIES 2019A/B/D BONDS, AS NOMINEE OF DTC, REFERENCES HEREIN TO THE BONDHOLDERS OR REGISTERED OWNERS OF THE SERIES 2019A/B/D BONDS SHALL MEAN CEDE & CO. AND SHALL NOT MEAN THE BENEFICIAL OWNERS OF THE SERIES 2019A/B/D BONDS.

DTC BOOK-ENTRY ONLY SYSTEM

The description that follows of the procedures and record keeping with respect to beneficial ownership interests in the Series 2019A/B/D Bonds, payments of principal, premium, if any, and interest on the Series 2019A/B/D Bonds to DTC, its nominee, Participants, or Beneficial Owners, confirmation and transfer of beneficial ownership interests in the Series 2019A/B/D Bonds and other bond-related transactions by and between DTC, Participants and Beneficial Owners is based on information furnished by DTC. The Authority and the Underwriters take no responsibility for the accuracy thereof.

The Depository Trust Company, New York, New York ("DTC") will act as securities depository for the Series 2019A/B/D Bonds. The Series 2019A/B/D Bonds will be issued as fully registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully registered Series 2019A/B/D Bond will be issued for the Series 2019A/B/D Bonds of each series and maturity in the aggregate principal amount of such maturity, 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, as amended. 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 ("Indirect Participants"). DTC has a Standard & Poor's rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com and www.dtc.org.

Purchases of the Series 2019A/B/D Bonds under the DTC system must be made by or through Direct Participants, who will receive a credit for such Series 2019A/B/D Bonds on DTC's records. The ownership interest of each actual purchaser of each Series 2019A/B/D Bonds Bond (the "Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series 2019A/B/D Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial

Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Series 2019A/B/D Bonds, except in the event that use of the book-entry system for the Series 2019A/B/D Bonds is discontinued.

To facilitate subsequent transfers, all Series 2019A/B/D Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede& Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the Series 2019A/B/D 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 Series 2019A/B/D Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 2019A/B/D Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the Series 2019A/B/D Bonds 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.

THE TRUSTEE, AS LONG AS A BOOK-ENTRY ONLY SYSTEM IS USED FOR THE SERIES 2019A/B/D BONDS, WILL SEND ANY NOTICE OF REDEMPTION OR OTHER NOTICES ONLY TO DTC. ANY FAILURE OF DTC TO ADVISE ANY PARTICIPANT, OR OF ANY PARTICIPANT TO NOTIFY ANY BENEFICIAL OWNER OF ANY NOTICE AND OF ITS CONTENT OR EFFECT WILL NOT AFFECT THE VALIDITY OR SUFFICIENCY OF THE PROCEEDINGS RELATING TO THE REDEMPTION OF THE SERIES 2019A/B/D BONDS CALLED FOR REDEMPTION OR OF ANY OTHER ACTION PREMISED ON SUCH NOTICE.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series 2019A/B/D Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority 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 Series 2019A/B/D Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the Series 2019A/B/D 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 Authority or the Trustee on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee, or the Authority, subject to any statutory or regulatory requirement as may be in effect from time to time. Payment of principal and interest to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is the responsibility of the Authority or the Trustee, disbursement of such payments to Direct Participants shall be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners shall be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Series 2019A/B/D Bonds at any time by giving reasonable notice to the Authority or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, Series 2019A/B/D Bonds Bond certificates are required to be printed and delivered. The Authority may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, Series 2019A/B/D Bonds Bond certificates will be printed and delivered.

So long as Cede & Co. is the registered owner of the Series 2019A/B/D Bonds, as partnership nominee for DTC, references herein to Bondholders or registered owners of the Series 2019A/B/D Bonds (other than under the caption "TAX MATTERS") shall mean Cede & Co. and shall not mean the Beneficial Owners of the Series 2019A/B/D Bonds.

When reference is made to any action which is required or permitted to be taken by the Beneficial Owners, such reference shall only relate to those permitted to act (by statute, regulation or otherwise) on behalf of such Beneficial Owners for such purposes.

NEITHER THE AUTHORITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO DTC PARTICIPANTS, TO INDIRECT PARTICIPANTS, OR TO ANY BENEFICIAL OWNER WITH RESPECT TO (I) THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC, CEDE & CO., ANY DTC PARTICIPANT, OR ANY INDIRECT PARTICIPANT; (II) ANY NOTICE THAT IS PERMITTED OR REQUIRED TO BE GIVEN TO THE OWNERS OF THE SERIES 2019A/B/D BONDS; (III) THE SELECTION BY

DTC OR ANY DTC PARTICIPANT OR INDIRECT PARTICIPANT OF ANY PERSON TO RECEIVE PAYMENT IN THE EVENT OF A PARTIAL REDEMPTION OF THE SERIES 2019A/B/D BONDS; (IV) THE PAYMENT BY DTC OR ANY DTC PARTICIPANT OR INDIRECT PARTICIPANT OF ANY AMOUNT WITH RESPECT TO THE PRINCIPAL OR REDEMPTION PREMIUM, IF ANY, OR INTEREST DUE WITH RESPECT TO THE SERIES 2019A/B/D BONDS; (V) ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY DTC AS THE OWNER OF THE SERIES 2019A/B/D BONDS; OR (VI) ANY OTHER MATTER.

EUROCLEAR AND CLEARSTREAM BANKING

Euroclear and Clearstream Banking each hold securities for their customers and facilitate the clearance and settlement of securities transactions by electronic book-entry transfer between their respective account holders. Euroclear and Clearstream Banking provide various services including safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Euroclear and Clearstream Banking also deal with domestic securities markets in several countries through established depositary and custodial relationships. Euroclear and Clearstream Banking have established an electronic bridge between their two systems across which their respective participants may settle trades with each other.

Euroclear and Clearstream Banking customers are worldwide financial institutions, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Euroclear and Clearstream Banking is available to other institutions that clear through or maintain a custodial relationship with an account holder of either system, either directly or indirectly.

Clearing and Settlement Procedures

The Series 2019D Bonds sold in offshore transactions will be initially issued to investors through the book-entry facilities of DTC, or Clearstream Banking and Euroclear in Europe if the investors are participants in those systems, or indirectly through organizations that are participants in the systems. For any of such Series 2019D Bonds, the record holder will be DTC's nominee. Clearstream Banking and Euroclear will hold omnibus positions on behalf of their participants through customers' securities accounts in Clearstream Banking's and Euroclear's names on the books of their respective depositories.

The depositories, in turn, will hold positions in customers' securities accounts in the depositories' names on the books of DTC. Because of time zone differences, the securities account of a Clearstream Banking or Euroclear participant as a result of a transaction with a participant, other than a depository holding on behalf of Clearstream Banking or Euroclear, will be credited during the securities settlement processing day, which must be a business day for Clearstream Banking or Euroclear, as the case may be, immediately following the DTC settlement date. These credits or any transactions in the securities settled during the processing will be reported to the relevant Euroclear participant or Clearstream Banking participant on that business day. Cash received in Clearstream Banking or Euroclear as a result of sales of securities by or through a Clearstream Banking participant or Euroclear participant to a Direct Participant, other than the depository for Clearstream Banking or Euroclear, will be received with value on the DTC settlement date but will be available in the relevant Clearstream Banking or Euroclear cash account only as of the business day following settlement in DTC.

