



# DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Board of Directors

*Finance and Budget Committee*

*Thursday, March 22, 2018*

11:00 a.m.

1. **Call to Order**..... Timothy L. Firestine, Chairperson
2. **February 2018 Financial Report (Attachment 1)**..... Matthew T. Brown
3. **Debt Structure Overview (Attachment 2)**..... Matthew T. Brown
4. **Proposed Workplan – Path to Asset Management CIP (Attachment 3)**..... Matthew T. Brown
5. **Action Items**..... Matthew T. Brown
  - A. **2018 A&B Bond Resolution and Related Documents (Attachment 4)**
    1. Board Resolution
    2. Preliminary Offering Statement
    3. Twenty-Third Supplemental Indenture
    4. Bond Purchase Agreement
  - B. **Operating Reserves Recommendation (Attachment 5)**
6. **Agenda for April Committee Meeting (Attachment 6)**..... Timothy L. Firestine
7. **Executive Session**
8. **Adjournment**

\* The DC Water Board of Directors may go into executive session at this meeting pursuant to the District of Columbia Open Meetings Act of 2010, if such action is approved by a majority vote of the Board members who constitute a quorum to discuss: matters prohibited from public disclosure pursuant to a court order or law under D.C. Official Code § 2-575(b)(1); contract negotiations under D.C. Official Code § 2-575(b)(1); legal, confidential or privileged matters under D.C. Official Code § 2-575(b)(4); collective bargaining negotiations under D.C. Official Code § 2-575(b)(5); facility security under D.C. Official Code § 2-575(b)(8); disciplinary matters under D.C. Official Code § 2-575(b)(9); personnel matters under D.C. Official Code § 2-575(b)(10); proprietary matters under D.C. Official Code § 2-575(b)(11); decision in an adjudication action under D.C. Official Code § 2-575(b)(13); civil or criminal matters where disclosure to the public may harm the investigation under D.C. Official Code § 2-575(b)(14), and other matters provided in the Act.



Fiscal Year 2018

# Monthly Financial Report

Period Ending February 28, 2018

**DEPARTMENT OF FINANCE, ACCOUNTING & BUDGET**

**Matthew T. Brown**, Chief Financial Officer

**Ivan Boykin**, Director (Acting), Finance

**Syed Khalil**, Director, Rates & Revenue

**John Madrid**, Controller

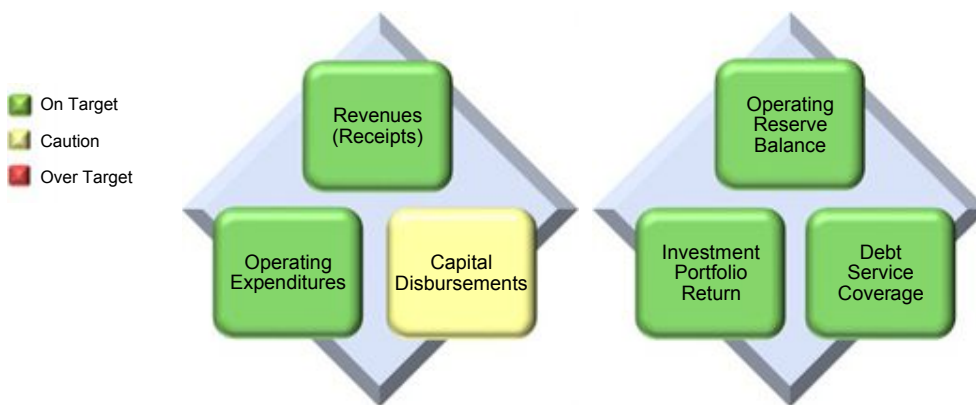
**Lola Oyeyemi**, Director, Budget

**Monthly Financial Report**

**FEBRUARY 2018**

**EXECUTIVE SUMMARY**

As of the end of February 2018, with approximately 42 percent of the fiscal year completed, we are on track with budgetary expectations and targeted performance, with the exception of capital disbursements.



(\$ in millions)

	Budget	YTD Budget	Actual	Variance		Actual % Budget
				Favorable (Unfavorable)		
<b>Revenues (Receipts)*</b>	\$620.5	\$258.5	\$263.7	\$5.2	2.0%	42.5%
<b>Expenditures*</b>	\$561.9	\$234.1	\$211.0	\$23.2	9.9%	37.5%
<b>Capital Disbursements</b>	\$449.9	\$235.0	\$236.0	(\$1.0)	(0.4%)	52.5%

\* *Straight-lined (5/12 of budget)*

**Highlights:**

- Ongoing review of the FY 2017 Inter Municipal Agreement (IMA) Operating Settlement, with completion expected by March 31, 2018
- FY 2018 preliminary year-end projections anticipated for Committee review in May 2018
- FY 2017 Green Bond attestation engagement underway
- DC Water’s FY 2019 & 2020 Rate/Fee Proposals
  - Town Hall Meetings scheduled to begin March 27, 2018
  - Public Hearing scheduled for May 9, 2018

**Matthew T. Brown**, Chief Financial Officer

## Monthly Financial Report

Fiscal Year-to-Date  
As of February 28, 2018

### Operating Revenues (\$000's)

Category	A	B	C	D = C/A	E = C-B	F = E/B
	FY 2018 BUDGET	YTD BUDGET*	ACTUAL	ACTUAL % BUDGET	VARIANCE \$ Fav/(Unfav)	VARIANCE % Fav/(Unfav)
Res. / Comm. / Multi.	\$354,914	147,881	\$142,746	40.2%	(\$5,135)	(3.5%)
Federal	62,167	25,903	30,759	49.5%	4,856	18.7%
Municipal (DC Govt.)	17,312	7,213	7,771	44.9%	558	7.7%
DC Housing Authority	8,979	3,741	4,023	44.8%	282	7.5%
Metering Fee	10,776	4,490	4,823	44.8%	333	7.4%
Water System Replacement Fee (WSRF)	39,717	16,549	16,909	42.6%	361	2.2%
Wholesale	76,028	31,678	37,296	49.1%	5,618	17.7%
PILOT/ROW	21,601	9,001	8,825	40.9%	(175)	(1.9%)
All Other	28,978	12,074	10,544	36.4%	(1,531)	(12.7%)
<b>TOTAL</b>	<b>\$620,472</b>	<b>\$258,530</b>	<b>\$263,697</b>	<b>42.5%</b>	<b>\$5,166</b>	<b>2.0%</b>

\*Straight-lined (5/12 of budget)

### VARIANCE ANALYSIS FOR MAJOR REPORTED ITEMS

At the end of February 2018, cash receipts totaled \$263.7 million, or 42.5 percent of the revised FY 2018 budget. Several categories of customers make payments on a quarterly basis, including the Federal Government (who made their second quarterly payment in January), and wholesale customers (who made their second quarterly payment in February).

Residential, Commercial and Multi-Family – Receipts for this category are slightly lower at \$142.7 million or 40.2 percent of the revised budget. The lower receipts as compared to budget are on account of delay in billing of some accounts in the new billing system VertexOne, which was implemented in December 2017.

District Government – Receipts are higher at \$7.8 million or 44.9 percent of the revised budget. The District Government did not pay the August billed amount of \$2.0 million as anticipated in September 2017. The overdue amount was received in October 2017 (FY 2018), which resulted in higher receipts compared to the revised budget. Due to post-implementation issues of the new billing system VertexOne, both the December 2017 and January 2018 bills for the District Government were sent in February 2018. The District Government paid the December 2017 bill in February 2018 but the January 2018 bill was paid late in March 2018.

DC Housing – Receipts are slightly higher at \$4.0 million or 44.8 percent of the revised budget. In February 2018, the DC Housing Authority paid their outstanding bills for the months of December 2017 and January 2018.

Wholesale – The Wholesale customers' actual receipts through February 2018 total \$37.3 million or 49.1 percent of the revised FY2018 budget. The Wholesale customers made their second quarterly payment in the month of February 2018.

Other Revenue – Receipts are lower than the straight-lined budget at \$10.5 million or 36.4 percent of the budgeted category primarily due to IMA Indirect Cost Reimbursement, which is not anticipated to be received until the third quarter of the fiscal year.

## Monthly Financial Report

Fiscal Year-to-Date  
As of February 28, 2018

### Operating Expenditures (\$000's)

Category	A	B	C	D = C/A	E = B - C	F = E/B
	FY 2018 BUDGET	YTD BUDGET*	ACTUAL	ACTUAL % BUDGET	VARIANCE \$ Fav/(Unfav)	VARIANCE % Fav/(Unfav)
Personnel	\$149,193	\$62,164	\$64,796	43.4%	(\$2,632)	(4.2%)
Contractual Services	79,353	33,064	29,945	37.7%	3,119	9.4%
Water Purchases	30,156	12,565	10,033	33.3%	2,532	20.2%
Supplies & Chemicals	30,659	12,775	13,210	43.1%	(436)	(3.4%)
Utilities	29,399	12,250	12,467	42.4%	(217)	(1.8%)
Small Equipment	1,071	446	202	18.9%	244	54.7%
<b>SUBTOTAL O&amp;M</b>	<b>\$319,831</b>	<b>\$133,263</b>	<b>\$130,653</b>	<b>40.9%</b>	<b>\$2,610</b>	<b>2.0%</b>
Debt Service	185,480	77,283	71,397	38.5%	5,886	7.6%
PILOT/ROW	21,376	8,907	8,907	41.7%	(0)	(0.0%)
Cash Financed Capital Improvements	35,260	14,692	0	0.0%	14,692	100.0%
<b>TOTAL OPERATING</b>	<b>\$561,947</b>	<b>\$234,145</b>	<b>\$210,956</b>	<b>37.5%</b>	<b>\$23,188</b>	<b>9.9%</b>
Capital Labor	(21,061)	(8,775)	(6,988)	33.2%	(1,787)	20.4%
<b>TOTAL NET OPERATING</b>	<b>\$540,886</b>	<b>\$225,369</b>	<b>\$203,968</b>	<b>37.7%</b>	<b>\$21,401</b>	<b>9.5%</b>

\*Straight-lined (5/12 of budget)

#### VARIANCE ANALYSIS FOR MAJOR REPORTED ITEMS

At the end of February 2018, operating expenditures totaled \$211.0 million or 37.5 percent of the approved FY 2018 budget of \$561.9 million and are in line with expectations. These numbers include estimated incurred but unpaid invoices and are subject to revision in subsequent months.

Personnel Services – YTD overspending is consistent with expectations due to impact of the Board-ratified union labor contract and other employee salary adjustments, coupled with high overtime spending. YTD overtime spending of \$3.9 million is mainly for after-hour work performed in response to emergencies and historically high water main breaks experienced during the winter season (Bomb Cyclone) and support for the on-going Automated Meter Reader (AMR) Program. Of the 1260 positions authorized, 1153 were filled at the end of February with a year-to-date vacancy rate of 8.5 percent.

Contractual Services – Underspending is attributable to a lag in various operational contracts throughout the Authority. Spending is consistent with historical trends with uptick anticipated during the latter part of the year for operational activities during the Spring and Summer months.

Supplies & Chemicals – Slight overspending is due to higher unit prices of some chemicals (methanol and sodium bisulfite), coupled with higher than anticipated usage of methanol for nitrogen removal. The operations team anticipates a decline in the use of methanol following the full commissioning of the Filtrate Treatment Facility in the summer.

Utilities – Overspending is primarily due to rental of additional office space for the CIS project. Onsite electricity generation from the Combined Heat and Power (CHP) facility represents approximately 6.8MW or 22 percent of Authority-wide usage. Presently, 15MW of the Authority's electricity load is locked at an average Western Hub unit price of \$34.30/MWh for the remainder of the year, and 15MW at \$31.40/MWh for FY 2019.

Debt Service – YTD actuals are in line with budget and debt service payment schedule.

Capital Labor – YTD spending is consistent with historical trend.

## Monthly Financial Report

Fiscal Year-to-Date  
As of February 28, 2018

### Capital Disbursements (\$000's)

Service Area	A	B	C	D = C/A	E = B-C	F = E/B
	FY 2018 BUDGET	YTD BUDGET*	ACTUAL	ACTUAL % BUDGET	VARIANCE \$ Fav/(Unfav)	VARIANCE % Fav/(Unfav)
Non Process Facilities	\$31,678	\$12,906	\$12,729	40.2%	178	1.4%
Wastewater Treatment	95,520	42,941	55,400	58.0%	(12,459)	(29.0%)
Combined Sewer Overflow	181,897	119,941	97,018	53.3%	22,923	19.1%
Stormwater	944	301	865	91.6%	(564)	(187.3%)
Sanitary Sewer	30,191	12,408	20,669	68.5%	(8,262)	(66.6%)
Water	58,055	24,951	26,183	45.1%	(1,232)	(4.9%)
<b>SUBTOTAL: CAPITAL PROJECTS</b>	<b>\$398,285</b>	<b>\$213,448</b>	<b>\$212,865</b>	<b>53.4%</b>	<b>\$584</b>	<b>0.3%</b>
Capital Equipment	39,898	16,624	18,001	45.1%	(1,377)	(8.3%)
Washington Aqueduct	11,768	4,903	5,154	43.8%	(251)	(5.1%)
<b>SUBTOTAL: ADD'L CAPITAL PROGRAMS</b>	<b>\$51,665</b>	<b>\$21,527</b>	<b>23,155</b>	<b>44.8%</b>	<b>(\$1,627)</b>	<b>(7.6%)</b>
<b>TOTAL</b>	<b>\$449,949</b>	<b>\$234,976</b>	<b>\$236,019</b>	<b>52.5%</b>	<b>(\$1,044)</b>	<b>(0.4%)</b>

### VARIANCE ANALYSIS FOR MAJOR REPORTED ITEMS

At the end of February 2018, capital disbursements are \$236.0 million. The disbursements are on-track for Capital projects, with overspending in Additional Capital Programs.

Capital Projects – Higher disbursements in Wastewater Treatment Service Area are due mainly to the projects (Tunnel Dewatering Pump Station and Enhanced Clarification Facility) to meet the March 23, 2018 Consent Decree for the Clean Rivers Project. Higher spending in Sanitary Sewer Service Area is for rehabilitation and upgrade projects. The detailed project performance will be reviewed as part of the quarterly CIP update by the Department of Engineering and Technical Services to the Environmental Quality & Operations and Finance & Budget Committees in May 2018.

Capital Equipment – YTD overspending is due to higher disbursements of bulk purchases for the Automated Meter Reading (AMR) Replacement Program during the latter part of FY 2017. Approximately 85,000 small meters were planned to be replaced over a two-year period through FY 2018. At the end of February 2018, 65,342 meters have been installed. In addition, work planned for the prior year on the several renovation projects were not completed until FY 2018.