Transfers between DTC participants will occur in accordance with DTC rules. Transfers between Clearstream Banking participants or Euroclear participants will occur in accordance with their respective rules and operating procedures. Cross-market transfers between persons holding directly or indirectly through DTC, on the one hand, and directly or indirectly through Clearstream Banking participants or Euroclear participants, on the other, will be effected in DTC in accordance with DTC rules on behalf of the relevant European international clearing system by the relevant depositories; however, cross-market transactions will require delivery of instructions to the relevant European international clearing system by the counterparty in the system in accordance with its rules and procedures and within its established deadlines in European time. The relevant European international clearing system will, if the transaction meets its settlement requirements, deliver instructions to its depository to take action to effect final settlement on its behalf by delivering or receiving securities in DTC, and making or receiving payment in accordance with normal procedures for same day funds settlement applicable to DTC. Clearstream Banking participants or Euroclear participants may not deliver instructions directly to the depositories.

The Authority will not impose any fees in respect of holding the Series 2019D Bonds; however, holders of book-entry interests in the Series 2019D Bonds may incur fees normally payable in respect of the maintenance and operation of accounts in DTC, Euroclear and Clearstream Banking.

Initial Settlement

Interests in the Series 2019D Bonds will be in uncertified book-entry form. Purchasers electing to hold book-entry interests in the Series 2019D Bonds through Euroclear and Clearstream Banking accounts will follow the settlement procedures applicable to conventional Eurobonds. Book-entry interests in the Series 2019D Bonds will be credited to Euroclear and Clearstream Banking participants' securities clearance accounts on the business day following the date of delivery of the Series 2019D Bonds against payment (value as on the date of delivery of the

Series 2019D Bonds). Direct Participants acting on behalf of purchasers electing to hold book-entry interests in the Series 2019D Bonds through DTC will follow the delivery practices applicable to securities eligible for DTC's Same Day Funds Settlement system. Direct Participants' securities accounts will be credited with book-entry interests in the Series 2019D Bonds following confirmation of receipt of payment to the Authority on the date of delivery of the Series 2019D Bonds.

Secondary Market Trading

Secondary market trades in the Series 2019D Bonds will be settled by transfer of title to book-entry interests in DTC, Euroclear and Clearstream Banking. Title to such book-entry interests will pass by registration of the transfer within the records of DTC, Euroclear or Clearstream Banking, as the case may be, in accordance with their respective procedures. Book-entry interests in the Series 2019D Bonds may be transferred within DTC in accordance with procedures established for this purpose by DTC. Book-entry interests in the Series 2019D Bonds may be transferred within Euroclear and within Clearstream Banking and between Euroclear and Clearstream Banking in accordance with procedures established for these purposes by Euroclear and Clearstream Banking. Transfer of book-entry interests in the Series 2019D Bonds between DTC, Euroclear or Clearstream Banking may be effected in accordance with procedures established for this purpose by DTC, Euroclear and Clearstream Banking.

General

None of DTC, Euroclear or Clearstream Banking is under any obligation to perform or continue to perform the procedures referred to above, and such procedures may be discontinued at any time.

None of the Authority, the Trustee or the Underwriters will have any responsibility for the performance by DTC, Euroclear or Clearstream Banking or their respective direct or indirect participants or account holders of their respective obligations under the rules and procedures governing their operations or the arrangements referred to above.

The information in this Appendix E concerning DTC, Euroclear and Clearstream Banking has been obtained from sources that the Underwriters believe to be reliable, but the Underwriters take no responsibility for the accuracy thereof or make any representation as to the completeness or the accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereof.

APPENDIX F

PROPOSED FORM OF OPINION OF CO-BOND COUNSEL

November 6, 2019

To: District of Columbia Water and Sewer Authority

Siebert Cisneros Shank & Co., L.L.C.
New York, New York,
as Representative of the Underwriters of the Series 2019A/B Bonds

Re: District of Columbia Water and Sewer Authority
Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds)
Public Utility Subordinate Lien Revenue Bonds, Series 2019B

We have served as co-bond counsel to our client, the District of Columbia Water and Sewer Authority (the "Authority"), and not as counsel to any other person, in connection with the issuance by the Authority of its $159,245,000 Public Utility Subordinate Lien Revenue Bonds, Series 2019A/B (the "Series 2019A/B Bonds"), comprised of the $104,010,000 Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds) (the "Series 2019A Bonds") and the $58,320,000 Public Utility Subordinate Lien Revenue Bonds, Series 2019B (the "Series 2019B Bonds"), dated the date of this letter.

The Series 2019A/B Bonds are issued pursuant to the Master Indenture of Trust, dated as of April 1, 1998 (the "Master Indenture"), between the Authority and Wells Fargo Bank, National Association, as successor to Norwest Bank Minnesota, National Association (the "Trustee"), as supplemented and amended, including by the Twenty-Fourth Supplemental Indenture of Trust, dated as of the same date as and relating to the Series 2019A/B Bonds (the "Twenty-Fourth Supplemental Indenture" and, together with the Master Indenture as previously amended and supplemented, the "Indenture"), between the Authority and the Trustee. Capitalized terms not otherwise defined in this letter are used as defined in the Indenture.

In our capacity as co-bond counsel, we have examined the transcript of proceedings relating to the issuance of the Series 2019A/B Bonds, a copy of each signed and authenticated Series 2019A Bond and Series 2019B Bond of the first maturity, the Indenture and such other documents, matters and law as we deem necessary to render the opinions set forth in this letter.

Based on that examination and subject to the limitations stated below, we are of the opinion that, under existing law:

1. The Series 2019A/B Bonds and the Indenture are valid and binding obligations of the Authority, enforceable in accordance with their respective terms.

2. The Series 2019A/B Bonds constitute special, limited obligations of the Authority, and the principal of and interest and any premium (collectively, "debt service") on the Series 2019A/B Bonds, together with debt service on Senior Debt and other Subordinate Debt that the Authority has issued or may in the future issue under the Indenture, are payable solely from the Net Revenues and certain funds and accounts established under the Indenture. The Series 2019A/B Bonds are secured as Subordinate Debt under the Indenture, including, without limitation, by a pledge of (i) Net Revenues subordinate to the pledge of Net Revenues that secures Senior Debt and on a parity with the pledge of Net Revenues that secures other Subordinate Debt; and (ii) the moneys and Permitted Investments in the subordinate Bond Fund on a parity with the pledge of Net Revenues that secures other Subordinate Debt. The Series 2019A/B Bonds and the payments of debt service are not general obligations of the District of Columbia and are not secured by an obligation or pledge of any money raised by taxation.

3. Interest on the Series 2019A/B Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and is not an item of tax preference for purposes of the federal alternative minimum tax. The Series 2019A/B Bonds and the interest thereon are exempt from District of Columbia taxation, except estate, inheritance and gift taxes. We express no opinion as to any other tax consequences regarding the Series 2019A/B Bonds.

The opinions stated above are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. In rendering all such opinions, we assume, without independent verification, and rely upon (i) the accuracy of the factual matters represented, warranted or certified in the proceedings and documents we have examined, and (ii) the due and legal authorization, execution and delivery of those documents by, and the valid, binding and enforceable nature of those documents upon, any parties other than the Authority.

In rendering those opinions with respect to treatment of the interest on the Series 2019A/B Bonds under the federal tax laws and District of Columbia tax laws, we further assume and rely upon compliance with the covenants in the proceedings and documents we have examined, including those of the Authority. Failure to comply with certain of those covenants subsequent to issuance of the Series 2019A/B Bonds may cause interest on the Series 2019A/B Bonds to be included in gross income for federal income tax purposes retroactively to their date of issuance.

The rights of the owners of the Series 2019A/B Bonds and the enforceability of the Series 2019A/B Bonds and the Indenture are subject to bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or transfer, and other laws relating to or affecting the rights and remedies of creditors generally; to the application of equitable principles, whether considered in a proceeding at law or in equity; to the exercise of judicial discretion; and to limitations on legal remedies against public entities.

No opinions other than those expressly stated herein are implied or shall be inferred as a result of anything contained in or omitted from this letter. The opinions expressed in this letter are stated only as of the time of its delivery and we disclaim any obligation to revise or supplement this letter thereafter. Our engagement as co-bond counsel in connection with the original issuance and delivery of the Series 2019A/B Bonds has concluded upon delivery of this letter.

Very truly yours,

November 6, 2019

To: District of Columbia Water and Sewer Authority

Siebert Cisneros Shank & Co., L.L.C.
New York, New York,
as representative for the underwriters of the Series 2019D Bonds

Re: $ 343,160,000 District of Columbia Water and Sewer Authority
Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable)

We have served as co-bond counsel to our client, the District of Columbia Water and Sewer Authority (the "Authority"), and not as counsel to any other person, in connection with the issuance by the Authority of its $343,160,000 Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2019D (Federally Taxable) (the "Series 2019D Bonds"), dated the date of this letter.

The Series 2019D Bonds are issued pursuant to the Master Indenture of Trust, dated as of April 1, 1998 (the "Master Indenture"), between the Authority and Wells Fargo Bank, N.A., as successor to Northwest Bank Minnesota, N.A. (the "Trustee"), as supplemented and amended, including the Twenty-Sixth Supplemental Indenture of Trust, dated as of the same date as and relating the Series 2019D Bonds (the "Twenty-Sixth Supplemental Indenture" and, together with the Master Indenture as previously amended and supplemented, the "Indenture"), between the Authority and the Trustee. Capitalized terms not otherwise defined in this letter are used as defined in the Indenture.

In our capacity as co-bond counsel, we have examined the transcript of proceedings relating to the issuance of the Series 2019D Bonds, a copy of the signed and authenticated Series 2019D Bond of the first maturity, the Indenture and such other documents, matters and law as we deem necessary to render the opinions set forth in this letter.

Based on that examination and subject to the limitations stated below, we are of the opinion that under existing law:

1. The Series 2019D Bonds and the Indenture are valid and binding obligations of the Authority, enforceable in accordance with their respective terms.

2. The Series 2019D Bonds constitute special, limited obligations of the Authority, and the principal of and interest and any premium (collectively, "debt service") on the Series 2019D Bonds, together with debt service on Senior Debt and other Subordinate Debt that the Authority has issued or may in the future issue under the Indenture, are payable solely from the Net Revenues and certain funds and accounts established under the Indenture. The Series 2019D Bonds are secured as Subordinate Debt under the Indenture, including, without limitation, by a pledge of (i) Net Revenues subordinate to the pledge of Net Revenues that secures Senior Debt and on a parity with the pledge of Net Revenues that secures other Subordinate Debt; and (ii) the moneys and Permitted Investments in the subordinate Bond Fund on a parity with the pledge of Net Revenues that secures other Subordinate Debt. The Series 2019D Bonds and the payments of debt service are not general obligations of the District of Columbia and are not secured by an obligation or pledge of any money raised by taxation.

3. The Series 2019D Bonds and the interest thereon are exempt from District of Columbia taxation, except estate, inheritance and gift taxes. We express no opinion as to any other tax consequences regarding the Series 2019D Bonds.

The opinions stated above are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. In rendering all such opinions, we assume, without independent verification, and rely upon (i) the accuracy of the factual matters represented, warranted or certified in the proceedings and documents we have examined and (ii) the due and legal authorization, execution and delivery of those documents by, and the valid, binding and enforceable nature of those documents upon, any parties other than the Authority.

The rights of the owners of the Series 2019D Bonds and the enforceability of the Series 2019D Bonds and the Indenture are subject to bankruptcy, insolvency, arrangement, fraudulent conveyance or transfer, reorganization, moratorium and other laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion, and to limitations on legal remedies against public entities.

No opinions other than those expressly stated herein are implied or shall be inferred as a result of anything contained in or omitted from this letter. The opinions expressed in this letter are stated only as of the time of its delivery, and we disclaim any obligation to revise or supplement this letter thereafter. Our engagement as co-bond counsel to the Authority in connection with the issuance and delivery of the Series 2019D Bonds is concluded upon delivery of this letter.

Respectfully submitted,

APPENDIX G –

OPINION LETTER OF INDEPENDENT SUSTAINABILITY CONSULTANT, DATED SEPTEMBER 27, 2019

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SECOND PARTY OPINION[1]

ON THE SUSTAINABILITY OF DC WATER'S GREEN BOND

September 2019

SCOPE

Vigeo Eiris was commissioned to provide an independent opinion (thereafter "Second Party Opinion" or "SPO") on the sustainability credentials and management of the "Green Bond"[2] ("Bond") to be issued by DC Water (the "Issuer").

Our opinion is established according to our Environmental, Social and Governance ("ESG") exclusive assessment methodology and to the ICMA's Green Bond and Social Bond Principles ("GBP" and "SBP") voluntary guidelines, edited in June 2018.

Our opinion is built on the review of the following components:

1) **Issuer:** we assessed the Issuer's ESG strategy, its management of potential stakeholders-related ESG controversies and its involvement in controversial activities[3].
2) **Issuance:** we assessed the coherence between the issuance's objectives and the Issuer's environmental commitments, the Bond's potential contribution to sustainability and its alignment with the four core components of the GBP and SBP 2018.

Our sources of information are multichannel, combining data from (i) public information gathered from public sources, press content providers and stakeholders, (ii) information from Vigeo Eiris exclusive ESG rating database, and (iii) information provided by the Issuer through documents and interviews conducted with Issuer's managers and stakeholders involved in the Bonds issuance, held *via* a telecommunications system.

We carried out our due diligence assessment from August 29th to September 27th, 2019. We consider that we were provided with access to all the appropriate documents and interviewees we solicited. We consider that the information made available enables us to establish our opinion with a reasonable level of assurance on its completeness, precision and reliability.

VIGEO EIRIS' OPINION

Vigeo Eiris is of the opinion that the Green Bond Framework of DC Water is aligned with the four core components of the Green and Social Bond Principles 2018.

We express a reasonable assurance[4] (our highest level of assurance) on the Issuer's commitments and on the contribution of the contemplated Bonds to sustainability.

1) Issuer (see Part I):

- As of September 2019, our assurance is reasonable on DC Water's capacity to integrate relevant ESG factors in its strategy, and to account on them. We reach a reasonable assurance regarding DC Water's strategy in the Social and Environmental pillars, while our assurance is moderate on the Governance pillars.
- As of today, DC Water is not facing any stakeholder-related ESG controversies related to its operations or the DC Clean Rivers Project.
- As of today, the Issuer is not involved in any of the 15 controversial activities screened under our methodology.

[1] This opinion is to be considered as the "Second Party Opinion" described in the GBP & SBP voluntary guidelines (June 2018 Edition) edited by the International Capital Market Association (www.icmagroup.org).

[2] The "Green Bond" is to be considered as the bond to be potentially issued, subject to the discretion of the Issuer. The name "Green Bond" has been decided by the Issuer: it does not imply any opinion from Vigeo Eiris.

[3] The 15 controversial activities analyzed by Vigeo Eiris are: Alcohol, Animal welfare, Chemicals of concern, Civilian firearms, Fossil Fuels industry, Coal, Tar sands and oil shale, Gambling, Genetic engineering, High interest rate lending, Military, Nuclear power, Pornography, Reproductive medicine, and Tobacco.