**Monthly Financial Report**

Fiscal Year-to-Date  
As of February 28, 2018

**Cash Investments (\$ in millions)**

**Cash Balances**

Rate Stabilization Fund Account (RSF)	\$61.5
DC Insurance Reserve	1.0
Operating Reserve Accounts	<u>165.6</u>
<b>Operating Cash Balance Including RSF</b>	<b>\$228.1</b>
Debt Service Reserve - Series 1998	23.4
Bond Fund - Construction Fund 2015A	1.0
Bond Fund - Construction Fund 2016B	24.8
Bond Fund - Construction Fund 2017B	6.1
Fleet Relocation Fund	<u>4.0</u>
<b>Total All Funds</b>	<b>\$287.4</b>

**OVERALL PORTFOLIO PERFORMANCE**

- The operating reserve balance was \$165.6 million as compared to the operating reserve level objective of \$125.5 million for FY 2018
- Average cash balance for the month of February was \$160.0 million
- Total investment portfolio was in compliance with the Authority's Investment Policy
- Operating funds interest income for February (on a cash basis) was \$201,343; YTD \$874,242
- A detailed investment performance report is attached

## Monthly Financial Report

### Fiscal Year-to-Date As of February 28, 2018

#### Cash Flow Summary (\$000's)

	Annual Budget Cash Basis	YTD 42% Cash Budget	YTD Actual Cash Oct. 1, 2017 - Feb. 28, 2018	Variance Favorable (Unfavorable)	
<b>OPERATING BUDGET</b>					
<b>Cash Provided</b>					
Retail	\$493,865	\$205,777	\$207,031	\$1,254	1%
Wholesale	76,028	31,678	37,296	5,618	18%
Other	50,240	20,933	19,263	(1,670)	-8%
<b>Total Cash Provided</b>	<b>620,133</b>	<b>258,389</b>	<b>263,590</b>	<b>5,202</b>	<b>2%</b>
<b>Operating Cash Used</b>					
Personnel Services	128,132	53,388	55,810	(2,421)	-5%
Contractual Services	79,353	33,064	33,527	(463)	-1%
Chemicals & Supplies	30,659	12,775	13,833	(1,058)	-8%
Utilities	29,399	12,250	9,952	2,297	19%
Water Purchases	30,156	12,565	10,654	1,911	15%
Small Equipment	1,071	446	160	286	64%
<b>Total Operating Cash Used</b>	<b>298,770</b>	<b>124,488</b>	<b>123,936</b>	<b>552</b>	<b>0%</b>
Defeasance D.S./Cash Financed Capital Construction	35,260	14,692	0	14,692	100%
<b>Other Cash Used</b>					
Debt Service	184,278	76,783	71,397	5,385	7%
Payment In Lieu of Taxes/Right of Way	21,376	8,907	10,688	(1,781)	-20%
Total Other Cash Used	205,654	85,689	82,085	3,604	4%
<b>Total Cash Used</b>	<b>539,684</b>	<b>224,868</b>	<b>206,021</b>	<b>18,847</b>	<b>8%</b>
<b>Net Cash Provided (Used) by Operating Act.</b>	<b>80,449</b>	<b>33,520</b>	<b>57,569</b>	<b>24,049</b>	
<b>CAPITAL BUDGET</b>					
<b>Cash Provided</b>					
Debt Proceeds	155,484	64,785	139,026	74,241	115%
EPA Grants	23,620	9,842	8,491	(1,351)	-14%
CSO Grants	8,500	3,542	0	(3,542)	-100%
System Availability Fee	1,925	802	0	(802)	-100%
Transfer from Operations	101,317	42,215	0	(42,215)	-100%
Interest Income	1,549	645	739	93	14%
Wholesale Capital Contributions	89,575	37,323	53,015	15,693	42%
<b>Total Cash Provided</b>	<b>381,970</b>	<b>159,154</b>	<b>201,271</b>	<b>42,117</b>	<b>26%</b>
<b>Cash Used</b>					
DC Water Capital Program	438,184	182,577	230,865	(48,289)	-26%
Washington Aqueduct Projects	11,768	4,903	5,154	(251)	-5%
<b>Total Cash Used</b>	<b>449,952</b>	<b>187,480</b>	<b>236,019</b>	<b>(48,539)</b>	<b>-26%</b>
<b>Net Cash/PAYGO Provided (Used) by Cap. Act.</b>	<b>(\$67,982)</b>	<b>(\$28,326)</b>	<b>(\$34,749)</b>	<b>(\$6,423)</b>	
<b>Beginning Balance, October 1 (Net of Rate Stab. Fund) Projected</b>					
Plus (Less) Operating Surplus	80,449	33,520	57,569		
Wholesale Customer Refunds from Prior Years	(7,000)	(2,917)	0		
Interest Earned From Bond Reserve	339	141	106		
Prior Year Federal Billing Reconciliation	(9,019)	(3,758)	(4,510)		
Project Billing Refunds	(4,000)	(1,667)	0		
Cash Used for Capital	(67,981)	(28,325)	(34,749)		
<b>Balance Attributable to O&amp;M Reserve</b>	<b>\$140,000</b>		<b>\$165,630</b>		
<b>OTHER CASH RESERVES</b>					
	<b>Current</b>				
	<b>Balance</b>				
Rate Stabilization Fund	\$61,450				
DC Insurance Reserve	1,000				
Fleet Relocation - DC Reimbursement	4,000				



**Monthly Financial Report**

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APPENDIX

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Monthly Financial Report

Fiscal Year-to-Date  
As of February 28, 2018

Operating Revenues Detail

(\$ in millions)

Revenue Category	FY 2018 Budget	YTD Budget	Actual	Variance Favorable / (Unfavorable)		Actual % of Budget
Residential, Commercial, and Multi-family	\$354.9	\$147.9	\$142.7	(\$5.1)	-3.5%	40.2%
Federal	\$62.2	25.9	30.8	4.8	18.7%	49.5%
District Government	\$17.3	7.2	7.8	0.6	7.7%	44.9%
DC Housing Authority	\$9.0	3.7	4.0	0.3	7.5%	44.8%
Customer Metering Fee	\$10.8	4.5	4.8	0.3	7.4%	44.8%
Water System Replacement Fee (WSRF)	\$39.7	16.5	16.9	0.4	2.2%	42.6%
Wholesale	\$76.0	31.7	37.3	5.6	17.7%	49.1%
Right-of-Way Fee/PILOT	\$21.6	9.0	8.8	(0.2)	-1.9%	40.9%
<b>Subtotal (before Other Revenues)</b>	<b>\$591.5</b>	<b>\$246.4</b>	<b>\$253.1</b>	<b>\$6.7</b>	<b>2.7%</b>	<b>42.8%</b>
Other Revenue without RSF						
IMA Indirect Cost Reimb. For Capital Projects	4.5	1.9	0.0	(1.9)	-100.0%	0.0%
DC Fire Protection Fee	10.8	4.5	5.4	0.9	20.0%	50.0%
Stormwater (MS4)	1.0	0.4	0.6	0.2	50.0%	60.0%
Interest	2.3	1.0	1.0	0.0	43.5%	42.9%
Developer Fees (Water & Sewer)	6.0	2.5	2.0	(0.5)	-20.0%	33.3%
Others	4.3	1.8	1.5	(0.3)	34.9%	34.4%
<b>Subtotal</b>	<b>\$28.9</b>	<b>\$12.0</b>	<b>\$10.5</b>	<b>(\$1.5)</b>	<b>-12.7%</b>	<b>36.4%</b>
Rate Stabilization Fund Transfer	\$0.0	\$0.0	\$0.0	\$0.0	0.0%	0.0%
<b>Other Revenue Subtotal</b>	<b>\$28.9</b>	<b>\$12.0</b>	<b>\$10.5</b>	<b>(\$1.5)</b>	<b>-12.7%</b>	<b>36.4%</b>
<b>Grand Total</b>	<b>\$620.5</b>	<b>\$258.5</b>	<b>\$263.7</b>	<b>\$5.2</b>	<b>2.0%</b>	<b>42.5%</b>

BREAKDOWN OF RETAIL RECEIPTS BY CUSTOMER CATEGORY  
(\$ in 000's)

Customer Category	Water	Sewer	Clean Rivers			Total
			IAC	Metering Fee	WSRF	
Residential	\$14,095	\$17,158	\$14,297	\$2,177	\$3,911	\$51,639
Commercial	23,287	23,691	16,846	1,385	6,335	71,544
Multi-family	12,503	14,916	5,951	637	2,789	36,796
Federal	9,996	9,489	11,274	387	2,826	33,972
District Govt	1,592	1,945	4,234	179	817	8,767
DC Housing Authority	1,532	1,850	641	59	231	4,313
<b>Total:</b>	<b>\$63,005</b>	<b>\$69,050</b>	<b>\$53,243</b>	<b>\$4,823</b>	<b>\$16,909</b>	<b>\$207,031</b>

Note: The breakdown of Collections into Residential, Commercial, & Multi-family and Water and sewer is approximate as it is based on percentages of historical data and does not take into account adjustments and timing differences

Clean Rivers IAC - Actual vs Budget  
(\$ in 000's)

Customer Category	FY2018 Budget	Year-To-Date Budget	Actual Received	Variance Favorable / <Unfavorable>	Variance % of YTD Budget	Actual % of Budget
Residential	\$32,563	\$13,568	\$14,297	\$729	5%	44%
Commercial	39,180	16,325	16,846	521	3%	43%
Multi-family	14,702	6,126	5,951	(175)	-3%	40%
Federal	22,548	9,395	11,274	1,879	20%	50%
District Govt	9,190	3,829	4,234	405	11%	46%
DC Housing Authority	1,550	646	641	(5)	-1%	41%
<b>Total:</b>	<b>\$119,733</b>	<b>\$49,889</b>	<b>\$53,243</b>	<b>\$3,355</b>	<b>7%</b>	<b>44%</b>

## Monthly Financial Report

Fiscal Year-to-Date  
As of February 28, 2018

### Overtime by Department

Department	FY 2018			
	Budget	YTD Actual	YTD Actual % of Budget	% of Regular Pay
Office of the Board Secretary	\$8,000	\$5,369	67.1%	4.8%
General Manager	9,000	2,292	25.5%	0.2%
General Counsel	2,000	129	6.4%	0.0%
External Affairs	27,000	20	0.1%	0.0%
Internal Audit	-	-	0.0%	0.0%
Information Technology	15,000	2,454	16.4%	0.2%
Procurement	30,000	5,393	18.0%	0.4%
Customer Service*	260,000	283,663	109.1%	6.9%
Finance, Accounting & Budget	40,000	18,636	46.6%	0.8%
Assistant General Manager - Support Services	-	-	0.0%	0.0%
Human Capital Management	4,000	2,085	52.1%	0.1%
Occupational Safety and Health	1,000	121	12.1%	0.0%
Facilities Management	238,000	105,731	44.4%	6.6%
Department of Security	-	257	0.0%	0.1%
Wastewater Engineering	24,000	1,042	0.0%	0.5%
Water Quality and Technology	30,000	806	0.0%	0.1%
Distribution and Conveyance System	541,000	396,245	73.2%	12.7%
Engineering and Technical Services	1,000,000	372,800	37.3%	5.3%
Water Services**	1,017,000	987,050	97.1%	17.1%
Clean Rivers	-	-	0.0%	0.0%
Sewer Services ****	900,000	706,837	78.5%	22.9%
Wastewater Treatment - Operations	1,463,300	709,945	48.5%	15.4%
Wastewater Treatment - Process Engineering	64,000	13,093	20.5%	0.9%
Maintenance Services	500,000	291,984	58.4%	9.1%
Permit Operations***	2,000	12,242	612.1%	1.9%
Fleet Management	3,000	683	22.8%	0.2%
<b>Total DC WATER</b>	<b>\$6,178,300</b>	<b>\$3,918,878</b>	<b>63.4%</b>	<b>8.3%</b>

\* Increased overtime to support the on-going Automated Meter Reader (AMR) project

\*\* High overtime usage due to increased after-hour work performed in response to emergencies and historically high water main breaks experienced during the winter season (Bomb Cyclone)

\*\*\* High spending due to additional staff time needed to process increase in permit applications to support development in the District

\*\*\*\* Sewer Services has experienced similar OT resulting from emergency backups that are also caused by rain events. In addition, shift coverage is also a major contributor, particularly since crews are not regularly assigned to work on rotational shifts or weekends and are deployed on an on-call/emergency basis

Monthly Financial Report

Fiscal Year-to-Date  
As of February 28, 2018

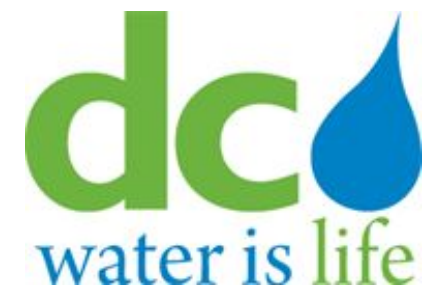
Capital Disbursements Detail by Program (\$000's)

Service Areas	Budget		Actual			Variance		
	A	B			C	D=C/A	E=B-C	F=E/B
	ANNUAL	YTD BUDGET	Oct 2017 - Jan 2018	Feb. 2018	YTD ACTUAL	ACTUAL % BUDGET	VARIANCE \$ Fav/(Unfav)	VARIANCE % Fav/(Unfav)
<b>NON PROCESS FACILITIES</b>								
Facility Land Use	\$31,678	\$12,906	\$12,600	\$129	\$12,729	40.2%	\$178	1.4%
<b>Subtotal</b>	<b>31,678</b>	<b>12,906</b>	<b>12,600</b>	<b>129</b>	<b>12,729</b>	<b>40.2%</b>	<b>178</b>	<b>1.4%</b>
<b>WASTEWATER TREATMENT</b>								
Liquid Processing	18,561	8,072	8,651	1,215	9,866	53.2%	(1,794)	(22.2%)
Plantwide	12,069	4,611	5,603	4,319	9,922	82.2%	(5,311)	(115.2%)
Solids Processing	11,261	5,122	6,652	179	6,831	60.7%	(1,710)	(33.4%)
Enhanced Nitrogen Removal Facilities	53,629	25,136	24,082	4,698	28,780	53.7%	(3,645)	(14.5%)
<b>Subtotal</b>	<b>95,520</b>	<b>42,941</b>	<b>44,989</b>	<b>10,411</b>	<b>55,400</b>	<b>58.0%</b>	<b>(12,459)</b>	<b>(29.0%)</b>
<b>COMBINED SEWER OVERFLOW</b>								
D.C. Clean Rivers	168,388	113,528	80,428	10,504	90,932	54.0%	22,596	19.9%
Program Management	1,935	831	504	364	868	44.9%	(37)	(4.4%)
Combined Sewer	11,574	5,582	4,952	266	5,218	45.1%	364	6.5%
<b>Subtotal</b>	<b>181,897</b>	<b>119,941</b>	<b>85,884</b>	<b>11,135</b>	<b>97,018</b>	<b>53.3%</b>	<b>22,923</b>	<b>19.1%</b>
<b>STORMWATER</b>								
Local Drainage	92	90	37	0	37	39.9%	53	59.1%
On-Going	375	9	433	0	433	115.7%	(425)	(4967.4%)
Pumping Facilities	69	31	252	0	252	367.4%	(221)	(718.8%)
DDOT	0	0	0	0	0	0.0%	0	0.0%
Research and Program Management	315	134	43	35	78	24.7%	56	42.0%
Trunk/Force Sewers	94	38	66	0	66	69.5%	(27)	(71.5%)
<b>Subtotal</b>	<b>944</b>	<b>301</b>	<b>831</b>	<b>35</b>	<b>865</b>	<b>91.6%</b>	<b>(564)</b>	<b>(187.3%)</b>
<b>SANITARY SEWER</b>								
Collection Sewers	4,491	2,337	4,699	963	5,662	126.1%	(3,325)	(142.3%)
On-Going	10,008	3,993	5,287	1,345	6,632	66.3%	(2,639)	(66.1%)
Pumping Facilities	1,297	491	366	171	537	41.4%	(46)	(9.4%)
Program Management	3,270	1,135	961	164	1,125	34.4%	11	0.9%
Interceptor/Trunk Force Sewers	11,126	4,452	6,375	339	6,714	60.3%	(2,262)	(50.8%)
<b>Subtotal</b>	<b>30,191</b>	<b>12,408</b>	<b>17,688</b>	<b>2,981</b>	<b>20,669</b>	<b>68.5%</b>	<b>(8,262)</b>	<b>(66.6%)</b>
<b>WATER</b>								
Distribution Systems	28,366	13,009	8,277	1,669	9,945	35.1%	3,064	23.6%
Lead Program	3,422	1,760	1,715	143	1,858	54.3%	(97)	(5.5%)
On-Going	10,832	3,654	3,191	1,845	5,037	46.5%	(1,383)	(37.8%)
Pumping Facilities	3,019	1,451	1,564	377	1,941	64.3%	(490)	(33.8%)
DDOT	906	546	0	0	0	0.0%	546	100.0%
Storage Facilities	7,839	3,034	5,074	873	5,947	75.9%	(2,914)	(96.0%)
Program Management	3,671	1,498	1,456	0	1,456	39.7%	41	2.8%
<b>Subtotal</b>	<b>58,055</b>	<b>24,951</b>	<b>21,277</b>	<b>4,907</b>	<b>26,183</b>	<b>45.1%</b>	<b>(1,232)</b>	<b>(4.9%)</b>
<b>Capital Projects</b>	<b>\$398,285</b>	<b>\$213,448</b>	<b>\$183,267</b>	<b>\$29,597</b>	<b>\$212,865</b>	<b>53.4%</b>	<b>584</b>	<b>0.3%</b>
<b>CAPITAL EQUIPMENT</b>	<b>39,898</b>	<b>16,624</b>	<b>16,592</b>	<b>1,408</b>	<b>18,001</b>	<b>45.1%</b>	<b>(1,377)</b>	<b>(8.3%)</b>
<b>WASHINGTON AQUEDUCT</b>	<b>11,768</b>	<b>4,903</b>	<b>5,154</b>	<b>0</b>	<b>5,154</b>	<b>43.8%</b>	<b>(251)</b>	<b>(5.1%)</b>
<b>Additional Capital Programs</b>	<b>51,665</b>	<b>21,527</b>	<b>21,746</b>	<b>1,408</b>	<b>23,155</b>	<b>44.8%</b>	<b>(1,628)</b>	<b>(7.6%)</b>
<b>Total</b>	<b>\$449,949</b>	<b>\$234,976</b>	<b>\$205,014</b>	<b>\$31,006</b>	<b>\$236,019</b>	<b>52.5%</b>	<b>(1,044)</b>	<b>(0.4%)</b>



# DC Water

*Investment Performance Report – February 2018*



**DC Water  
Finance Division  
Economic Update**

### ECONOMIC COMMENTARY

- According to the Bureau of Economic Analysis' second reading, U.S. Gross Domestic Product ("GDP"), expanded at an annual rate of 2.5% during the fourth quarter of 2017, slightly lower than the first reading of 2.6%.
- The meeting minutes released for the Federal Open Market Committee's ("the FOMC") January meeting indicated that the central bank is on track for three rate hikes in 2018 but signaled a potentially more aggressive monetary tightening approach should inflation and the domestic growth outlook continue to strengthen. As of February 28, 2018, the probability implied by market participants suggested a 100% likelihood that the first rate hike in 2018 will occur at the FOMC's March meeting.
- The FOMC's preferred gauge of inflation, the core personal consumption expenditures ("PCE") price index, has continued to undershoot the 2% long run objective, remaining at 1.5% year-over-year through the month of January.
- U.S. Treasury yields moved higher during the month of February, as the market continued to price in future interest rate hikes by the FOMC. The yield on the 3-month Treasury bill increased by 0.20% from 1.46% to 1.66% while the 2-year Treasury note's yield increased by 0.11% from 2.14% to 2.25%.
- The United States labor market added 313,000 jobs in February, above the 200,000 expectation. The unemployment rate remained unchanged at 4.1%, continuing to hold steady at the lowest level in 17 years.

### PORTFOLIO RECAP

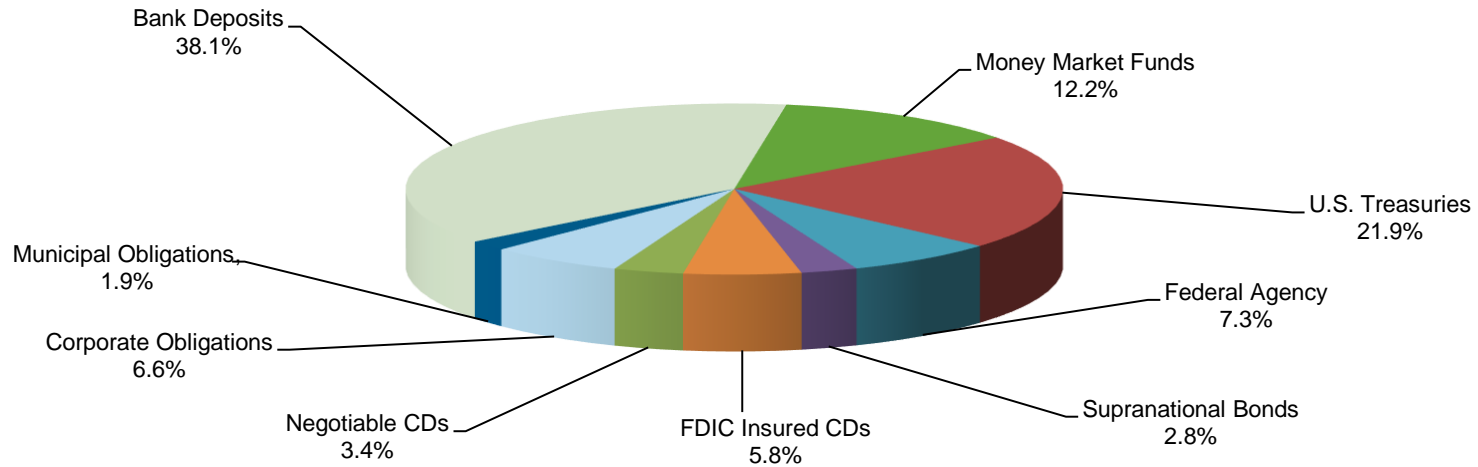
- The portfolio is diversified among Bank Deposits, U.S. Treasuries, Federal Agencies, Supranational Bonds, Commercial Paper, Negotiable CDs, Corporate Notes/Bonds, Municipal Bonds, FDIC Insured CDs, and SEC registered money market funds.
- The overall yield-to-maturity on cost of the portfolio is 1.27%.

#### Operating Reserve

- PFM purchased \$925,000 of 3-year corporate notes at a yield of 2.50%, \$1.1 million of 3-year U.S. Treasuries at a yield of 1.13%, and \$1.85 million of 2-year negotiable CDs.
- We also sold \$1.8 million of 2-year municipal bonds, \$1.8 million of 2-year negotiable CDs, and \$50,000 in 5-year U.S. Treasuries.



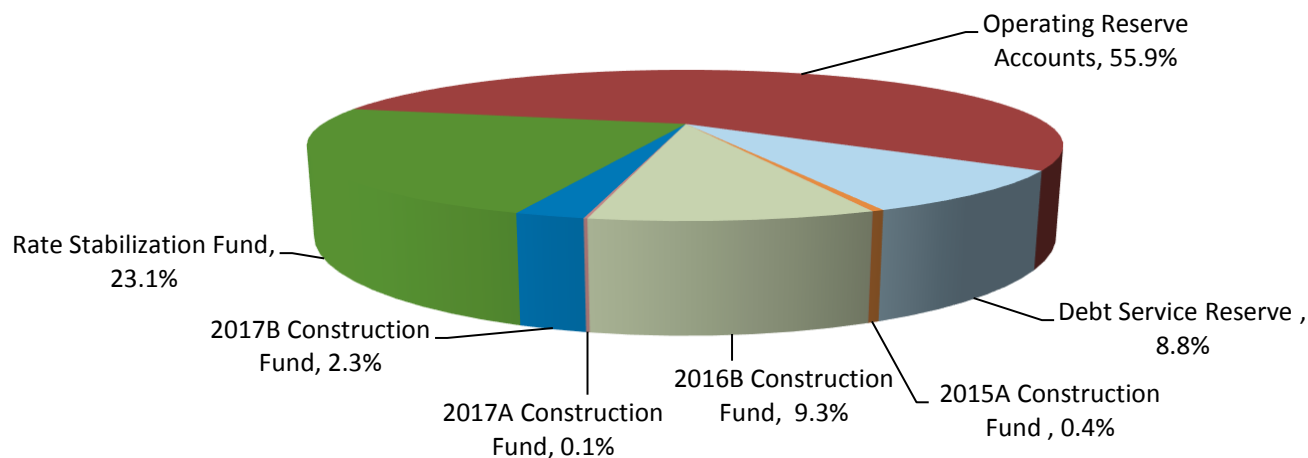
**DC Water  
Finance Division  
Investments - By Security Type  
As of February 28, 2018**



Security Type	Book Value + Accrued Interest	Asset Allocation	Permitted By Policy
Bank Deposits	123,376,352	42.8%	100.0%
Money Market Funds	32,452,356	11.3%	100.0%
U.S. Treasuries	59,151,057	20.5%	100.0%
Federal Agency	19,498,026	6.8%	80.0%
Supranational Bonds	7,394,692	2.6%	30.0%
Commercial Paper	-	0.0%	35.0%
FDIC Insured CDs	15,332,800	5.3%	30.0%
Negotiable CDs	9,147,795	3.2%	30.0%
Corporate Obligations	18,445,016	6.4%	30.0%
Municipal Obligations	3,336,630	1.2%	20.0%
<b>Total</b>	<b>\$ 288,134,722</b>	<b>100.0%</b>	



**DC Water  
Finance Division  
Investment Analysis – By Fund  
As of February 28, 2018**



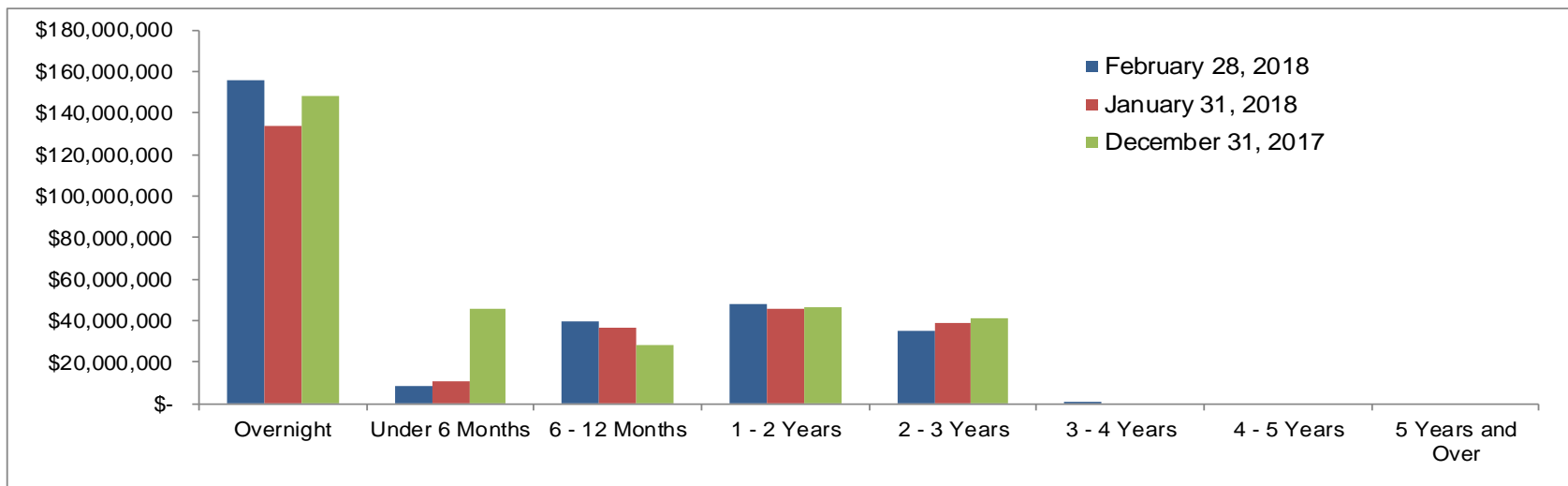
Fund Name	Book Value + Accrued Interest	Yield-to- Maturity at Cost	Effective Duration (years)	Weighted Average Maturity (days)
Rate Stabilization Fund	\$ 61,450,000	1.15%	0.00	1.0
Operating Reserve Accounts	\$ 166,855,548	1.36%	1.05	391.7
CSO LTCP Appropriations Account	\$ 2,744	1.19%	0.00	1.0
Total Fleet Relocation	\$ 4,000,000	1.19%	0.00	1.0
Debt Service Reserve	\$ 23,522,161	1.08%	0.54	200.8
2015A Construction Fund	\$ 1,046,196	1.22%	0.00	1.0
2015B Construction Fund	\$ 31,525	1.22%	0.00	1.0
2016B Construction Fund	\$ 24,755,676	1.22%	0.00	1.0
2017A Construction Fund	\$ 344,856	1.22%	0.00	1.0
2017B Construction Fund	\$ 6,126,016	1.22%	0.00	1.0
<b>Total</b>	<b>\$ 288,134,722</b>	<b>1.27%</b>	<b>0.65</b>	<b>243.6</b>





**DC Water  
Finance Division  
Investment Analysis – By Maturity**

<b>Maturity Distribution</b>	<b>February 28, 2018</b>	<b>January 31, 2018</b>	<b>December 31, 2017</b>
Overnight \$	155,828,707.11 \$	133,729,430.41	\$148,510,488.00
Under 6 Months	8,653,483.70	10,453,715.32	45,606,492.15
6 - 12 Months	39,837,890.85	36,620,528.81	28,201,069.22
1 - 2 Years	48,001,773.59	46,016,244.82	46,376,573.11
2 - 3 Years	34,891,644.76	39,042,574.46	40,925,580.81
3 - 4 Years	921,222.39	-	-
4 - 5 Years	-	-	-
5 Years and Over	-	-	-
<b>Totals \$</b>	<b>288,134,722.40 \$</b>	<b>265,862,493.82</b>	<b>\$309,620,203.29</b>





**DC Water  
Finance Division  
Investments – Issuer Allocation**

	Credit Ratings S&P / Moody's	Book Value		Investment Policy Limit	Compliance with Investment Policy
<b>Bank Deposits</b>					
TD Bank		123,376,351.58	42.8%	100.0%	Yes
<b>Sub-Total Bank Deposits</b>		<b>123,376,351.58</b>	<b>42.8%</b>	100.0%	Yes
<b>Money Market Mutual Funds</b>					
Wells Fargo Treasury Plus MMF	AAAm	32,311,597.80	11.2%	50.0%	Yes
Wells Fargo Government MMF	AAAm	140,757.73	0.0%	50.0%	Yes
<b>Sub-Total Money Market Mutual Funds</b>		<b>32,452,355.53</b>	<b>11.3%</b>	100.0%	Yes
<b>U.S. Treasuries</b>					
Treasury Note	AA+ / Aaa	59,151,056.67	20.5%	100.0%	Yes
<b>Sub-Total Treasuries</b>		<b>59,151,056.67</b>	<b>20.5%</b>	100.0%	Yes
<b>Federal Agencies</b>					
Fannie Mae	AA+ / Aaa	10,926,030.38	3.8%	40.0%	Yes
Federal Home Loan Bank	AA+ / Aaa	4,614,487.50	1.6%	40.0%	Yes
Freddie Mac	AA+ / Aaa	3,957,507.94	1.4%	40.0%	Yes
<b>Sub-Total Federal Agencies</b>		<b>19,498,025.82</b>	<b>6.8%</b>	80.0%	Yes
<b>Supranational Bonds</b>					
African Development Bank	AAA / Aaa	1,745,977.25	0.6%	5.0%	Yes
Asian Development Bank	AAA / Aaa	1,628,073.62	0.6%	5.0%	Yes
Inter-American Development Bank	AAA / Aaa	2,190,776.26	0.8%	5.0%	Yes
International Bank for Reconstruction and Development	AAA / Aaa	1,829,864.85	0.6%	5.0%	Yes
<b>Sub-Total Supranational Bonds</b>		<b>7,394,691.98</b>	<b>2.6%</b>	30.0%	Yes
<b>Commercial Paper</b>					
<b>Sub-Total Commercial Paper</b>		-	<b>0.0%</b>	35.0%	Yes
<b>FDIC Insured Certificates of Deposit</b>					
CDARS - Placed by Industrial Bank	NR / NR	15,332,800.34	5.3%	5.0%	No
<b>Sub-Total FDIC-Insured Certificates of Deposit</b>		<b>15,332,800.34</b>	<b>5.3%</b>	30.0%	Yes

CDARS holdings are not managed by PFMAM, and we therefore cannot guarantee the accuracy of holdings information provided.



**DC Water  
Finance Division  
Investments – Issuer Allocation**

	Credit Ratings S&P / Moody's	Book Value		Investment Policy Limit	Compliance with Investment Policy
<b>Negotiable Certificates of Deposit</b>					
Canadian Imperial Bank NY	A-1 / P-1	1,807,477.38	0.6%	5.0%	Yes
Nordea Bank AB NY	AA- / Aa3	1,851,258.00	0.6%	5.0%	Yes
Skandinav Enskilda Banken NY	A+ / Aa3	1,852,038.63	0.6%	5.0%	Yes
Svenska Handelsbanken NY	A-1+ / P-1	1,804,725.00	0.6%	5.0%	Yes
Swedbank NY	AA- / Aa3	931,065.94	0.3%	5.0%	Yes
Westpac Banking Corp NY	AA- / Aa3	901,230.00	0.3%	5.0%	Yes
<b>Sub-Total Negotiable Certificates of Deposit</b>		<b>9,147,794.95</b>	<b>3.2%</b>	30.0%	Yes
<b>Corporate Obligations</b>					
Apple Inc.	AA+ / Aa1	1,445,487.51	0.5%	5.0%	Yes
Bank of Montreal	A+ / A1	901,210.08	0.3%	5.0%	Yes
Bank of New York Mellon	A / A1	2,729,129.75	0.9%	5.0%	Yes
Bank of Nova Scotia	A+ / A1	927,493.48	0.3%	5.0%	Yes
Berkshire Hathaway Inc	AA / Aa2	130,984.27	0.0%	5.0%	Yes
Chevron	AA- / Aa2	904,097.63	0.3%	5.0%	Yes
Coca-Cola	AA- / Aa3	386,769.19	0.1%	5.0%	Yes
Colgate-Palmolive Company	AA- / Aa3	934,383.79	0.3%	5.0%	Yes
Exxon Mobil	AA+ / Aaa	936,154.73	0.3%	5.0%	Yes
General Electric Capital	A / A2	460,207.88	0.2%	5.0%	Yes
Johnson & Johnson	AAA / Aaa	195,984.71	0.1%	5.0%	Yes
Microsoft	AAA / Aaa	1,040,500.17	0.4%	5.0%	Yes
Pfizer Inc.	AA / A1	897,824.63	0.3%	5.0%	Yes
Procter & Gamble	AA- / Aa3	442,567.59	0.2%	5.0%	Yes
Royal Bank of Canada	AA- / A1	900,711.62	0.3%	5.0%	Yes
Toronto Dominion Bank NY	AA- / Aa2	900,612.41	0.3%	5.0%	Yes
Total Capital	A+ / Aa3	902,565.79	0.3%	5.0%	Yes
Toyota	AA- / Aa3	931,570.00	0.3%	5.0%	Yes
Wal-Mart Stores Inc.	AA / Aa2	432,730.67	0.2%	5.0%	Yes
Wells Fargo & Company Notes	A- / A2	1,109,632.07	0.4%	5.0%	Yes
Westpac Banking	AA- / Aa3	934,397.71	0.3%	5.0%	Yes
<b>Sub-Total Corporate Obligations</b>		<b>18,445,015.68</b>	<b>6.4%</b>	30.0%	Yes
<b>Municipal Obligations</b>					
Connecticut State	A+ / A1	986,612.85	0.3%	5.0%	Yes
Florida State	AA / Aa3	1,806,489.00	0.6%	5.0%	Yes
New York City	AAA / Aa1	543,528.00	0.2%	5.0%	Yes
Regional Transportation Authority, IL	#N/A	-	0.0%	5.0%	Yes
<b>Sub-Total Municipal Obligations</b>		<b>3,336,629.85</b>	<b>1.2%</b>	20.0%	Yes
<b>Grand Total</b>		<b>\$ 288,134,722.40</b>	<b>100.0%</b>		



**DC Water  
Finance Division  
Book Value Performance  
As of February 28, 2018**

*The portfolio is in compliance with the Authority's Investment Policy*

	Trailing 1 Months		Trailing 3 Months		Trailing 6 Months		Trailing 12 Months	Trailing 24 Months
	Periodic	Annualized	Periodic	Annualized	Periodic	Annualized		
Total Rate Stabilization Fund	0.04%	0.55%	0.13%	0.52%	0.29%	0.60%	0.55%	0.56%
Operating Reserve Accounts	0.11%	1.40%	0.38%	1.53%	0.62%	1.25%	1.21%	1.25%
Total Debt Service Reserve	0.08%	1.08%	0.27%	1.09%	0.52%	1.05%	0.94%	0.85%
2016B Construction Fund	0.08%	1.01%	0.20%	0.82%	0.66%	1.33%	0.87%	n/a
2017B Construction Fund	0.11%	1.42%	0.11%	0.44%	0.33%	0.66%	0.88%	n/a
<b>Short-Term</b>	<b>0.09%</b>	<b>1.15%</b>	<b>0.28%</b>	<b>1.13%</b>	<b>0.53%</b>	<b>1.08%</b>	<b>1.00%</b>	<b>0.86%</b>
Merrill Lynch 3-Month Treasury Index (Book Value) <sup>1</sup>	0.12%	1.64%	0.35%	1.44%	0.62%	1.25%	1.06%	0.70%
<b>Core (1+ Years)</b>	<b>0.12%</b>	<b>1.60%</b>	<b>0.38%</b>	<b>1.54%</b>	<b>0.74%</b>	<b>1.50%</b>	<b>1.39%</b>	<b>1.33%</b>
Merrill Lynch 1-3 Year Treasury Index (Book Value) <sup>2</sup>	0.17%	2.29%	0.51%	2.10%	0.92%	1.86%	1.58%	1.29%

- (1) The Merrill Lynch 3-Month Treasury Bill is an unmanaged index tracking the on-the-run Treasury Bill. The Index is produced and maintained by Merrill Lynch & Co. Performance for this index is shown on a book value basis.
- (2) The Merrill Lynch 3-Month Treasury Bill is an unmanaged index tracking a basket of U.S. Treasuries with 1 to 3 year maturities. The Index is produced and maintained by Merrill Lynch & Co. Performance for this index is shown on a book value basis.