[4] Definition of Vigeo Eiris' scales of assessment (as detailed in the Methodology section).

2) Issuance (see Part II):

The Issuer has partially described the main characteristics of its new Bond, communicated through several DC Water supports and documents (e.g. annual reports, Long Term Control Plan): no formalized Framework has been established by the Issuer. An area for improvement includes to formalize the process and commitments governing this Bond issuance in a Framework covering the four core components of the GBP and SBP 2018, to be in line with Market practices.

We are of the opinion that the contemplated Bond is coherent with DC Water's strategic sustainability priorities and sector issues and contributes to achieving the Issuer's sustainability commitments and targets.

Use of Proceeds

- The net proceeds of the Bonds will exclusively finance, in part or in full, projects falling under one Green Project Categories ("Eligible Categories"), namely: financing a portion of the Clean Rivers Project construction costs. We consider the Eligible Categories are overall clearly defined.
- The Eligible Category is intended to contribute to three main environmental and social objectives (water quality, climate change adaptation and quality of life). We consider these objectives to be clearly defined and relevant.
- The Issuer has assessed and quantified the environmental benefits corresponding to the overall Clean Rivers project. However, the Issuer has not quantified the expected benefits specific to this Bond and does not commit to do so.
- In addition, the Eligible Categories are likely to contribute to two of the United Nations' Sustainable Development Goals ("SDGs"), namely: Goal 6. Clean water and sanitation and Goal 13. Climate action.
- The Issuer has transparently communicated that there will be no refinancing (0%, only financing of future expenditures), in line with best market practices. Therefore, no lookback period is required.

Process for Projects Evaluation and Selection

- The governance and the process for the evaluation and selection of the Eligible Projects are federally mandated and an internal selection process is conducted by DC Water. We consider that the process is reasonably structured, transparent and relevant.
- The process relies on explicit eligibility criteria, relevant to the environmental and social objectives defined for the Eligible category.
- The identification and management of the material environmental and social risks associated with the Eligible Projects are considered overall good, except for some of the material environmental risks during the construction phase (climate change adaptation and biodiversity protection) which are considered limited.

Management of Proceeds

- The rules for the management of proceeds are clearly defined and will be verified. We consider that they would enable a documented and transparent allocation process.

Reporting

- The reporting process and commitments appear to be good, covering both the funds allocation and the environmental and social benefits of the Eligible Projects.
- The selected reporting indicators are deemed relevant within the DC Clean Rivers Project. However, these are not specific to the expenses related to the current Bond.

DC Water has committed that its Green Bond will be supported by external reviews:

- A pre-issuance consultant review: the hereby Second Party Opinion delivered by Vigeo Eiris, covering all the features of the Bond, based on pre-issuance assessment and commitments, to be made publicly available by the Issuer on its website[5], at the date of issuance.
- An annual verification: a limited assurance report of the Bond's allocation of proceeds and environmental benefits performed by an independent third party.

This Second Party Opinion is based on the review of the documentation provided by the Issuer, according to our exclusive assessment methodology and to the GBP & SBP voluntary guidelines (June 2018).

Paris, September 27st, 2019

Project team		**For more information, contact:**
Julien Souriau *Senior Sustainability Consultant* *Project manager*	Noémie Wapler *Sustainability Consultant*	Paul Courtoisier *Head of sustainability bonds & loans* (+33) 6 85 35 43 51 paul.courtoisier@vigeo-eiris.com
Muriel Caton *Director Sustainable Finance Strategy* Supervisor		

Disclaimer

Transparency on the relation between Vigeo Eiris and the Issuer: Vigeo Eiris has carried out two missions for DC Water in June 2014 and September 2015. No established relationship (financial or other) exists between Vigeo Eiris and DC Water.

This opinion aims at providing an independent opinion on the sustainability credentials and management of the Bond, based on the information which has been made available to Vigeo Eiris. Vigeo Eiris has neither interviewed stakeholders out of the Issuer's employees, nor performed an on-site audit nor other test to check the accuracy of the information provided by the Issuer. The accuracy, comprehensiveness and trustworthiness of the information collected are a responsibility of the Issuer. Providing this opinion does not mean that Vigeo Eiris certifies the effectiveness, the excellence or the irreversibility of the assets to be financed by the Bond. The Issuer is fully responsible for attesting the compliance with its commitments defined in its policies, for their implementation and their monitoring. The opinion delivered by Vigeo Eiris neither focuses on the financial performance of the Bond, nor on the effective allocation of its proceeds. Vigeo Eiris is not liable for the induced consequences when third parties use this opinion either to make investments decisions or to make any kind of business transaction.

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[5] https://www.dcwater.com/green-bonds

DETAILED RESULTS

Part I. ISSUER

DC Water distributes drinking water and collects and treats wastewater in the District of Columbia. The Issuer also provides wholesale wastewater treatment services in Maryland and Virginia.

Level of DC Water's ESG strategy

As of September 2019, our assurance is reasonable on DC Water's capacity to integrate relevant ESG factors in its strategy, and to account on them. We reach a reasonable assurance regarding DC Water's strategy in the Social pillar, while our assurance is moderate on its strategy in the Environmental and Governance pillars.

Domain	Comments	Opinion
Environment	We reach a reasonable assurance on DC Water's capacity to integrate relevant environmental factors in its strategy. DC Water has made general references to environmental topics in several documents of its corporate literature, covering pollution prevention, protection of biodiversity, reduction of energy consumption and related emissions (target to reach 25% of green energy provision in 2020) and the production of green renewable power by thermal hydrolysis (converting solids left over at the end of the wastewater treatment process to methane). However, there is a lack of visibility on formalized commitments and quantified targets on most of these environmental impacts that are relevant to its activities. Although the Issuer's activities include solutions to support the protection of water quality by discharging clean water into the nearby waterways, there is no visible strategy of the Issuer regarding the reduction of water demand despite systems in place. We have no information on the strategy regarding reclaimed water. The Director for Sustainability and Watershed Management is responsible for DC Water's sustainability program.	Reasonable Moderate Weak
Social	We reach a reasonable assurance on DC Water's existing capacity to integrate relevant social factors in its strategy. DC Water has a formalized commitment regarding water safety, including crisis management and has adopted a preventive approach. The Director of Clean Water and Technology is responsible for this commitment. The Issuer also reports a formalized commitment to ensure responsible customer relations, for which the Director of Customer Care is responsible for. In terms of Human Rights, DC Water has internal policies and rules covering privacy and workplace violence, including harassment, violence, threats, intimidation, possession of weapons. A violence prevention coordinator has been named by the General Management. The Issuer also makes references to a commitment on freedom of association and the right to collective bargaining. However, the performance of the Issuer in this regard is hindered by the lack of public access to the commitments. DC Water reports comprehensively on its commitment to career management and reports on several internal commitments on health and safety covering falls, incidents and accidents notifications, occupational noise exposure, pathogens in the workplace, respiratory protection among others. The Director of Occupational Safety and Health is part of Executive committee. The Issuer also commits to assist customers in financial times of need and clients can contact the Customer Care Associate.	Reasonable Moderate Weak

Governance	We reach a moderate -almost reasonable- assurance on DC Water's performance in the Governance pillar. DC Water has committed to prevent corruption (notably conflicts of interest and bribes) in its Standard Code of Conduct. On the issues of Corporate Governance, the board is composed by almost all of independent directors (95%) and 33% of the Board is composed of women. The roles of Chairman and CEO are separated, and several subcommittees are in place to discuss CSR topics (notably Environmental Quality and Operations, Human Resources and Labor Relations Committee, Water and Sewer rates). Regular meetings are held (12 in the past year) and attendance rates are disclosed (74%). Members of the Audit committee appear to have financial or audit experience and relevant operational experience. In addition, at least a member has CSR skills and experience. The Audit committee is responsible for overseeing internal audit and internal controls, but it is unclear whether it nominates the statutory auditor, oversees its work and approves the type of audit and non-audit services provided and fees paid to the external auditor. On the issue of executive remuneration, DC Water discloses all elements of executive remuneration on an individual basis however it is unclear whether CSR performance indicators are considered in the performance review of senior executives.	Reasonable Moderate Weak

Management of stakeholders-related ESG controversies

As of today, DC Water is not facing any stakeholder-related ESG controversies related to its operations or the DC Clean Rivers Project.