**DC Water  
Finance Division  
Portfolio Holdings by Fund**

DESCRIPTION	CUSIP	PAR AMOUNT	COUPON RATE	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	MARKET VALUE + ACCRUED INTEREST	AMORTIZED COST + ACCRUED INTEREST	TOTAL VALUE
<b>Rate Stabilization Fund</b>										
TD BANK BANK DEPOSIT		\$ 61,450,000		3/1/2018		1.15%	\$ 61,450,000	\$ 61,450,000	\$ 61,450,000	\$ 61,450,000.00
<b>Operating Reserve Accounts</b>										
TD BANK BANK DEPOSIT		\$ 57,923,608		3/1/2018		1.19%	\$ 57,923,608	\$ 57,923,608	\$ 57,923,608	
WELLS FARGO GOVERNMENT MMF		140,758		3/1/2018		1.23%	140,758	140,758	140,758	
BANK OF NEW YORK MELLON CORP (CALLABLE)	06406HDB2	1,800,000	1.600	5/22/2018	5/29/2015	1.60%	1,799,838	1,805,400	1,807,907	
INDUSTRIAL BANK CDARS		5,035,026	0.500	10/11/2018	10/12/2017	0.50%	5,035,026	5,044,762	5,044,762	
INDUSTRIAL BANK CDARS		5,085,490	0.500	11/8/2018	11/9/2017	0.50%	5,085,490	5,093,401	5,093,401	
CANADIAN IMPERIAL BANK NY CD	13606A5Z7	1,800,000	1.760	11/30/2018	12/5/2016	1.78%	1,798,596	1,803,976	1,807,477	
US TREASURY NOTES	912828A75	1,450,000	1.500	12/31/2018	12/4/2015	1.22%	1,462,291	1,446,865	1,456,987	
SVENSKA HANDELSBANKEN NY LT CD	86958JHB8	1,800,000	1.890	1/10/2019	1/12/2017	1.91%	1,800,000	1,796,562	1,804,725	
WELLS FARGO & COMPANY NOTES	94974BFFQ8	1,103,000	2.150	1/15/2019	10/7/2015	1.77%	1,116,225	1,102,396	1,109,632	
FHLB NOTES	3130AAE46	1,800,000	1.250	1/16/2019	12/8/2016	1.25%	1,799,928	1,789,860	1,802,780	
INDUSTRIAL BANK CDARS		2,614,746	1.000	1/17/2019	1/18/2018	1.00%	2,614,746	2,617,797	2,617,797	
INDUSTRIAL BANK CDARS		2,573,871	1.000	1/17/2019	1/18/2018	1.00%	2,573,871	2,576,841	2,576,841	
APPLE INC CORP NOTES	037833BQ2	545,000	1.700	2/22/2019	2/23/2016	1.71%	544,907	541,860	545,175	
FNMA BENCHMARK NOTE	3135G0J53	2,250,000	1.000	2/26/2019	2/23/2016	1.08%	2,244,690	2,225,961	2,248,553	
FNMA BENCHMARK NOTE	3135G0J53	825,000	1.000	2/26/2019	8/8/2016	0.90%	827,087	816,186	825,928	
FNMA BENCHMARK NOTE	3135G0J53	1,425,000	1.000	2/26/2019	9/2/2016	0.92%	1,425,926	1,409,775	1,425,569	
BERKSHIRE HATHAWAY INC NOTES	084664CG4	130,000	1.700	3/15/2019	3/15/2016	1.73%	129,901	130,099	130,984	
COLGATE-PALMOLIVE COMPANY CORP NOTES	19416QEF3	925,000	1.750	3/15/2019	5/1/2017	1.55%	928,432	927,880	934,384	
FREDDIE MAC NOTES	3137EADZ9	1,700,000	1.125	4/15/2019	5/31/2016	1.10%	1,701,309	1,687,990	1,707,743	
US TREASURY NOTES	912828D23	1,465,000	1.625	4/30/2019	6/29/2016	0.70%	1,502,998	1,464,374	1,488,662	
US TREASURY NOTES	912828D23	2,820,000	1.625	4/30/2019	11/14/2016	1.06%	2,858,555	2,818,795	2,853,700	
INTER-AMERICAN DEVELOPMENT BANK	458182DX7	1,260,000	1.000	5/13/2019	4/12/2016	1.10%	1,256,220	1,245,006	1,262,294	
CHEVRON CORP NOTES	166764BH2	900,000	1.561	5/16/2019	5/16/2016	1.56%	900,000	895,628	904,098	
FHLB GLOBAL NOTE	3130A8DB6	1,840,000	1.125	6/21/2019	6/3/2016	1.14%	1,839,227	1,819,582	1,843,690	
FL ST BOARD ADMIN FIN CORP TXBL REV BD	341271AA2	1,800,000	2.163	7/1/2019	3/8/2016	2.16%	1,800,000	1,801,305	1,806,489	
BANK OF MONTREAL	06367THQ6	900,000	1.500	7/18/2019	7/18/2016	1.53%	899,136	887,384	901,210	
FHLMC REFERENCE NOTE	3137EAE11	2,250,000	0.875	7/19/2019	7/20/2016	0.96%	2,244,555	2,211,689	2,249,765	
ROYAL BANK OF CANADA CORP NOTES	78012KRK5	900,000	1.500	7/29/2019	7/29/2016	1.54%	898,974	887,560	900,712	
SKANDINAV ENSKILDA BANKEN NY CD	83050FXT3	1,850,000	1.840	8/2/2019	8/4/2017	1.85%	1,849,279	1,802,128	1,852,039	
APPLE INC CORP NOTES	037833CB4	900,000	1.100	8/2/2019	8/4/2016	1.13%	899,100	884,581	900,312	
MICROSOFT CORP NOTES	594918BN3	595,000	1.100	8/8/2019	8/8/2016	1.14%	594,387	584,895	595,122	
TORONTO DOMINION BANK NY CORP NOTES	89114QBJ6	900,000	1.450	8/13/2019	7/13/2016	1.45%	899,919	885,839	900,612	
CT ST TXBL GO BONDS	20772J3D2	985,000	1.300	8/15/2019	8/17/2016	1.23%	987,128	986,613	986,613	
INTL BANK OF RECON AND DEV SN NOTE	459058FK4	900,000	0.875	8/15/2019	7/13/2016	0.88%	899,811	881,824	900,260	
FNMA NOTES	3135G0P49	1,450,000	1.000	8/28/2019	9/2/2016	1.05%	1,447,738	1,424,351	1,448,983	
FNMA NOTES	3135G0P49	1,975,000	1.000	8/28/2019	10/5/2016	1.02%	1,973,815	1,940,065	1,974,552	
AFRICAN DEVELOPMENT BANK NOTE	00828EBQ1	700,000	1.125	9/20/2019	9/20/2016	1.16%	699,258	690,460	703,135	
WAL-MART STORES INC CORP NOTE	931142DY6	430,000	1.750	10/9/2019	10/20/2017	1.75%	429,991	428,406	432,731	
THE PROCTER & GAMBLE CO CORP NOTES	742718EZ8	440,000	1.750	10/25/2019	10/25/2017	1.77%	439,846	438,178	442,568	
US TREASURY NOTES	912828GB1	2,325,000	1.500	11/30/2019	12/5/2016	1.45%	2,328,633	2,304,294	2,335,867	
PFIZER INC CORP NOTE	717081EB5	595,000	1.700	12/15/2019	11/21/2016	1.72%	594,572	589,202	596,881	
PFIZER INC CORP NOTE	717081EB5	300,000	1.700	12/15/2019	11/21/2016	1.73%	299,775	297,077	300,943	
ASIAN DEVELOPMENT BANK NOTE	045167DT7	925,000	1.750	1/10/2020	1/12/2017	1.77%	924,464	916,463	926,957	
US TREASURY NOTES	912828H52	3,475,000	1.250	1/31/2020	1/5/2017	1.52%	3,447,309	3,412,646	3,461,024	
MICROSOFT CORP NOTES	594918BV5	445,000	1.850	2/6/2020	2/6/2017	1.87%	444,702	440,804	445,378	
NORDEA BANK AB NY CD	65590ASN7	1,850,000	2.720	2/20/2020	2/22/2018	2.72%	1,850,000	1,849,654	1,851,258	

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Investment Performance Report – February 2018

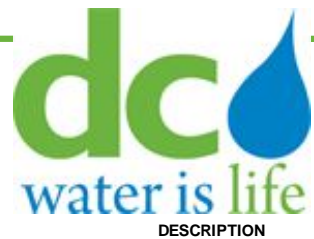


DC Water  
Finance Division  
Portfolio Holdings by Fund

DESCRIPTION	CUSIP	PAR AMOUNT	COUPON RATE	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	MARKET VALUE + ACCRUED INTEREST	AMORTIZED COST + ACCRUED INTEREST	TOTAL VALUE
<b>Operating Reserve Accounts</b>										
FNMA NOTES	3135G0T29	1,150,000	1.500	2/28/2020	2/28/2017	1.52%	1,149,264	1,131,472	1,149,651	
US TREASURY NOTES	912828J50	725,000	1.375	2/29/2020	2/3/2017	1.58%	720,610	712,226	722,148	
US TREASURY NOTES	912828J50	2,900,000	1.375	2/29/2020	9/1/2017	1.38%	2,899,887	2,848,906	2,900,018	
EXXON MOBIL (CALLABLE) CORP NOTE	30231GAG7	925,000	1.912	3/6/2020	4/28/2017	1.77%	928,635	923,488	936,155	
WESTPAC BANKING CORP NOTES	961214DJ9	925,000	2.150	3/6/2020	3/6/2017	2.16%	924,602	922,599	934,398	
AFRICAN DEVELOPMENT BANK NOTE	00828ECA5	1,035,000	1.875	3/16/2020	3/16/2017	1.93%	1,033,468	1,032,353	1,042,843	
TOYOTA MOTOR CREDIT CORP (CALLABLE)	89236TDU6	630,000	1.950	4/17/2020	4/17/2017	1.97%	629,710	625,263	634,366	
TOYOTA MOTOR CREDIT CORP (CALLABLE)	89236TDU6	295,000	1.950	4/17/2020	4/17/2017	1.94%	295,089	292,782	297,204	
US TREASURY NOTES	912828K58	2,750,000	1.375	4/30/2020	4/5/2017	1.53%	2,737,646	2,708,068	2,753,870	
US TREASURY NOTES	912828K58	1,575,000	1.375	4/30/2020	4/10/2017	1.55%	1,566,879	1,550,984	1,576,447	
NYC TRANS FIN AUTH, NY TXBL REV BONDS	64971W5W6	540,000	1.960	5/1/2020	6/29/2017	1.96%	540,000	537,777	543,528	
TOTAL CAPITAL SA CORP NOTES	89152UAD4	850,000	4.450	6/24/2020	4/10/2017	2.07%	912,492	889,036	902,566	
US TREASURY NOTES	912828XH8	1,825,000	1.625	6/30/2020	6/16/2017	1.51%	1,830,988	1,800,117	1,834,542	
US TREASURY NOTES	912828XH8	3,650,000	1.625	6/30/2020	6/28/2017	1.50%	3,663,117	3,600,234	3,670,068	
BANK OF NOVA SCOTIA HOUSTON CORP BOND	064159JX5	925,000	2.150	7/14/2020	7/14/2017	2.15%	924,871	913,625	927,493	
FNMA NOTES	3135G0T60	1,850,000	1.500	7/30/2020	9/1/2017	1.49%	1,850,481	1,814,614	1,852,795	
US TREASURY NOTES	912828XM7	825,000	1.625	7/31/2020	7/7/2017	1.60%	825,516	812,023	826,485	
WESTPAC BANKING CORP NY CD	96121TA43	900,000	2.050	8/3/2020	8/7/2017	2.05%	900,000	893,272	901,230	
INTL BANK OF RECONSTRUCTION AND DEV NOTE	45905UP32	925,000	1.561	9/12/2020	9/19/2017	1.64%	922,780	922,586	929,605	
GENERAL ELECTRIC CAPITAL CORP CORP NOTE	36962G4R2	425,000	4.375	9/16/2020	8/31/2017	1.84%	456,790	446,395	460,208	
FHLB NOTES	3130ACE26	965,000	1.375	9/28/2020	9/8/2017	1.48%	961,902	945,932	968,018	
US TREASURY NOTES	912828L99	250,000	1.375	10/31/2020	10/17/2017	1.71%	247,539	244,655	248,984	
INTER-AMERICAN DEVELOPMENT BANK	4581X0CD8	915,000	2.125	11/9/2020	10/10/2017	1.81%	923,481	912,157	928,482	
JOHNSON & JOHNSON CORP NOTE	478160CH5	195,000	1.950	11/10/2020	11/10/2017	1.99%	194,791	193,368	195,985	
COCA-COLA CO/THE GLOBAL NOTES	191216AR1	370,000	3.150	11/15/2020	9/12/2017	1.78%	385,584	377,784	386,769	
SWEDBANK (NEW YORK) CERT DEPOS	87019U6D6	925,000	2.270	11/16/2020	11/17/2017	2.30%	925,000	919,459	931,066	
US TREASURY NOTES	912828M98	3,000,000	1.625	11/30/2020	11/3/2017	1.77%	2,986,992	2,950,547	3,000,531	
US TREASURY N/B	912828N48	1,975,000	1.750	12/31/2020	12/5/2017	1.91%	1,965,588	1,945,163	1,972,033	
US TREASURY N/B	912828N48	975,000	1.750	12/31/2020	12/6/2017	1.96%	968,830	960,270	972,121	
ASIAN DEVELOPMENT BANK NOTE	045167EF6	700,000	2.250	1/20/2021	1/19/2018	2.29%	699,251	695,328	701,117	
US TREASURY NOTES	912828N89	1,750,000	1.375	1/31/2021	1/4/2018	2.05%	1,715,000	1,700,112	1,718,635	
US TREASURY NOTES	912828N89	800,000	1.375	1/31/2021	1/4/2018	2.08%	783,188	777,194	784,888	
US TREASURY N/B	912828P87	1,100,000	1.125	2/28/2021	2/16/2018	2.42%	1,058,707	1,058,268	1,059,214	
BANK OF NEW YORK MELLON CORP (CALLABLE)	06406FAA1	515,000	2.500	4/15/2021	2/16/2018	2.93%	508,300	512,160	513,251	
BANK OF NEW YORK MELLON CORP (CALLABLE)	06406FAA1	410,000	2.500	4/15/2021	2/16/2018	2.99%	404,022	407,739	407,972	
										\$ 166,855,547.90
<b>Debt Service Reserve</b>										
WELLS FARGO TREASURY PLUS MMF		\$ 7,328		3/1/2018		1.22%	\$ 7,328	\$ 7,328	\$ 7,328	
US TREASURY NOTES	912828Q45	6,820,000	0.875	3/31/2018	11/2/2016	0.76%	6,831,189	6,841,830	6,845,576	
US TREASURY NOTES	912828RH5	4,975,000	1.375	9/30/2018	11/15/2016	1.00%	5,009,786	4,987,048	5,014,450	
US TREASURY NOTES	912828T42	6,460,000	0.750	9/30/2018	5/19/2017	1.19%	6,421,644	6,435,315	6,463,815	
US TREASURY N/B	912828W97	5,175,000	1.250	3/31/2019	10/10/2017	1.45%	5,160,041	5,153,900	5,190,991	
										\$ 23,522,161.14
<b>CSO LTCP Appropriations Account</b>										
TD BANK BANK DEPOSIT		2,744		3/1/2018		1.19%	2,744	2,744	2,744	
										\$ 2,744.00

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Investment Performance Report – February 2018



DC Water  
Finance Division  
Portfolio Holdings by Fund

DESCRIPTION	CUSIP	PAR AMOUNT	COUPON RATE	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	MARKET VALUE + ACCRUED INTEREST	AMORTIZED COST + ACCRUED INTEREST	TOTAL VALUE
<b>Fleet Relocation Account</b>										
TD BANK BANK DEPOSIT		4,000,000		3/1/2018		1.19%	4,000,000	4,000,000	4,000,000	\$ 4,000,000.00
<b>2015A Construction Fund</b>										
WELLS FARGO TREASURY PLUS MMF		\$ 1,046,196		3/1/2018		1.22%	\$ 1,046,196	\$ 1,046,196	\$ 1,046,196	\$ 1,046,195.97
<b>2015B Construction Fund</b>										
WELLS FARGO TREASURY PLUS MMF		\$ 31,525		3/1/2018		1.22%	\$ 31,525	\$ 31,525	\$ 31,525	\$ 31,525.17
<b>2016B Construction Fund</b>										
WELLS FARGO TREASURY PLUS MMF		\$ 24,755,676		3/1/2018		1.22%	\$ 24,755,676	\$ 24,755,676	\$ 24,755,676	\$ 24,755,676.26
<b>2017A Construction Fund</b>										
WELLS FARGO TREASURY PLUS MMF		\$ 344,856		3/1/2018		1.22%	\$ 344,856	\$ 344,856	\$ 344,856	\$ 344,856.20
<b>2017B Construction Fund</b>										
WELLS FARGO TREASURY PLUS MMF		\$ 6,126,016		3/1/2018		1.22%	\$ 6,126,016	\$ 6,126,016	\$ 6,126,016	\$ 6,126,015.71
							<b>\$ 287,790,022.72</b>	<b>\$ 286,797,289.47</b>	<b>\$ 288,134,722.40</b>	<b>\$ 288,134,722.40</b>

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Investment Performance Report – February 2018



DC Water  
Finance Division  
Security Purchases  
Last 6 Months

CUSIP	DESCRIPTION	PAR	COUPON	MATURITY DATE	SETTLE DATE	YTM	TRANSACTION AMOUNT
<u>Operating Reserve Accounts</u>							
3135G0T60	FNMA NOTES	1,850,000.00	1.50	7/30/2020	9/1/2017	1.49	1,852,793.50
912828J50	US TREASURY NOTES	2,900,000.00	1.38	2/29/2020	9/1/2017	1.38	2,899,996.87
3130ACE26	FHLB NOTES	965,000.00	1.38	9/28/2020	9/8/2017	1.48	961,902.35
191216AR1	COCA-COLA CO/THE GLOBAL NOTES	370,000.00	3.15	11/15/2020	9/12/2017	1.78	389,372.28
45905UP32	INTL BANK OF RECONSTRUCTION AND DEV NOTE	925,000.00	1.56	9/12/2020	9/19/2017	1.64	922,780.00
4581X0CD8	INTER-AMERICAN DEVELOPMENT BANK	915,000.00	2.13	11/9/2020	10/10/2017	1.81	931,636.80
RE0959834	INDUSTRIAL BANK CDARS	5,035,025.80	0.50	10/11/2018	10/12/2017	0.51	5,035,025.80
912828L99	US TREASURY NOTES	250,000.00	1.38	10/31/2020	10/17/2017	1.71	249,127.04
931142DY6	WAL-MART STORES INC CORP NOTE	430,000.00	1.75	10/9/2019	10/20/2017	1.75	429,991.40
742718EZ8	THE PROCTER & GAMBLE CO CORP NOTES	440,000.00	1.75	10/25/2019	10/25/2017	1.77	439,846.00
912828M98	US TREASURY NOTES	3,000,000.00	1.63	11/30/2020	11/3/2017	1.77	3,007,770.88
RE0959842	INDUSTRIAL BANK CDARS	5,085,490.22	0.50	11/8/2018	11/9/2017	0.51	5,085,490.22
478160CH5	JOHNSON & JOHNSON CORP NOTE	195,000.00	1.95	11/10/2020	11/10/2017	1.99	194,791.35
87019U6D6	SWEDBANK (NEW YORK) CERT DEPOS	925,000.00	2.27	11/16/2020	11/17/2017	2.30	925,000.00
912828N48	US TREASURY N/B	2,675,000.00	1.75	12/31/2020	12/5/2017	1.91	2,682,350.80
912828N48	US TREASURY N/B	975,000.00	1.75	12/31/2020	12/6/2017	1.96	976,202.19
912828N89	US TREASURY NOTES	1,750,000.00	1.38	1/31/2021	1/4/2018	2.05	1,725,265.79
912828N89	US TREASURY NOTES	800,000.00	1.38	1/31/2021	1/4/2018	2.08	787,880.43
RE0959859	INDUSTRIAL BANK CDARS	2,614,746.18	1.00	1/17/2019	1/18/2018	1.01	2,614,746.18
RE0959867	INDUSTRIAL BANK CDARS	2,573,870.75	1.00	1/17/2019	1/18/2018	1.01	2,573,870.75
045167EF6	ASIAN DEVELOPMENT BANK NOTE	700,000.00	2.25	1/20/2021	1/19/2018	2.29	699,251.00
<b>06406FAA1</b>	<b>BANK OF NEW YORK MELLON CORP (CALLABLE)</b>	<b>515,000.00</b>	<b>2.50</b>	<b>4/15/2021</b>	<b>2/16/2018</b>	<b>2.93</b>	<b>512,627.28</b>
<b>06406FAA1</b>	<b>BANK OF NEW YORK MELLON CORP (CALLABLE)</b>	<b>410,000.00</b>	<b>2.50</b>	<b>4/15/2021</b>	<b>2/16/2018</b>	<b>2.99</b>	<b>407,467.34</b>
<b>912828P87</b>	<b>US TREASURY N/B</b>	<b>1,100,000.00</b>	<b>1.13</b>	<b>2/28/2021</b>	<b>2/16/2018</b>	<b>2.42</b>	<b>1,064,484.31</b>
<b>65590ASN7</b>	<b>NORDEA BANK AB NY CD</b>	<b>1,850,000.00</b>	<b>2.72</b>	<b>2/20/2020</b>	<b>2/22/2018</b>	<b>2.72</b>	<b>1,850,000.00</b>
<u>Total Debt Service Reserve</u>							
912828W97	US TREASURY N/B	5,175,000.00	1.250	3/31/2019	10/10/2017	1.449	5,161,818.15
<u>2017B Construction Fund</u>							
06538BZ48	BANK OF TOKYO MITSUBISHI COMM PAPER	1,650,000.00	0.000	12/4/2017	9/1/2017	1.323	1,644,399.17
22533TZ58	CREDIT AGRICOLE CIB NY COMM PAPER	7,000,000.00	0.000	12/5/2017	9/1/2017	1.302	6,976,355.56
46640QE9	JP MORGAN SECURITIES LLC COMM PAPER	7,000,000.00	0.000	5/29/2018	9/1/2017	1.576	6,919,150.00
89233GZ41	TOYOTA MOTOR CREDIT CORP COMM PAPER	5,700,000.00	0.000	12/4/2017	9/1/2017	1.231	5,681,991.17
06538CEV9	BANK OF TOKYO MITSUBISHI UFJ LTD COMM PA	5,350,000.00	0.000	5/29/2018	9/1/2017	1.576	5,288,207.50
13607FDD5	CANADIAN IMPERIAL HOLDING COMM PAPER	7,000,000.00	0.000	4/13/2018	9/14/2017	1.459	6,941,412.33

Securities highlighted in **blue font** denote trades executed during the current month.



Investment Performance Report – February 2018



DC Water  
Finance Division  
Security Sales  
Last 6 Months

CUSIP	DESCRIPTION	PAR	COUPON	MATURITY DATE	SETTLE DATE	YTM	TRANSACTION AMOUNT
<b>Operating Reserve Accounts</b>							
3137EAD7	FHLMC REFERENCE NOTES	2,375,000.00	0.88	10/12/2018	9/1/2017	1.30	2,371,932.62
78010U4A2	ROYAL BANK OF CANADA CORP NOTES	850,000.00	1.40	10/13/2017	9/1/2017	1.36	854,595.67
40428AR41	HSBC BANK USA NA FLOATING CERT DEPOS	1,525,000.00	1.90	11/17/2017	9/1/2017	1.33	1,527,976.26
912828XM7	US TREASURY NOTES	950,000.00	1.63	7/31/2020	9/8/2017	1.37	958,389.95
17275RAU6	CISCO SYSTEMS INC CORP NOTE	390,000.00	1.65	6/15/2018	9/12/2017	1.45	392,147.93
912828XM7	US TREASURY NOTES	925,000.00	1.63	7/31/2020	9/19/2017	1.45	931,522.76
912828A34	US TREASURY NOTES	925,000.00	1.25	11/30/2018	10/10/2017	1.39	927,724.77
084670BX5	BERKSHIRE HATHAWAY INC GLOBAL NOTES	220,000.00	1.15	8/15/2018	10/17/2017	1.44	219,905.52
912828A34	US TREASURY NOTES	250,000.00	1.25	11/30/2018	10/20/2017	1.44	250,685.09
17275RAU6	CISCO SYSTEMS INC CORP NOTE	425,000.00	1.65	6/15/2018	10/25/2017	1.46	428,050.79
00828EBB4	AFRICAN DEVELOPMENT BANK NOTE	700,000.00	1.63	10/2/2018	11/3/2017	1.61	701,099.12
912828A34	US TREASURY NOTES	955,000.00	1.25	11/30/2018	11/3/2017	1.51	957,476.78
912828A34	US TREASURY NOTES	1,295,000.00	1.25	11/30/2018	11/3/2017	1.51	1,298,358.58
912828A34	US TREASURY NOTES	195,000.00	1.25	11/30/2018	11/10/2017	1.55	195,468.56
58933YAG0	MERCK & CO GLOBAL NOTES	731,000.00	1.30	5/18/2018	11/17/2017	1.57	734,738.25
912828A34	US TREASURY NOTES	175,000.00	1.25	11/30/2018	11/17/2017	1.60	175,387.14
912828A34	US TREASURY NOTES	1,335,000.00	1.25	11/30/2018	12/5/2017	1.67	1,329,753.63
912828A75	US TREASURY NOTES	1,225,000.00	1.50	12/31/2018	12/5/2017	1.70	1,230,353.14
17275RAU6	CISCO SYSTEMS INC CORP NOTE	360,000.00	1.65	6/15/2018	12/6/2017	1.72	362,688.30
89236TCP8	TOYOTA MOTOR CREDIT CORP	600,000.00	1.55	7/13/2018	12/6/2017	1.78	602,872.17
912828A75	US TREASURY NOTES	1,500,000.00	1.50	12/31/2018	1/4/2018	1.83	1,495,443.93
064159GM2	BANK OF NOVA SCOTIA CORP NOTE (CALLABLE)	875,000.00	1.70	6/11/2018	1/4/2018	1.87	875,311.60
912828N48	US TREASURY N/B	700,000.00	1.75	12/31/2020	1/19/2018	2.10	693,697.65
7599112M1	REGIONAL TRANS AUTH, IL TXBL REV BONDS	725,000.00	1.25	5/4/2018	2/16/2018	1.80	727,542.94
7599112M1	REGIONAL TRANS AUTH, IL TXBL REV BONDS	1,075,000.00	1.25	5/4/2018	2/16/2018	1.80	1,078,770.56
65558LWA6	NORDEA BANK FINLAND NY CD	1,800,000.00	1.76	11/30/2018	2/22/2018	2.16	1,801,506.00
912828A75	US TREASURY NOTES	50,000.00	1.50	12/31/2018	2/22/2018	2.04	49,883.25

Securities highlighted in **blue font** denote trades executed during the current month.

Investment Performance Report – February 2018



DC Water  
Finance Division  
Security Sales  
Last 6 Months

CUSIP	DESCRIPTION	PAR	COUPON	MATURITY DATE	SETTLE DATE	YTM	TRANSACTION AMOUNT
<b>2017B Construction Fund</b>							
912828XF2	US TREASURY NOTES	12,195,000.00	1.13	6/15/2018	9/1/2017	1.24	12,213,281.56
912828K25	US TREASURY NOTES	6,950,000.00	0.75	4/15/2018	9/14/2017	1.19	6,954,001.06
89233GZ41	TOYOTA MOTOR CREDIT CORP COMM PAPER	2,000,000.00	-	12/4/2017	9/27/2017	1.22	1,995,466.67
912828XK1	US TREASURY NOTES	12,750,000.00	0.88	7/15/2018	10/23/2017	1.35	12,736,985.82
22533TZ58	CREDIT AGRICOLE CIB NY COMM PAPER	7,000,000.00	-	12/5/2017	10/23/2017	1.27	6,989,548.61
89233GZ41	TOYOTA MOTOR CREDIT CORP COMM PAPER	3,700,000.00	-	12/4/2017	10/23/2017	1.21	3,694,863.17
912828J68	US TREASURY N/B	19,250,000.00	1.00	3/15/2018	11/22/2017	1.27	19,269,617.25
06538BZ48	BANK OF TOKYO MITSUBISHI COMM PAPER	1,650,000.00	-	12/4/2017	11/22/2017	1.25	1,649,323.50
13607FDD5	CANADIAN IMPERIAL HOLDING COMM PAPER	7,000,000.00	-	4/13/2018	11/22/2017	1.65	6,955,270.00
912828J68	US TREASURY N/B	9,620,000.00	1.00	3/15/2018	12/18/2017	1.31	9,637,840.27
912828XF2	US TREASURY NOTES	18,710,000.00	1.13	6/15/2018	12/18/2017	1.48	18,679,576.98
06538CEV9	BANK OF TOKYO MITSUBISHI UFJ LTD COMM PA	5,350,000.00	-	5/29/2018	12/18/2017	1.76	5,308,591.00
46640QEV9	JP MORGAN SECURITIES LLC COMM PAPER	7,000,000.00	-	5/29/2018	12/18/2017	1.84	6,943,300.00
912828K25	US TREASURY NOTES	11,555,000.00	0.75	4/15/2018	1/16/2018	1.37	11,559,538.47

Securities highlighted in **blue font** denote trades executed during the current month.

Investment Performance Report – February 2018



DC Water  
Finance Division  
Security Maturities  
Last 6 Months

CUSIP	DESCRIPTION	PAR	COUPON	MATURITY DATE	SETTLE DATE	YTM	TRANSACTION AMOUNT
<b>Operating Reserve Accounts</b>							
605581FX0	MS ST TXBL GO BONDS	120,000.00	1.09	10/1/2017	10/1/2017	0.00	120,000.00
RE0959594	INDUSTRIAL BANK CDARS	5,035,025.80	0.35	10/12/2017	10/12/2017	0.00	5,052,600.24
RE0959610	INDUSTRIAL BANK CDARS	5,065,244.30	0.40	11/9/2017	11/9/2017	0.00	5,085,450.22
RE0959529	INDUSTRIAL BANK CDARS	2,563,284.34	0.60	1/18/2018	1/18/2018	0.00	2,594,001.96
RE0959685	INDUSTRIAL BANK CDARS	2,562,345.78	0.45	1/18/2018	1/18/2018	0.00	2,573,876.34
<b>Total Debt Service Reserve</b>							
912828TS9	US TREASURY NOTES	5,415,000.00	0.63	9/30/2017	9/30/2017	0.00	5,415,000.00
<b>2017A Construction Fund</b>							
09659BYQ7	BNP PARIBAS NY BRANCH COMM PAPER	16,500,000.00	-	11/24/2017	11/24/2017	0.00	16,500,000.00
89233GYQ3	TOYOTA MOTOR CREDIT CORP COMM PAPER	1,700,000.00	-	11/24/2017	11/24/2017	0.00	1,700,000.00
<b>2017B Construction Fund</b>							
06538BW17	BANK TOKYO MITSUBISHI UFJ LTD COMM PAPER	16,500,000.00	-	9/1/2017	9/1/2017	0.00	16,500,000.00
21687AW17	COOPERATIEVE RABOBANK U.A. COMM PAPER	16,500,000.00	-	9/1/2017	9/1/2017	0.00	16,500,000.00
22533TW10	CREDIT AGRICOLE CIB NY COMM PAPER	16,500,000.00	-	9/1/2017	9/1/2017	0.00	16,500,000.00
46640PW17	JP MORGAN SECURITIES LLC COMM PAPER	16,500,000.00	-	9/1/2017	9/1/2017	0.00	16,500,000.00
912828H37	US TREASURY N/B	17,485,000.00	0.88	1/15/2018	1/15/2018	0.00	17,485,000.00

Securities highlighted in **blue font** denote trades executed during the current month.