Involvement in controversial activities

As of today, the Issuer is not involved in any of the 15 controversial activities screened under our methodology, namely: Alcohol, Animal welfare, Chemicals of concern, Civilian firearms, Coal, Fossil Fuels industry, Tar sands and oil shale, Gambling, Genetic engineering, High interest rate lending, Military, Nuclear Power, Pornography, Reproductive Medicine and Tobacco.

The controversial activities research provides screening on companies to identify involvement in business activities that are subject to philosophical or moral beliefs. The information does not suggest any approval or disapproval on their content from Vigeo Eiris.

Part II. ISSUANCE

Coherence of the issuance

Context note: The main sustainable development priorities of the drinking water supply and sanitation services sector are the protection of water resources and the control and reduction of local pollutions. A study has estimated that starting in 2071, 96 out of the 204 water basins supplying most of the United States with freshwater could fail to meet monthly demand[6].

Water utilities have the potential to drive significant positive changes towards sustainable development and environmental protection at the forefront. By reducing water losses and respecting effluents quality, by protecting biodiversity, by promoting a responsible use of water and by minimizing local pollutions, companies could ensure the social and environmental sustainability of their activities.

We are of the opinion that the contemplated Bond is coherent with DC Water's strategic sustainability priorities and sector issues and contributes to achieving the Issuer's sustainability commitments and targets.

DC Water acknowledges its role in proving solutions to support the protection of water resources and the environment, by discharging clean water into the nearby waterways and implementing solutions to prevent combined sewer overflows (CSO).

The Long-Term Control Plan (LTCP) has been required in 2005 by a court-ordered consent decree between the EPA, U.S. Department of Justice, District of Columbia, and DC Water. In 2010, DC Water renamed the LTCP the DC Clean Rivers (DCCR) Project. The consent decree called for DC Water to complete the project by 2030. The benefits of the DCCR Project include the reduction of CSO by 96 percent into the Potomac River and by 98 percent on the Anacostia River, resulting in improved water quality and a significant reduction in debris from the combined sewer system in the local waterways. In May 2015, DC Water, the District of Columbia, the US Environmental Protection Agency (EPA) and US Department of Justice (DOJ) announced an agreement to modify the 2005 consent decree to allow for large-scale green infrastructure (GI) installations and other modifications to the DC Clean Rivers Project impacting the Potomac River and Rock Creek watersheds. The modifications became effective in January 2016.

However, regarding the reduction of water withdrawal, which is one of the sector's objective, DC Water has not formalized commitments on the reduction of water withdrawals, the development of reclaimed water systems but has implemented demand-side management policies (price increases depending on water consumption).

By issuing this Green Bond intended to finance new expenses within the DC Clean Rivers (DCCR) Project, the Issuer coherently aligns with its sustainability strategy and commitments and addresses the main issues of the sector in terms of sustainable development.

[6] US faces fresh water shortages due to climate change, research says – World Economic Forum – 03/04/2019 - https://www.weforum.org/agenda/2019/03/us-faces-fresh-water-shortages-due-to-climate-change-research-says

Use of proceeds

The net proceeds of the Bonds will exclusively finance, in part or in full, projects falling under one Green Project Categories ("Eligible Categories"), namely: financing a portion of the Clean Rivers Project construction costs. We consider the Eligible Categories are overall clearly defined.

The District of Columbia's National Pollutant Discharge Elimination System (NPDES) permit, issued by the U.S. Environmental Protection Agency (EPA) requires the preparation of a Long-Term Control Plan (LTCP): the DC Clean Rivers Project (DCCR Project), a plan that aims at controlling Combined Sewer Overflow (CSO) discharges to the area waterways (schedule: 2005-2030), implemented under a Federal Consent Decree among: US EPA, US Department of Justice, District of Columbia and DC Water.

As a part of the wastewater treatment services, the DC Clean Rivers Project is a large-scale infrastructure and support program managed by DC Water and that relies on the construction of large tunnels designed to capture CSO during heavy rainfalls before reaching waterways and transport it to the Blue Plains Advances Wastewater Treatment Plant for treatment.

The overall project is scheduled to be completed in the following phases:

Anacostia River Controls

- The First Street Tunnel project has been completed and was placed in operation in 2016.
- The Blue Plains and Anacostia River Tunnels have been completed and were placed in operation on March 20, 2018.
- The Northeast Boundary tunnel is the last tunnel to be constructed to finish the Anacostia CSO controls. The tunnel project began construction in 2017 and is scheduled to be placed in operation in 2023.

Potomac and Rock Creek Controls

- The first Green Infrastructure projects in the Potomac and Rock Creek were placed in operation in 2019. Pending the results of the practicability assessment the remainders of the project are scheduled to be complete by 2030.
- The Potomac Tunnel and Rock Creek Storage projects are scheduled to be complete by 2030.

The contemplated Bond is aiming at continuing to finance a portion of the Clean Rivers Project construction costs, including the project costs and financial costs of issuance (see table in next page for definition).

The Eligible Category is intended to contribute to three main environmental and social objectives (water quality, climate change adaptation, and quality of life). We consider these objectives to be clearly defined and relevant.

The main environmental and social objectives of the Bond are defined by the Issuer as:

- Water Quality: Protect people from possible harmful substances in wastewater by improving water quality
- Climate resilience: Protect people from exposure to harmful flood water / repopulation of homes and parts of homes quarantined through sewage-contaminated flood water / rehabilitation of flood prone areas of the district
- Quality of life: Reduce Nitrogen and Phosphorus flow into the waterways to restore a safe and healthy waterway environment for reestablishment and promotion of river-based societal recreational activity and industry

The Issuer has assessed and quantified the environmental benefits corresponding to the overall Clean Rivers project. However, the Issuer has not quantified the expected benefits specific to this Bond and does not commit to do so. At the overall project level, the Northeast Boundary Tunnel is predicted to increase capture of CSOs on the Anacostia so that the overall percent reduction in CSO overflow volume increases from approximately 80% to 98% by volume in an average year of rainfall. In addition, the Northeast Boundary Tunnel has been designed to provide flooding relief to chronic flood areas in the Northeast Boundary drainage area by providing conveyance capacity for the 15-year 24-hour return frequency storm.
An area for improvement consists in defining ex-ante what are the expected environmental or social benefits from the projects, with targets for the financed Eligible Category of projects.

The Issuer has transparently communicated that there will be no refinancing (0%, only financing of future expenditures), in line with best market practices. Therefore, no lookback period is required.