**DC Water  
Finance Division  
Upcoming Transaction Cash Flows  
Next 30 Days**

DATE	TRANSACTION	CUSIP	DESCRIPTION	COUPON	MATURITY DATE	PAR VALUE/SHARES	PRINCIPAL	INTEREST	TOTAL
03/06/18	INTEREST	30231GAG7	EXXON MOBIL (CALLABLE) CORP NOTE	1.912	03/06/20	925,000.00	0.00	8,843.00	8,843.00
03/06/18	INTEREST	961214DJ9	WESTPAC BANKING CORP NOTES	2.150	03/06/20	925,000.00	0.00	9,943.75	9,943.75
03/12/18	INTEREST	45905UP32	INTL BANK OF RECONSTRUCTION AND DEV NOTE	1.561	09/12/20	925,000.00	0.00	6,938.86	6,938.86
03/15/18	INTEREST	084664CG4	BERKSHIRE HATHAWAY INC NOTES	1.700	03/15/19	130,000.00	0.00	1,105.00	1,105.00
03/15/18	INTEREST	19416QEF3	COLGATE-PALMOLIVE COMPANY CORP NOTES	1.750	03/15/19	925,000.00	0.00	8,093.75	8,093.75
03/16/18	INTEREST	00828ECA5	AFRICAN DEVELOPMENT BANK NOTE	1.875	03/16/20	1,035,000.00	0.00	9,703.13	9,703.13
03/16/18	INTEREST	36962G4R2	GENERAL ELECTRIC CAPITAL CORP CORP NOTE	4.375	09/16/20	425,000.00	0.00	9,296.88	9,296.88
03/20/18	INTEREST	00828EBQ1	AFRICAN DEVELOPMENT BANK NOTE	1.125	09/20/19	700,000.00	0.00	3,937.50	3,937.50
03/28/18	INTEREST	3130ACE26	FHLB NOTES	1.375	09/28/20	965,000.00	0.00	6,634.38	6,634.38



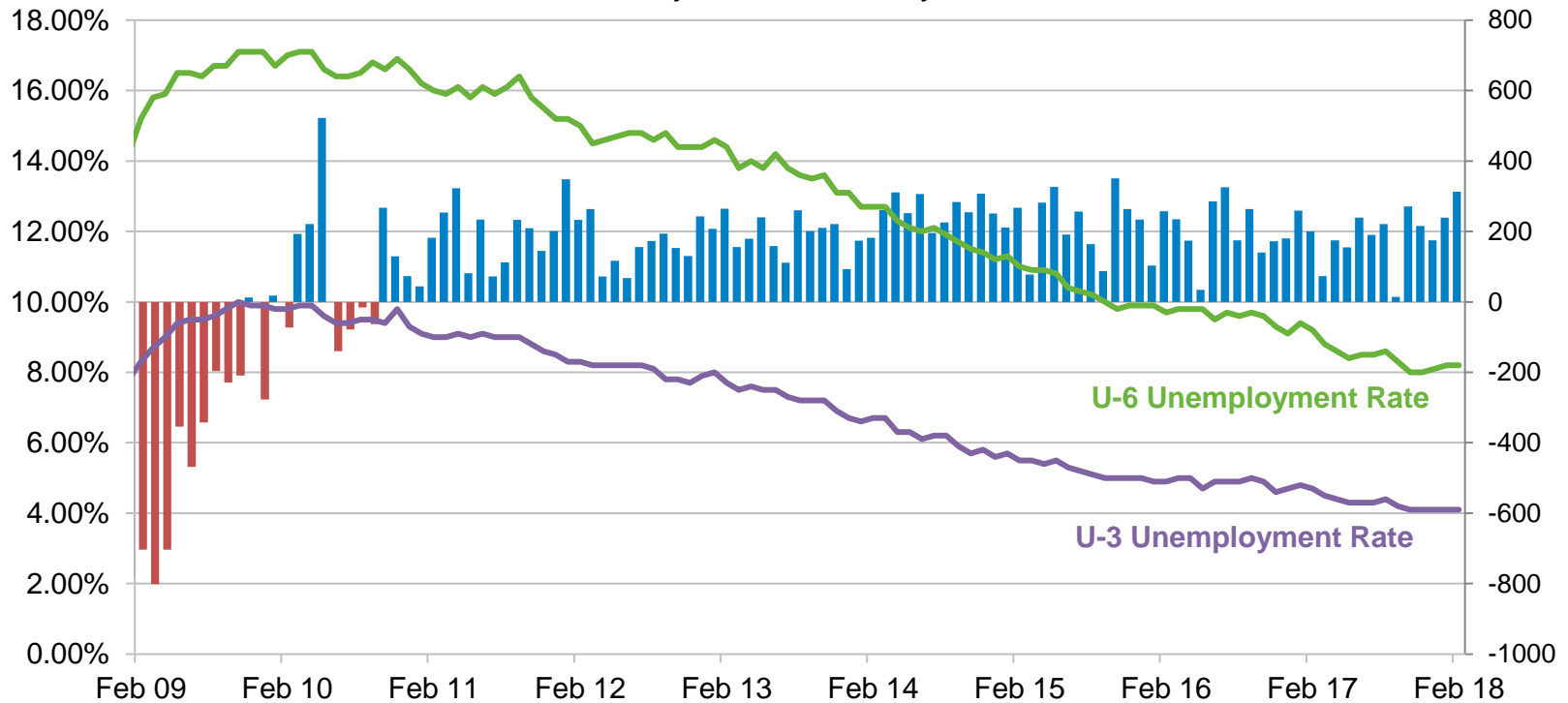
# Appendix: Economic Update



## U.S. Labor Market

- In February, the United States labor market added 313,000 jobs, well above the 200,000 expectation.
- The unemployment rate was unchanged at 4.1%, continuing the recent trend of lows for U.S. unemployment.

**Unemployment vs. Non-Farm Payrolls**  
February 2009- February 2018

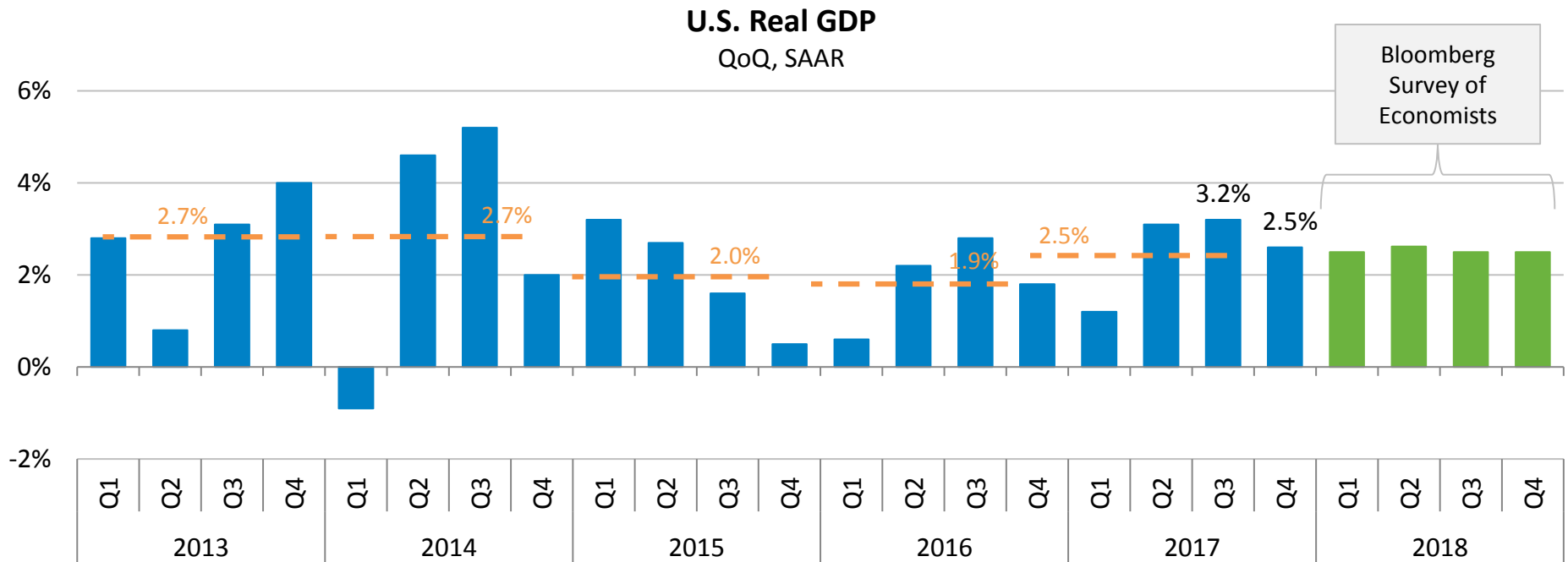


Source: Bloomberg



## Economic Growth Slowed in Q4 2017

- U.S. Gross domestic product (GDP) grew at an annualized rate of 2.5% in the fourth quarter of 2017, as the pace of expansion slowed from faster than 3% growth in the second and third quarter. For the year, growth has averaged 2.5%, fastest pace since 2014.
- Strong growth in consumer spending and business investment continued to fuel economic activity over the quarter, while significant declines in inventories and net exports were a drag on reported GDP in the fourth quarter.

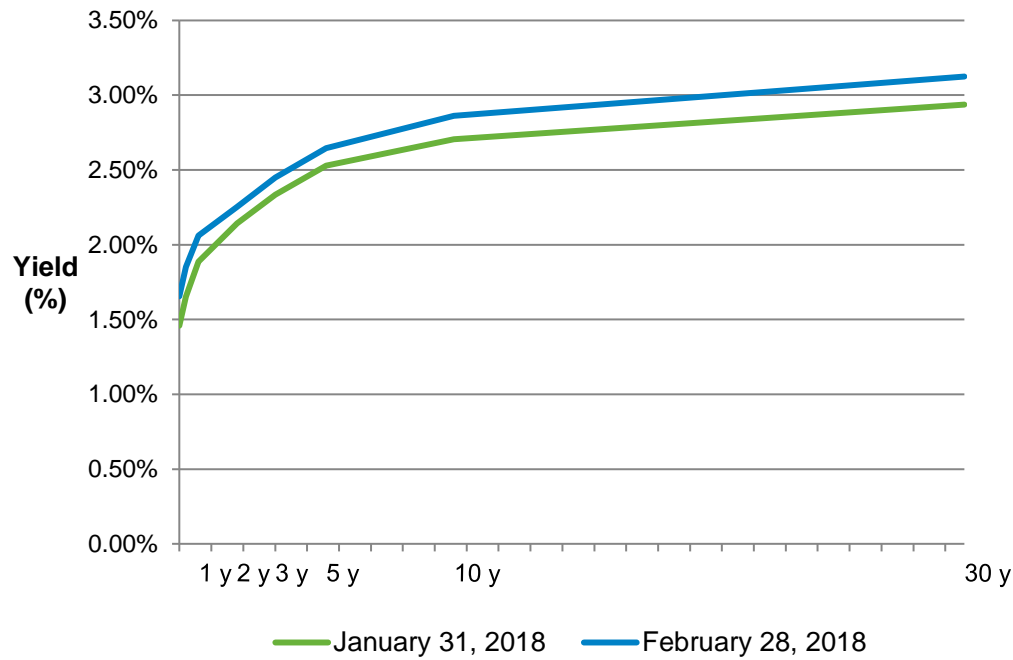


• Source: Bloomberg, as of Q4 2017. SAAR is seasonally adjusted annualized rate. Orange denotes rolling four-quarter averages.



# U.S. Treasury Yields

**U.S. Treasury Yield Curve**  
January 31, 2018 vs. February 28, 2018



	<u>1/31/2018</u>	<u>2/28/2018</u>	<u>Change</u>
3 month	1.46%	1.66%	0.20%
6 month	1.65%	1.85%	0.20%
1 year	1.89%	2.06%	0.17%
2 year	2.14%	2.25%	0.11%
3 year	2.33%	2.45%	0.12%
5 year	2.53%	2.65%	0.12%
10 year	2.71%	2.86%	0.16%
30 year	2.94%	3.13%	0.19%

Source: Bloomberg

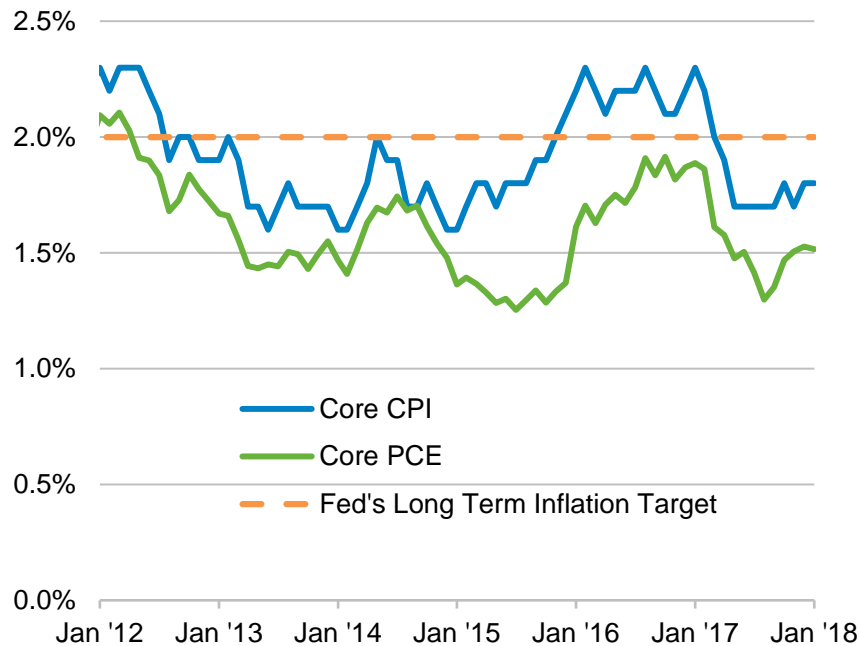




## Inflation Expectations Have Moved Higher

- Inflation expectations have been on the rise as a result of higher wage growth and increases in gold and oil prices
- The core personal consumption expenditures (PCE) price index, the Fed’s preferred measure of inflation, remained at only 1.5% year-over-year in December.

**Inflation Measures**  
(YoY)



**Expectations for Average Inflation Rate over next 5 years**



Source: Bloomberg, latest data available as of February 2018. Inflation expectations based on yield difference between 5-year Treasury note and 5-year Treasury Inflation Protected Securities (TIPS).



## Disclosure

*This material is based on information obtained from sources generally believed to be reliable and available to the public, however PFM Asset Management LLC cannot guarantee its accuracy, completeness or suitability. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation. All statements as to what will or may happen under certain circumstances are based on assumptions, some but not all of which are noted in the presentation. Assumptions may or may not be proven correct as actual events occur, and results may depend on events outside of your or our control. Changes in assumptions may have a material effect on results. Past performance does not necessarily reflect and is not a guaranty of future results. The information contained in this presentation is not an offer to purchase or sell any securities.*

*CDARS holdings and Bank Deposits are not managed by PFMAM, and therefore we cannot guarantee the accuracy of holdings.*



ATTACHMENT 2



# 2018 Bond Transaction and Market Update to Finance & Budget Committee

March 22, 2018

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PFM Financial Advisors LLC

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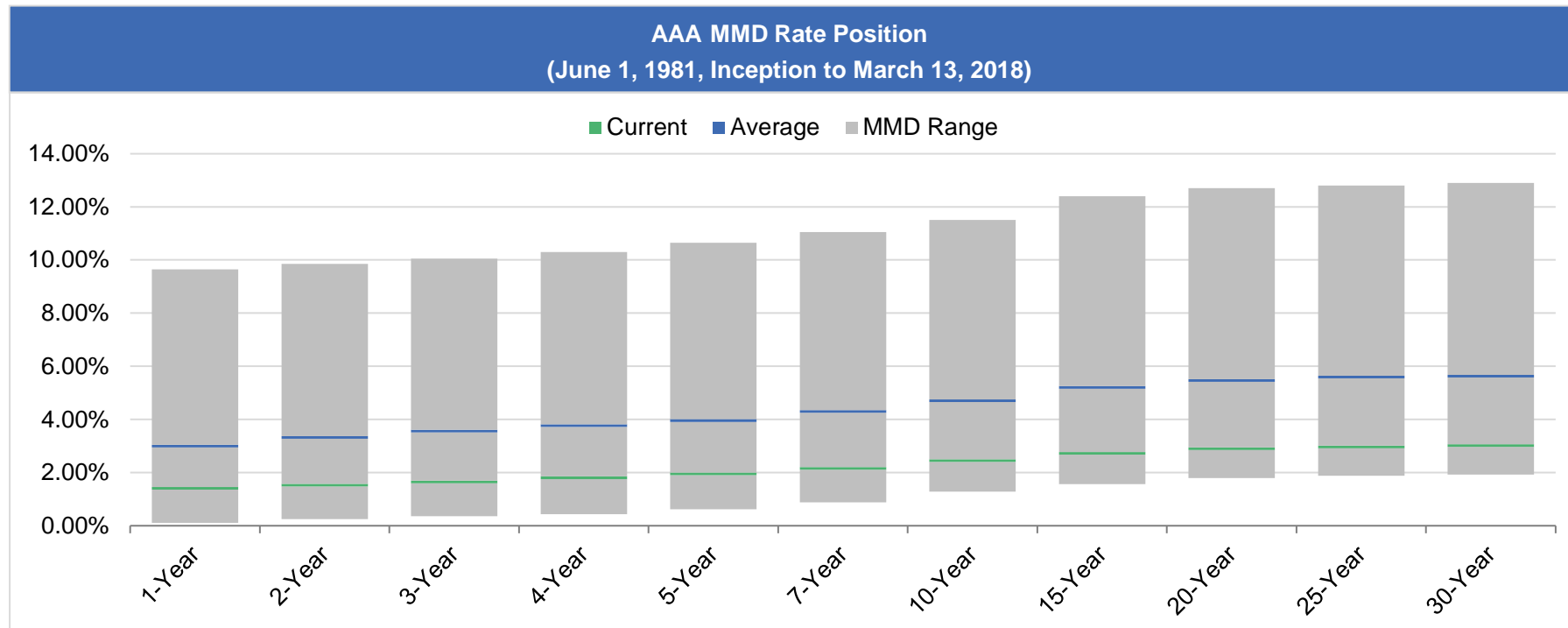
4350 N. Fairfax Drive  
Suite 580  
Arlington, VA 22203

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703.741.0175  
[pfm.com](http://pfm.com)



## Municipal Borrowing Rates Remain Low - AAA MMD Position Since Inception



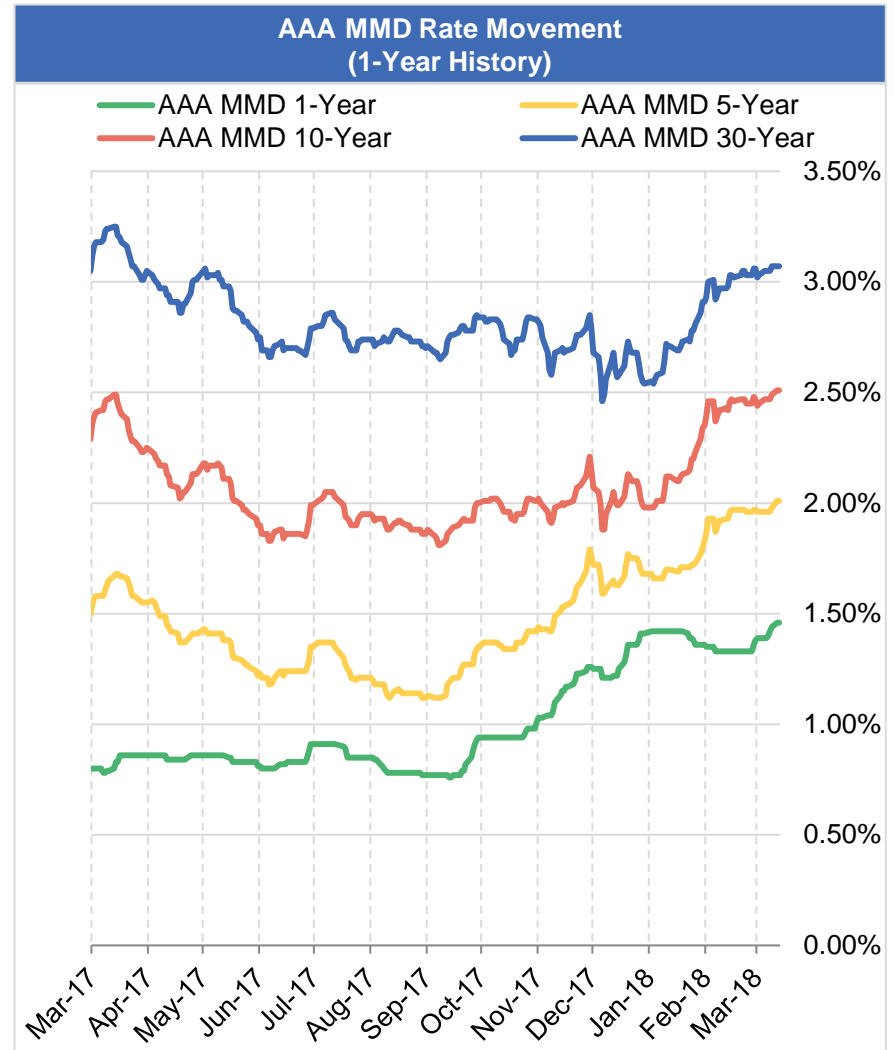
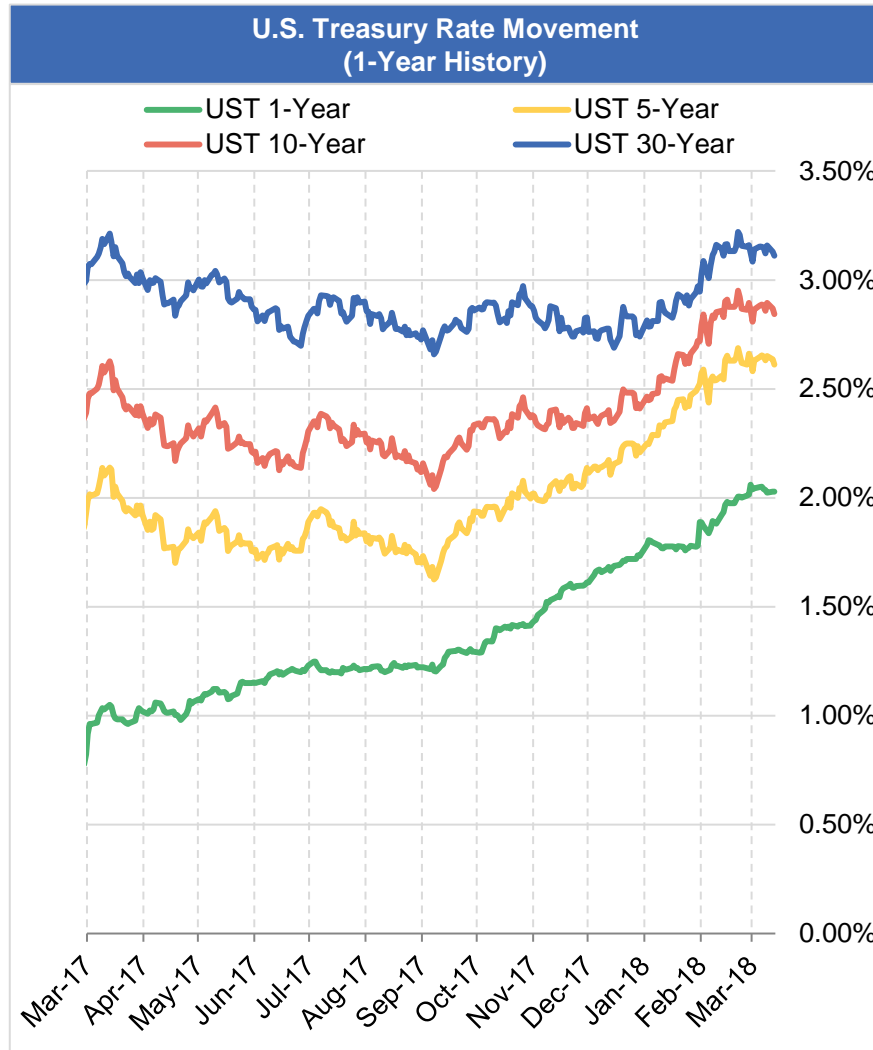
**Summary of March 13, 2018 vs. Historical (since Inception) MMD Rates**

Statistic	1-Year	2-Year	3-Year	4-Year	5-Year	7-Year	10-Year	15-Year	20-Year	25-Year	30-Year
March 13, 2018	1.46%	1.58%	1.70%	1.86%	2.01%	2.21%	2.51%	2.78%	2.95%	3.02%	3.07%
Historical Average	3.05%	3.37%	3.61%	3.82%	4.01%	4.36%	4.76%	5.25%	5.52%	5.64%	5.68%
Spread to Average	-1.59%	-1.79%	-1.91%	-1.96%	-2.00%	-2.15%	-2.25%	-2.47%	-2.57%	-2.62%	-2.61%
Minimum	0.11%	0.25%	0.36%	0.44%	0.62%	0.89%	1.29%	1.57%	1.80%	1.88%	1.93%
Maximum	9.65%	9.85%	10.05%	10.30%	10.65%	11.05%	11.50%	12.40%	12.70%	12.80%	12.90%
% of Time Lower	30.06%	28.40%	26.56%	24.98%	24.15%	20.22%	16.43%	13.44%	11.70%	9.78%	9.26%

Source: Thomson Reuters



## U.S. Treasury & AAA MMD Rate Movement



Source: Thomson Reuters



## Tax Reform and What to Expect in 2018

- ◆ Major impact of Tax Reform on DC Water is prohibition on tax-exempt advance refunding transactions
  - Strategies of varying cost are available to take advantage of low interest rates levels prior to the current refunding date
- ◆ While individual income tax and corporate tax rates were reduced, there has not been a dampening of investor demand for tax-exempt debt to date among any major buyer segment
- ◆ BAB subsidy payments were spared as part of the Continuing Resolution that was passed on December 21, 2017 to fund the federal government
  - Waived mandatory PAYGO Act cuts that would result from the tax reform legislation and allows BAB issuers to continue to receive federal subsidies at their current levels on BABs
  - DC Water received \$5+ million of BAB subsidy payments in FY2017 and is scheduled to receive approximately \$100 million in additional payments over the life of the currently outstanding Series 2010 BABs
- ◆ Market participants expect lower volume in 2018 as the market adapts to tax reform and experiences potentially higher rates, coupled with the surge of bond issuance in late 2017
  - 2018 municipal volume projections range from \$270 to \$400 billion.
  - The consensus view (~\$340 billion) would be a 22% drop in volume from 2017, to levels last seen seven to eight years ago.



## Series 2018A/B Bond Transaction Highlights

- ◆ DC Water plans to issue \$300 million of bonds to address the Capital Improvement Program
- ◆ Series 2018A/B will be issued as long-term fixed-rate debt under the Senior lien
- ◆ Bonds will be issued in two series:
  - \$100 million in Series 2018A Bonds for Clean Rivers project
  - \$200 million in Series 2018B Bonds for general CIP projects
- ◆ Series 2018B Bonds will reimburse \$90 million of commercial paper drawn that to provide interim funding for ongoing capital requirements prior to May 1
- ◆ DC Water expects to affirm credit ratings from Moody's Investors Service (Aa1) and Standard & Poor's (AAA), as well as green bond (GBA) rating of GBA-1 from Moody's
- ◆ Goldman Sachs and Barclays Capital have been selected to lead the underwriting group as joint bookrunners
- ◆ Pursuant to Authorizing Resolution, DC Water Board will be asked to approve several documents related to the financing plan described in the presentation
  - Authorizing Resolution
  - 23<sup>rd</sup> Supplemental Indenture
  - Bond Purchase Agreement
  - Preliminary Official Statement



## Series 2018A/B Preliminary Plan of Finance

### Series 2018A (Green Bonds)\*

- Par Amount: \$100 million
- Purpose: Clean Rivers Project
- Term: Up to 35 years
- Tax Status: Tax-Exempt
- Lien: Senior
- Expected 10 year optional par call

### Series 2018B\*

- Par Amount: \$200 million
- Purpose: General CIP
- Term: Up to 35 years
- Tax Status: Tax-Exempt
- Lien: Senior
- Expected 10-year optional par call

Sources & Uses*			
	Series 2018A	Series 2018B	Total
Sources (\$)			
Par Amount	100,000,000	200,000,000	300,000,000
Net Premium	15,400,437	30,800,922	46,201,359
<b>Total</b>	<b>115,400,437</b>	<b>230,800,922</b>	<b>346,201,359</b>
Uses (\$)			
Project Fund	114,730,437	139,530,922	254,261,359
Commercial Paper Reimbursement	-	90,000,000	90,000,000
Issuance and Underwriting Expenses	670,000	1,270,000	1,940,000
<b>Total</b>	<b>115,400,437</b>	<b>230,800,922</b>	<b>346,201,359</b>

*\*Preliminary, subject to change within the parameters of Board authorization.*





## Preliminary Financing Schedule Highlights

- ◆ **March 22, 2018** – Request Finance & Budget Committee review and recommendation for approval
- ◆ **April 5, 2018** – Request DC Water Board approval of transaction
- ◆ **Week of April 9, 2018** – Receive credit ratings and green bond rating
- ◆ **April 17, 2018** – Series 2018A/B bond pricing
- ◆ **May 1, 2018** – Series 2018A/B bond closing



# Path to Achieve Asset Management

District of Columbia Water And Sewer Authority

Finance & Budget Committee Meeting

March 22, 2018





# Path to Achieve Asset Management

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- Collaborative effort by Residents and Ratepayers, the Board of Directors, and the Executive Team
  - Explore investment in infrastructure
    - What is needed to fully meet asset management principles?
    - What are our peer utilities doing?
    - What is the cost of pro-active investment, as compared with addressing issues as they arise?
  - Exploration of alternative revenue sources
    - What funds could be available, other than from ratepayers?
  - Community outreach and education
    - Explain infrastructure investment, and consequences of investment
    - Gather ideas about addressing affordability
  - Impact on the financial plan
    - What is the impact on the operating budget, and what is the impact of pro-active investment as compared with addressing issues as they arise?
    - What could be financed through debt?
    - What are appropriate levels of PAYGO?
  - Customer affordability
    - What ways can we help ensure affordability?
    - What are our peer utilities doing to meet this challenge?



# Committee Assignments

<b>Path to Achieve Asset Management</b>	<b>Committee Assignments</b>
Explore investment in infrastructure	Environmental Quality and Operations Committee
Exploration of alternative revenue sources	Finance and Budget Committee
Community outreach and education	Retail Rates Committee
Impact on the financial plan	Finance and Budget Committee
Customer affordability	Retail Rates Committee

- 💧 Committee reviews/discussions are intended to ensure optimization, accountability and transparency throughout the budget preparation process



# F&B Committee Work Plan

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## Deliverables in May/June

- Major Operating Budget expenditure drivers, including personnel, parts/supplies, maintenance, chemicals, and energy
- Financial Plans for various capital program scenarios
  - Key metrics: coverage ratios, overall debt levels
  - Financial analysis of the cost of corrective v. preventative maintenance
- Peer Analysis
  - Debt levels
  - Amount of program paid for through PAYGO
  - Alternative revenues
- Recommendation on Rate Stabilization Fund contributions and withdrawals



# Path to Achieve Asset Management

Timeline (2018-2019)	Activity	Responsibility	Status
<b>March 2018</b>	<b>Committee Work Plan Review</b>	<b>Executive Team</b>	<i>Ongoing</i>
March - May	Town Hall Meetings & Public Hearing (FY 2019 & FY 2020 Retail Rates & Fees)	Executive Team	
April - June	Committee Work Plan Deliverables & Discussions	Executive Team	
May - June	Budget Kickoff : FY 2020 Operating, and FY 2019 – FY 2028 CIP & Financial Plan	Executive Team	
<b>July 2018</b>	<b>Approval of FY 2019 Retail Rates &amp; Fees</b>	<b>Board</b>	
July - Sept	Alternative Scenarios & Recommendations - CIP & Customer Impacts for FY 2021 & beyond	CEO & GM	
November	Budget Workshop/Board Briefing	Executive Team	
Nov - Dec	Budget Recommendations & Adoption	Board	
Spring & Summer 2019	FY 2020 – FY 2029 Financial Plan & CIP, Operating, Revenues, Retail Rates & Fees	Executive Team	
<b>Fall 2019</b>	<b>FY 2021 Budget Proposals - Asset Management Principles</b>	<b>Board</b>	



# Appendix



## EQ & Ops Committee Proposed Work Plan

- April - What are peer utilities experiencing?
  - Age of system
  - Materials and design
  - Service life
  - Infrastructure failure experience
  - Infrastructure investment approach
- April, May & June – What is needed to fully meet asset management principles?
  - Current state of repair
  - Site visits

### Explore Investment in Infrastructure

1. **What is needed to fully meet asset management principles?**
2. What are our peer utilities doing?
3. **What is the cost of pro-active investment vs. addressing issues as they arise.**





## EQ & Ops Committee Proposed Work Plan

### June – What is the cost of pro-active investment vs. addressing issues as they arise?

- Cost of emergency repairs
  - Direct costs
  - Indirect costs
  - Socioeconomic costs
- Other impacts
  - Continued failures, breaks, backups, etc
  - Water quality and discolored water
  - Continually adjusting priorities & changing plans
  - Capitalization of emergency repairs
  - Risk of SSO Consent Decree
  - Safety
  - Socioeconomic impacts
- Examples

### Explore Investment in Infrastructure

1. What is needed to fully meet asset management principles?
2. What are our peer utilities doing?
3. **What is the cost of pro-active investment vs. addressing issues as they arise?**



## EQ & Ops Committee Proposed Work Plan

### July - What is needed to fully meet asset management principles?

- Review of previously presented scenarios
- Alternative ramp up scenarios
- Tours and site visits

#### Explore Investment in Infrastructure

1. What is needed to fully meet asset management principles?
2. What are our peer utilities doing?
3. What is the cost of pro-active investment vs. addressing issues as they arise?