DC Water's Bond			Vigeo Eiris Analysis
Eligible Category (Definition)	**Eligibility Criteria**	**Objectives and benefits**	
Clean Rivers Project construction costs The net proceeds of the 2019 Bond will finance a series of expenditures which consist of a portion of the construction and of the associated costs of the DC Clean Rivers (DCCR) Project: 1. DCCR Program Management consultant 2. Northeast Boundary and Potomac Tunnels (design and/or construction and/or construction management) 3. Construction of CSO 025/026 sewer separation 4. Potomac and Rock Creek Green Infrastructures	- Only **capital expenditures** (construction and associated costs) - Only upcoming **expenditures, starting from October 1st, 2019 and for 2 years** - Only **core DCCR project costs,** i.e. at the exclusion of side projects (Blue Plains treatment plant facilities, etc.) - Green infrastructures retrofit are not eligible	**Sustainable water and wastewater management** - Water quality improvement - Reduce Combined Sewer Overflows (CSO) into the District's waterways -the Anacostia and Potomac Rivers and Rock Creek: -96% system wide (-98% in Anacostia river) in 2015 vs 1996 (NPES reference) **Climate change adaptation** Relieve and mitigate flooding **Quality of life** - Reduce nitrogen, phosphorus and total suspended solids in CSO discharges by 96% system wide and 98% on the Anacostia River compared to 1996 levels	- The eligible category of project is clearly defined - The intended social and environmental objectives are relevant and overall clear. - The expected benefits are partially clear. The Issuer has not committed to assess or where feasible to quantify the expected benefits of the Eligible project because the Bond will only finance a portion of the cost of the whole DCCR program. We note that the claimed benefits in the annual reports are the one of the whole projects, not the one strictly attributed to the Bond. Areas of improvement include: - To clarify the environmental benefits claimed, regarding the climate change adaptation, and to what climate change scenario/baseline they refer to with quantitative targets. - To estimate the share of the total program's benefits which can be attributed to the improvement financed by the new Bond (in the % of the total program)

In addition, the Eligible Categories are likely to contribute to two of the United Nations' Sustainable Development Goals ("SDGs"), namely: Goal 6. Clean water and sanitation and Goal 13. Climate Action.

Eligible Green and Social Projects	UN SDGs identified and relevant targets	
Clean Rivers Project construction costs	6 CLEAN WATER AND SANITATION	6.3 - By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally 6.6 - By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
	13 CLIMATE ACTION	13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Process for Projects Evaluation and Selection

The governance and the process for the evaluation and selection of the Eligible Projects are federally mandated and an internal selection process is conducted by DC Water. We consider that the process is reasonably structured, transparent and relevant.

The process for evaluation and selection of Eligible Projects is clearly defined.

The evaluation and selection of Eligible Projects is based on relevant internal expertise, with well-defined roles and responsibilities:

- A draft of the Long-Term Control Plan (LTCP) was submitted for public comment, as well as to the EPA and the District Department of Health in June 2001. After addressing public comments, the final LTCP proposed significant reductions in CSO compared to the draft plan and was approved by the District Department of Health in August 2003 and by the Environmental Protection Agency (EPA) in November 2004. In March 2005, DC Water and the District government entered into a Consent Decree (Civil Action No. 1:00-cv-00183-TFH) with the United States Department of Justice (DOJ) and Environmental Protection Agency (EPA). The proposed modifications to the Project (to include green infrastructures) were released in January 2014 and was open for public comment. In May 2015, DC Water, the District of Columbia, EPA and DOJ announced their agreement to modify the consent decree to allow for large-scale green infrastructure (GI) installations and modifications to the DC Clean Rivers Project impacting the Potomac River and Rock Creek watersheds. The modification was approved and became effective in January 2016.
- In addition, the Issuer has an internal process to select projects within its Capital Improvement Program (CIP). The CIP process is detailed in the "CIP Budget Cycle Overview". The current CIP covers FY2020-FY2029. The process starts with a selection of projects by engineers which is validated by the CFO, an evaluation of all new projects, estimated forecast, validation of schedules and spending forecasts, budget validation with Board approval, additions and changes are integrated and then the projects are prioritized, and the CIP is ultimately adopted by the Board of Directors.
- The projects are ultimately validated by the US Environmental Protection Agency (EPA), District of Columbia, US Department of Energy, US Department of Justice and a federal judge from the US District Court for the District of Columbia.

The process relies on explicit eligibility criteria, relevant to the environmental and social objectives defined for the Eligible categories.

- The selection is based on the Eligible Categories defined in the Use of Proceeds section of the Framework.
- If the Green Infrastructures are deemed not efficient enough, the Project will be rediscussed with regulators in 2020.

The identification and management of the material environmental and social risks associated with the Eligible Projects are considered overall good, except for some of the material environmental risks during the construction phase (climate change adaptation and biodiversity protection) which are considered limited.

The Issuer has formalized a Risk Management Policy covering most environmental and social risks associated with the Eligible Projects. This general policy applies to all the actions financed by this Bond.

Environmental risks

- The **environmental strategy** appears to be good. Strong requirements for environmental impact assessments and mitigation measures, environmental protection plan, and environmental controls are in place, most of them by law (consent Decree, LTCP, NDPES permit, etc.). The environmental strategy appears to be integrated in all phases of the project, including the end of life of the infrastructure (the tunnels were designed to have a 100-year life before requiring upgrade or significant repairs and DC is committed to perform inspections over time to assess the conditions of the asset and conduct repairs as needed to maintain the serviceability of the tunnel).
- The **protection of water resources** appears to be good. The core aim of this project is to improve water quality of the streams/rivers. Several process and means are in place to identify and manage the water withdrawals and protect peatlands, to ensure the continuous control and monitoring of the quality of the water during the construction and post-construction.
- Despite the lack of clear process and means to ensure the **reduction of the energy use and of its impact** at project level, the project fully identifies and tend to manage this issue through design options (decision to add green infrastructures which are low impact developments, design of all the tunnels to work by gravity, etc.).
- **Climate change adaptation and mitigation appear to be partially addressed**: the project design clearly accounts with climate change risks: it addresses sea rise hazards by tidal gates and the design of the tunnels system has been oversized by 20% and the pumping system is easily expendable to cope with more intense flood in the future (adaptation). However, we have no information regarding the reporting on the carbon footprint of the project (mitigation) nor sufficient information supporting the exhaustiveness and the update of the assumptions/scenarios used to calibrate the climate change adaptation features (sea rise, floods, drought, polar cold events, etc.).
- The **pollution prevention and control** is good. Comprehensive processes for hazards prevention appear to be in place, with dedicated specifications and design of the infrastructure. Dedicated repairing teams are in place to answer to 24/7 issues. According to DC Water, specifications for noise, vibration, dust, traffic control, etc. stipulate procedures to minimize inconveniences to the public, while inspection, reporting, and tracking measures are planned to enforce the requirements. A monitoring system appears to be in place.
- Regarding **biodiversity** conservation and management of green areas, the means have improved, but the process and monitoring remains limited. If project specifications are in place with commitments to restore upon completion of construction, it is noted that temporary negative impacts to vegetation, water and wetlands are observed during construction, without specific biodiversity action plan.
- **Waste management** appears to be good. Several waste management procedures are implemented under the Project specifications (Solid Waste Management Plan, Hazardous Waste Management Plan, Soil Management Plan and Permits) for the monitoring and treatment of the construction waste generated by the project and for the control and management of all waste.

Social Risks

- The respect of **fundamental human rights** appears to be good, with internal procedures, trainings on workplace violence, internal alert systems (hotline, intranet) and internal controls in place. The Issuer declares that it is subject to the District of Columbia's Human Rights Act of 1977.
- A comprehensive **health and safety** process and means appear to be good, for both the DC Water company as well as for sub-contractors employees, with several layers of controls.
- Regarding **water safety**, several internal requirements and projects specifications are in place with multiple control process. Crisis management processes are also formalized (emergency management plan, all hazard response plan, etc.). Of note: the measures to be implemented in relation with the operation of the infrastructures are not included in this SPO, which is only assessing the construction phase.
- **The promotion of local development** appears to be good: several processes and monitoring are in place to promote local and SMEs employment during the construction, with responsible procurement procedures and criteria applied to suppliers and contractors above USD 300,000 (construction contractors) or USD 100,000 (service providers).
- The **local communities involvement** appears to be good. Communities are frequently informed and consulted regarding the project choice and progress, and have participated to the update of the LTCP in 2018. Project Signs, regular public meetings are in place. A grievance mechanism is available through the customers service with a hotline managed internally for all DC Water projects including DCCR program.

Areas of improvement include: (i) completing the water resource conservation measures (water reuse, reduction of water use), (ii) to extend the climate change adaptation design, in order to encompasses all main risks (sea rise, floods, drought, polar cold events, etc.), and to update the design considering up to date projections and science based findings, (iii) to develop the independence of the grievance mechanism operations and management, (iv) have all the material ESG risks assessed through external audits.

In case of controversies identified during the Selection step, it is unclear how the Company will address the issue or what actions it will take.

The Issuer reports that the projects' specifications define, identify, and manage ESG controversies related to individual eligible projects. Several topics are tracked through the project progress from design through construction, including MBE/WBE (Minority Business Enterprises, Women's Business Enterprises) requirements, Local Hiring requirements, Environmental Compliance, Wage Rate Determination compliance, Insurance coverage requirements, Safety requirements, Outreach Requirements. In addition, material controversies and records of roles, responsibilities, and actions taken are documented in the project record, which will be archived at the DC Water Technical Information Center.

Management of proceeds

The rules for the management of proceeds are clearly defined and will be verified. We consider that they would enable a documented and transparent allocation process.

The allocation and management of the proceeds are overall clearly defined:

- The net proceeds of the issuance will be deposited in a segregated account of the Construction Fund and maintained in cash or any other liquid marketable instruments (Money Market Funds, including US Treasury securities, collateralized bank deposits and deposit accounts among others), in accordance with DC Water's Investment Policy.
- All proceeds will be allocated within 3 years to eligible project expenditures, in line with market practices.
- The Treasury & Debt Department is responsible for managing these funds.
- The Issuer has committed that in case of divestment from a project, it will ensure that the funds are reinvested in other lines of expense linked to the DC Clean Rivers Project.
- The Issuer declares that the share of cofinancing of project will be of 85% from the intended Bond and 15% from other funds.

An area for improvement would be to specify in the Investment policy that the temporary placements and instruments for unallocated proceeds do not finance GHG intensive activities, controversial activities, or activities facing material ESG issues.

Traceability and verification of both tracking method and allocation of the proceeds appear to be ensured throughout the process:

- The net proceeds of the Green Bond are tracked using the Issuer's internal process.
- The Financial Reporting & Billing Department provides reports on a quarterly basis to the Treasury and Debt Department of all expenses recognized against the Clean Rivers Project, with details on the expenditures for the eligible projects. In addition, Department of Engineering and Technical Services provides summary of projected capital disbursements to the Environmental Quality and Operations Committee of the Board of Directors on quarterly basis.
- The Issuer has committed that the external auditor (KPMG) will verify the net proceeds deposited and the Bond draws once a year and until completion of the DC Clean Rivers Project.

Monitoring & Reporting

The reporting process and commitments appear to be good, covering both the funds allocation and the environmental and social benefits of the Eligible Projects.

The processes for monitoring, data collection, consolidation, validation and reporting are clearly defined by the Issuer in internal documentation. An area for improvement is formalizing these processes in the Green Bonds report:

- The process is structured and based on relevant internal and external expertise and involves relevant departments of the Issuer
- DC Water's Clean Rivers team collects the environmental and social data.
- The Financial Reporting team monitors and the financial data (allocation and management of proceeds) and publishes the Green Bond Report. In addition, the team reports monthly to the Board.
- The report is reviewed by the Controller, CFO and then external auditors.

The Issuer has committed to report annually and until the DC Clean Rivers Project is completed (which is scheduled for 2030). The reporting will be at DC Clean Rivers Project level and it will be publicly disclosed in its Green Bonds Reports, available on the Issuer's website.

The Issuer has committed to transparently communicate on indicators:

- Allocation of proceeds: the selected reporting indicators on the fund's allocation are relevant.

Reporting indicators
- The total amount of net proceeds deposited into the segregated Bond accounts (indicator A) - The total amount of Bond Draws (indicator B) - The total amount of unallocated proceeds and their type of temporary placement

Areas for improvement consist in committing to disclose, at least to investors, the detailed list of projects expenditures, the share of co-financing and to report on it.

- Environmental benefits: the selected reporting indicators are deemed relevant within the DC Clean Rivers Project. However, these are not specific to the expenses related to the current Bond.

Eligible categories	Environmental benefits indicators	
	Outputs and outcomes	**Impact Indicators**
DC Clean Rivers Project construction costs	- indicator D: progress of tunnel construction (in % vs. total length planned) - indicator E: progress of project costs paid through the fiscal year (in % of expenditures paid vs. total budget approved by the Board of Directors for the identified programs on Flood Relief and Mitigation)	- indicator C: reduction of total nitrogen, total phosphorus, and total suspended solids (in %, from predicted 1996 pre-DC Clean Rivers Project discharge compared to predicted discharge as reported in Monthly Operations Report for CSO) - indicator F: percentage removal of total nitrogen, total phosphorus and total suspended solids in pounds contained in the water entering (influent) and exiting (effluent) Blue Plains - indicator O: Volume of CSO discharged subsequent to completion of phase one of the DC Clean Rivers Project (in gallons, per average rainfall year).

The Issuer has committed that the key methodologies and assumptions used to calculate the environmental and social benefits of the Bond will be publicly disclosed in the each annual Green Bond report[7].

[7] Corporate website - About DC Water, Finance, Investor Relations, Green Bonds - https://www.dcwater.com/green-bonds

Areas for improvement include:

- To report specifically on the environmental benefits associated to the expenditures covered by the new Bond, and not the entire DC Clean Rivers Project (e.g.: reporting on the benefits attributable to the Bond, which represents a share of the total benefits from the DCCR project).
- To have an independent external reviewer verifying the tracking method of financial/extra-financial data.
- To commit to transparently communicate, at least to the investors, what is the share of the total cost of the eligible project which is cofinanced by other funds, and to apply this ratio to the measured environmental and social benefits of the overall DC Clean Rivers project.
- To remove indicator F as is covers the Blue Plains plant and it is not representative of the environmental benefits or impacts of the eligible project.

In addition, the Issuer has committed to report on several material ESG issues associated with the project, using quantified indicators.

Lastly, in case of material development:

- DC Water has committed to work with counsel (internal and external) to determine the level of materiality of events. If deemed material, the Issuer will post disclosure. If deemed “immaterial”, counsel will determine if the information should still be posted on the Electronic Municipal Market Access (EMMA) database, as a means to keep investors and stakeholders informed. Material events will also be reported in the Green Bond Report.
- The Issuer committed to report on a voluntary basis on controversies, however the definitions, criteria or criticality thresholds associated with such controversies remain unclear.

Area for improvement would include to define “controversies” and what would be the actions intended accordingly.

METHODOLOGY

In Vigeo Eiris' view, Environmental, Social and Governance (ESG) factors are intertwined and complementary. As such they cannot be separated in the assessment of ESG management in any organization, activity or transaction. In this sense, Vigeo Eiris writes an opinion on the Issuer's Corporate Social Responsibility as an organization, and on the process and commitments applying to the intended issuance.

Vigeo Eiris' methodology for the definition and assessment of the corporate's ESG performance is based on criteria aligned with public international standards, in compliance with the ISO 26000 guidelines, and is organized in 6 domains: Environment, Human Resources, Human Rights, Community Involvement, Business Behavior and Corporate Governance. Our evaluation framework of the material ESG issues have been adapted, based on our generic Waste & Water Utilities' ESG assessment frameworks and on specific issues considering the Issuer's business activity.

Our research and rating procedures are subject to internal quality control at three levels (analysts, heads of cluster sectors, and internal review by the audit department for second party opinions) complemented by a final review and validation by the Direction of Methods. Our SPO are also subject to internal quality control at three levels (consultants in charge of the mission, Production Manager, and final review and validation by the Direction). A right of complaint and recourse is guaranteed to all companies under our review, following three levels: first, the team linked to the company, then the Direction of Methods, and finally Vigeo Eiris' Scientific Council.

All employees are signatories of Vigeo Eiris' Code of Ethics, and all the consultants have also signed its add-on covering financial rules of confidentiality.

Part I. ISSUER

NB: The ESG performance of the Issuer has not been assessed following the complete process of rating and benchmark developed by Vigeo Eiris. In this SPO, the assessment has been limited to the integration of ESG factors in the Issuer's commitments and strategy, i.e. the content, visibility and ownership of its ESG policies.

Level of Issuer's ESG strategy

The assessment of the Issuer's ESG performance has focused only on the Leadership items from Vigeo Eiris' ESG rating methodology.

Management of stakeholder-related ESG controversies

A controversy is an information, a flow of information, or a contradictory opinion that is public, documented and traceable, allegation against an Issuer on corporate responsibility issues. Such allegations can relate to tangible facts, be an interpretation of these facts, or constitute an allegation on unproven facts.

Vigeo Eiris reviewed information provided by the Issuer, press content providers and stakeholders (partnership with Factiva Dow Jones: access to the content of 28,500 publications worldwide from reference financial newspapers to sector-focused magazines, local publications or Non-Government Organizations). Information gathered from these sources is considered as long as they are public, documented and traceable.

Vigeo Eiris provides an opinion on companies' controversies risks mitigation based on the analysis of 3 factors:

- Frequency: reflects for each ESG challenge the number of controversies faced. At corporate level, this factor reflects on the overall number of controversies faced and scope of ESG issues impacted (scale: Isolated, Occasional, Frequent, Persistent).
- Severity: the more a controversy will relate to stakeholders' fundamental interests, will prove actual corporate responsibility in its occurrence, and will have adverse impacts for stakeholders and the company, the highest its severity. Severity assigned at corporate level will reflect the highest severity of all cases faced by the company (scale: Minor, Significant, High, Critical).
- Responsiveness: ability demonstrated by an Issuer to dialogue with its stakeholders in a risk management perspective and based on explanatory, preventative, remediating or corrective measures. At corporate level, this factor will reflect the overall responsiveness of the company for all cases faced (scale: Proactive, Remediate, Reactive, Non- Communicative).

The impact of a controversy on a company's reputation reduces with time, depending on the severity of the event and the company's responsiveness to this event. Conventionally, Vigeo Eiris' controversy database covers any controversy with Minor or Significant severity during 24 months after the last event registered and during 48 months for High and Critical controversies.

Involvement in controversial activities

15 controversial activities have been analyzed following 30 parameters to verify if the company is involved in any of them. The company's level of involvement (Major, Minor, No) in a controversial activity is based on:

- An estimation of the revenues derived from controversial products or services.
- The precise nature of the controversial products or services provided by the company.

Part II. ISSUANCE

The Framework has been evaluated by Vigeo Eiris according to the GBP and SBP 2018 and to our methodology based on international standards and sector guidelines applying in terms of ESG management and assessment.

Use of proceeds

The definition of the Eligible Projects and of their sustainable objectives and benefits are a core element of Green/Social/Sustainable Bonds or Loans standards. Vigeo Eiris evaluates the definition of the Eligible Categories, as well as the definition and the relevance of the aimed sustainability objectives. We evaluate the definition of the expected benefits in terms of assessment and quantification. In addition, we evaluate the potential contribution of Eligible Projects to the United Nations Sustainable Development Goals' targets.

Process for evaluation and selection

The evaluation and selection process has been assessed by Vigeo Eiris regarding its transparency, governance and relevance. The eligibility criteria have been assessed regarding their explicitness and relevance vs. the intended objectives of the Eligible Projects. The identification and management of the ESG risks associated with the Eligible Projects are analyzed based on material issues considered in Vigeo Eiris' ESG assessment methodology based on international standards and sector guidelines applying in terms of ESG management and assessment.

Management of proceeds

The rules for the management of proceeds and the allocation process are evaluated by Vigeo Eiris regarding their transparency, coherence and efficiency.

Reporting

Monitoring process and commitments, reporting commitments, reporting indicators and methodologies are defined by the Issuer to enable a transparent reporting on the proceeds allocation and tracking, on the sustainable benefits (output and impact indicators) and on the responsible management of the Eligible Projects financed by the issuance. Vigeo Eiris has evaluated the reporting framework regarding its transparency, exhaustiveness and relevance.

VIGEO EIRIS' ASSESSMENT SCALES

Performance evaluation	
Advanced	Advanced commitment; strong evidence of command over the issues dedicated to achieving the objective of social responsibility. Reasonable level of risk management and using innovative methods to anticipate emerging risks.
Good	Convincing commitment; significant and consistent evidence of command over the issues. Reasonable level of risk management.
Limited	Commitment to the objective of social responsibility has been initiated or partially achieved; fragmentary evidence of command over the issues. Limited to weak level of risk management.
Weak	Commitment to social responsibility is non-tangible; no evidence of command over the issues. Level of insurance of risk management is weak to very weak.

Level of assurance	
Reasonable	Able to convincingly conform to the prescribed principles and objectives of the evaluation framework
Moderate	Compatibility or partial convergence with the prescribed principles and objectives of the evaluation framework
Weak	Lack or unawareness of, or incompatibility with the prescribed principles and objectives of the evaluation framework

Vigeo Eiris is an independent international provider of environmental, social and governance (ESG) research and services for investors and public & private organizations. We undertake risk assessments and evaluate the level of integration of sustainability factors within the strategy and operations of organizations.

Vigeo Eiris offers a wide range of services:

- **For investors:** decision making support covering all sustainable and ethical investment approaches (including ratings, databases, sector analyses, portfolio analyses, structured products, indices and more).
- **For companies & organizations:** supporting the integration of ESG criteria into business functions and strategic operations (including sustainable bonds, corporate ratings, CSR evaluations and more).

Vigeo Eiris is committed to delivering client products and services with high added value: a result of research and analysis that adheres to the strictest quality standards. Our methodology is reviewed by an independent scientific council and all our production processes, from information collection to service delivery, are documented and audited. Vigeo Eiris has chosen to certify all its processes to the latest ISO 9001 standard. Vigeo Eiris is an approved verifier for CBI (Climate Bond Initiative). Vigeo Eiris' research is referenced in several international scientific publications.

With a team of more than 240 experts of 28 different nationalities, Vigeo Eiris is present in Paris, London, Brussels, Milan, Montreal, Hong Kong, Casablanca, Rabat and Santiago.

The Vigeo Eiris Global Network, comprising 4 exclusive research partners, is present in Brazil, Germany, Israel and Japan.

For more information: **www.vigeo-eiris.com**

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