**ATTACHMENT 4**

**FINANCE & BUDGET COMMITTEE  
APPROVAL OF  
2018 A&B SERIES SENIOR LIEN REVENUE BONDS  
FINANCING DOCUMENTS**

**ACTION ITEM A:** Approval of documents authorizing the issuance of the 2018 A&B Series Senior Lien Revenue Bonds:

1. Board Resolution
2. Preliminary Offering Statement
3. Twenty-Third Supplemental Indenture
4. Bond Purchase Agreement

DRAFT 03-15-18

Presented and Adopted: April 5, 2018

Subject: Approving the Final Form of Certain Documents,  
Authorizing the Sale and Setting Terms and Details  
of the Series 2018A and Series 2018B Bonds

#18-\_\_\_\_\_  
RESOLUTION  
OF THE  
BOARD OF DIRECTORS  
OF THE  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

The Board of Directors (“Board”) of the District of Columbia Water and Sewer Authority (“Authority”), at its meeting on April 5, 2018, by a vote of \_\_\_\_\_ ( ) in favor and \_\_\_\_\_ ( ) opposed, decided to approve the following:

**WHEREAS**, the Authority is authorized pursuant to the *Water and Sewer Authority Establishment and Department of Public Works Reorganization Act of 1996*, as amended, D.C. Code Section 34-2201.01 et seq. (the “WASA Act”), and the *District of Columbia Water and Sewer Authority Act of 1996*, Public Law 104-184; 110 Stat. 1696, to issue revenue bonds for undertakings authorized by the WASA Act, including to finance or refinance any cost, as defined in the WASA Act, D.C. Code Section 34-2202.01(2); and

**WHEREAS**, in accordance with the WASA Act, the Authority and Wells Fargo Bank, National Association, as trustee (the “Trustee”) (its predecessors in that capacity having been Norwest Bank Minnesota, N.A. and Wells Fargo Bank Minnesota, N.A.), entered into the Master Indenture of Trust, dated as of April 1, 1998 (the “Master Indenture” and, as supplemented and amended, the “Indenture”), to provide for financing or refinancing the acquisition, construction, operation, maintenance and extension of the System (as defined in the Master Indenture) by the issuance of bonds, notes and other obligations payable solely from Net Revenues (as such terms are defined in the Master Indenture); and

**WHEREAS**, the Authority has heretofore entered into twenty-two (22) supplemental indentures of trust with the Trustee in connection with the issuance of Senior Debt and Subordinate Debt (both as defined in the Indenture) or to amend and clarify the Master Indenture; and

**WHEREAS**, the Authority now intends (i) to issue Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds) (the “Series 2018A Bonds”) to (a) finance a portion of the costs of the Authority’s DC Clean Rivers Project (as defined in the preliminary Official Statement, dated April [\_\_\_\_], 2018, for the Series 2018A/B Bonds); (b) fund a Series 2018A Debt Service Reserve Requirement (as defined herein), if determined necessary; and (c) pay certain costs of issuance; (ii) to issue Public Utility Senior Lien Revenue Bonds, Series 2018B (the “Series 2018B Bonds” and, together with the Series 2018A Bonds, the “Series 2018A/B Bonds”) to (a) finance certain Costs of the System; (b) refund a portion of the Authority’s currently

outstanding Commercial Paper Notes (the “CP Notes”); (c) fund a Series 2018B Debt Service Reserve Requirement (as defined herein), if determined necessary; and (d) pay certain costs of issuance; (iii) to designate the Series 2018A/B Bonds as Senior Debt for purposes of the Indenture; and (iv) to secure the Series 2018A/B Bonds by a pledge of Net Revenues on a parity with the pledge of Net Revenues that secures other Senior Debt, including, without limitation, other Senior Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, the Interim CEO and General Manager, the Chief Financial Officer, the Chief Engineer and the Acting General Counsel of the Authority have informed the Board that their offices have established “due diligence” procedures for reviewing the documents authorized by this Resolution with the Authority’s bond counsel, disclosure counsel, financial advisors, underwriters, underwriters’ counsel and other consultants and advisors, with a view to ensuring the accuracy of disclosure; and

**WHEREAS**, the Finance and Budget Committee met on March 22, 2018, to review the issuance of the Series 2018A/B Bonds and has recommended approval of this Resolution by the Board;

**NOW, THEREFORE, BE IT RESOLVED**, that:

Section 1. Definitions and Interpretations. Unless otherwise defined herein and unless the context indicates otherwise, the terms used herein and defined in the Indenture (including the Twenty-Third Supplemental Indenture as hereby approved) shall have the meanings assigned to them therein. In addition, the following terms used as defined terms in this Resolution shall have the meaning assigned to them in this Section:

“Authorized Officials” means the Chairman and Vice Chairman of the Board and the CEO and General Manager, Chief Financial Officer, Controller, Budget Director, Finance Director and Rates and Revenue Director of the Authority, including any of the foregoing who are in an interim, acting or similar capacity, provided that any official other than the Chairman shall be designated by the Chairman as his designee for the purpose of executing and delivering any document authorized hereunder.

“Bond Purchase Agreement” means the Bond Purchase Agreement between the Authority and the Series 2018A/B Original Purchasers, dated as of the same date as the Certificate of Award.

“Certificate of Award” means the certificate of an Authorized Official awarding the Series 2018A/B Bonds to the Series 2018A/B Original Purchasers and specifying terms of the Series 2018A/B Bonds, as provided for in Section 4 of this Resolution.

“Continuing Disclosure Agreement” means the Continuing Disclosure Agreement executed by the Authority and the Trustee, dated as of the same date as the date of issuance and delivery of the Series 2018A/B Bonds, as originally executed and as it may be amended from time to time in accordance with its terms.

“Financial Advisor” means, collectively, PFM Financial Advisors LLC and G~Entry Principle, P.C.

“Interest Payment Dates” means for the Series 2018A/B Bonds, each April 1 and October 1, commencing on the April 1 or October 1 specified in the Certificate of Award as the first Interest Payment Date, and thereafter during the time the Series 2018A/B Bonds are Outstanding.

“Series 2018A Debt Service Reserve Requirement” means, if determined in the Certificate of Award to be necessary, a required fund balance in the Series 2018A Debt Service Reserve Account or Accounts established under the Twenty-Third Supplemental Indenture, the amount of which shall be specified in the Certificate of Award, but which shall not exceed the maximum amount permitted to constitute a “reasonably required reserve or replacement fund” under the size limitation set forth in Section 1.148-2(f)(2) of the Treasury Regulations promulgated under the Code (taking into account any moneys in any other fund or account that may be required to be included in such computation) unless the Authority furnishes to the Trustee an opinion of nationally recognized bond counsel to the effect that the existence of a balance in the Series 2018A Debt Service Reserve Account in the amount of the specified required fund balance will not cause the interest on any Series 2018A Bonds intended to be excluded from gross income for federal income tax purposes not to be so excluded.

“Series 2018A/B Original Purchasers” for the Series 2018A/B Bonds means the purchasers identified as such in the Bond Purchase Agreement for the Series 2018A/B Bonds.

“Series 2018B Debt Service Reserve Requirement” means, if determined in the Certificate of Award to be necessary, a required fund balance in the Series 2018B Debt Service Reserve Account or Accounts established under the Twenty-Third Supplemental Indenture, the amount of which shall be specified in the Certificate of Award, but which shall not exceed the maximum amount permitted to constitute a “reasonably required reserve or replacement fund” under the size limitation set forth in Section 1.148-2(f)(2) of the Treasury Regulations promulgated under the Code (taking into account any moneys in any other fund or account that may be required to be included in such computation) unless the Authority furnishes to the Trustee an opinion of nationally recognized bond counsel to the effect that the existence of a balance in the Series 2018B Debt Service Reserve Account in the amount of the specified required fund balance will not cause the interest on any Series 2018B Bonds intended to be excluded from gross income for federal income tax purposes not to be so excluded

“Twenty-Third Supplemental Indenture” means the Twenty-Third Supplemental Indenture of Trust by and between the Authority and the Trustee, dated as of the same date as and relating to the Series 2018A/B Bonds.

Any reference to the Authority or the Board, or to their members or officers, or to other public officers, boards, commissions, departments, institutions, agencies, bodies or entities, shall include those who or which succeed to their functions, duties or responsibilities by operation of law and also those who or which at the time may legally act in their place.

Section 2. Authorization, Designation and Purposes of Series 2018A/B Bonds.

The Authority is authorized to issue, sell and deliver, as provided in this Resolution and the Certificate of Award, not to exceed (except as provided below) Three Hundred Fifty Million Dollars (\$350,000,000) aggregate principal amount of Series 2018A/B Bonds which aggregate amount shall be allocated between the Series 2018A Bonds and the Series 2018B Bonds in the Certificate of Award. The Series 2018A Bonds shall be designated "Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)" and shall constitute Senior Debt for purposes of the Indenture, for the purpose of: (a) financing a portion of the costs of the Authority's DC Clean Rivers Project, (b) funding a Series 2018A Debt Service Reserve Requirement, if determined necessary in the Certificate of Award; and (c) paying issuance costs of the Series 2018A Bonds. The Series 2018B Bonds shall be designated "Public Utility Senior Lien Revenue Bonds, Series 2018B" and shall constitute Senior Debt for purposes of the Indenture, for the purpose of: (a) financing certain Costs of the System; (b) refunding such portion of the CP Notes as may be specified in the Certificate of Award; (c) funding a Series 2018B Debt Service Reserve Requirement, if determined necessary in the Certificate of Award; and (d) paying issuance costs of the Series 2018B Bonds. For those purposes the proceeds from the sale of the Series 2018A/B Bonds shall be allocated and deposited, as provided in the Twenty-Third Supplemental Indenture. If and to the extent that any Series 2018A/B Bonds are issued for the purpose of funding a Series 2018A Debt Service Reserve Requirement and/or a Series 2018B Debt Service Reserve Requirement, then the aggregate principal amount of Series 2018A/B Bonds hereby authorized may exceed \$350,000,000 by the aggregate principal amount of the Series 2018A/B Bonds to be issued for that purpose. Any designation of bonds authorized above may be revised or clarified in the Certificate of Award.

Section 3. Terms and Provisions Applicable to the Series 2018A/B Bonds.

(a) Form, Transfer and Exchange. The Series 2018A/B Bonds: (i) shall initially be issued only in fully registered form and substantially in the forms attached as Exhibits to the Twenty-Third Supplemental Indenture; (ii) shall initially be issued only to a Depository for holding in a book entry system, and shall be registered in the name of the Depository or its nominee, as Holder, and immobilized in the custody of the Depository, and (iii) shall not be transferable or exchangeable except as provided in the Twenty-Third Supplemental Indenture.

(b) Denominations and Dates. The Series 2018A/B Bonds shall be dated as of the date of issuance and delivery, but in no event later than December 31, 2018, and there shall be a single Series 2018A/B Bond representing each interest rate for each maturity of the Series 2018A/B Bonds bearing the same series or subseries designation.

(c) Interest Rates and Principal Maturities. The Series 2018A/B Bonds shall bear interest on their unpaid principal amount payable on each Interest Payment Date, commencing on the first Interest Payment Date specified in the Certificate of Award, at such fixed rates per annum as set forth in the Certificate of Award as provided in Section 4(c) hereof, provided however, that the "true interest cost" (i.e., interest cost on bonds defined as the rate, compounded semiannually, necessary to discount the amounts payable on the respective interest and principal payment dates to the purchase price received for the bonds) on the Series 2018A/B Bonds shall not exceed five and one half percent (5.50%) per annum. The principal of the Series 2018A/B Bonds shall be paid in such amounts on each principal retirement date (whether at stated

maturity date or a mandatory redemption date) as set forth in the Certificate of Award, provided that the final principal retirement date shall be no later than December 31, 2058.

(d) Optional and Mandatory Redemption.

(i) *Optional* - The Series 2018A/B Bonds maturing on or before any date specified in the Certificate of Award as the Earliest Optional Redemption Date (which shall be no later than the outside date permitted by law) are not subject to prior optional redemption. Any Series 2018A/B Bond maturing after the Earliest Optional Redemption Date shall be subject to redemption at the option of the Authority, prior to their stated maturities on or after the Earliest Optional Redemption Date in whole or in part (in whole multiples of \$5,000) on any date, at redemption prices specified in the Certificate of Award, provided that no such redemption price (not including accrued interest) shall exceed 102% of the principal amount of the Series 2018A/B Bonds to be redeemed.

(ii) *Mandatory Sinking Fund Redemption* - Any Series 2018A/B Bonds may be designated in the Certificate of Award as Term Bonds and be subject to mandatory sinking fund redemption by lot on specified principal retirement dates at a price equal to 100% of the principal amount to be redeemed, plus accrued interest to the date of redemption.

(iii) *Make Whole* - If so designated in the Certificate of Award, the Series 2018A/B Bonds shall also be subject to redemption at the option of the Authority prior to their stated maturities at any time in whole or in part (in whole multiples of \$5,000) on any date, at a redemption price which will make the holders of such Series 2018A/B Bonds whole through the Earliest Optional Redemption Date for the early redemption. The Certificate of Award shall specify the method by which the “make whole” redemption price shall be determined, provided that the redemption price shall not exceed 110% of the principal amount of the Series 2018A/B Bonds then redeemed, without further action by this Board on or before the date of redemption.

(e) Redemption Provisions. Redemption of Series 2018A/B Bonds shall be effected in accordance with Article IV of the Master Indenture; provided, however, that notices of redemption of the Series 2018A/B Bonds sent pursuant to Section 402 of the Master Indenture may specify that the redemption is conditional upon the Authority’s depositing the funds needed to effect that redemption prior to the specified redemption date.

(f) Places and Manner of Payment. The principal of and the interest and any redemption premium on the Series 2018A/B Bonds shall be payable at the places and in the manner specified in the Twenty-Third Supplemental Indenture.

(g) Execution. The Authorized Officials are, and each of them is, authorized and directed to execute the Series 2018A/B Bonds, and the Secretary of the Board is authorized and directed to affix the seal of the Authority to the Series 2018A/B Bonds and to deliver them to the Trustee for authentication in accordance with the Indenture.



Section 4. Sale of Series 2018A/B Bonds.

(a) General. The Series 2018A/B Bonds shall be awarded and sold to the Series 2018A/B Original Purchasers in accordance with the Bond Purchase Agreement and the Certificate of Award, at a purchase price of not less than ninety-five percent (95%) of the aggregate of the products from multiplying the principal amount of each Series 2018A/B Bonds times the percentage of such principal amount at which such Series 2018A/B Bond shall be initially offered to the public, after subtracting from the aggregate of such products the premium payable for any municipal bond insurance policy applicable to the Series 2018A/B Bonds.

(b) Bond Purchase Agreement. The Authorized Officials are, and each of them is, authorized and directed to execute and deliver the Bond Purchase Agreement between the Authority and the Series 2018A/B Original Purchasers, substantially in the form presented to this Authority, but with such changes not inconsistent with the Indenture and this Resolution and not substantially adverse to the Authority as may be approved by the Authorized Official executing the same on behalf of the Authority. The approval of any such changes by such Authorized Official and the determination by such Authorized Official that no such change is substantially adverse to the Authority shall be conclusively evidenced by the execution of the Bond Purchase Agreement by such Authorized Official. The price for and terms of the Series 2018A/B Bonds and the sale thereof, all as provided in this Resolution, the Bond Purchase Agreement, the Certificate of Award, and the Twenty-Third Supplemental Indenture, are hereby approved and determined to be in the best interests of the Authority.

(c) Certificate of Award. Such sale and award shall be further evidenced by the Certificate of Award executed by an Authorized Official. The terms of the Series 2018A/B Bonds approved in the Certificate of Award shall be incorporated into the Twenty-Third Supplemental Indenture. The Certificate of Award, subject to the restrictions set forth herein, shall: (i) with respect to each series or subseries of the Series 2018A/B Bonds, specify the aggregate principal amount, the purchase price, the first Interest Payment Dates, the interest rate or rates, the principal retirement dates, the mandatory sinking fund requirements (if any), the redemption dates, and the redemption prices thereof; (ii) specify whether a municipal bond insurance policy, letter of credit, or other credit or liquidity facility shall be obtained with respect to the Series 2018A/B Bonds and, if so, from whom and on what terms; (iii) specify the amount, if any, of the Series 2018A Debt Service Reserve Requirement and the Series 2018B Debt Service Reserve Requirement and determine whether it shall be met entirely with (A) cash and Permitted Investments (as defined in the Indenture); (B) a Qualified Reserve Credit Facility (as defined in the Indenture); or (C) a specified combination of (A) and (B); and (iv) include any additional information that may be required or permitted to be stated therein by the terms of this Resolution and the Bond Purchase Agreement.

(d) Authorization of Bond Insurance and Qualified Reserve Credit Facilities. The submission of any applications to: (i) recognized providers of municipal bond insurance requesting the issuance of one or more municipal bond insurance policies to insure the Authority's obligation to make payments of principal of and interest on the Series 2018A/B Bonds, and (ii) potential providers of Qualified Reserve Credit Facilities, is hereby ratified and approved. The Authorized Officials are, and each of them is, hereby authorized to specify in the Certificate of Award that the Authority shall accept one or more commitments for insurance from such

providers, and one or more commitments for a Qualified Reserve Credit Facility. There is hereby authorized to be paid from the moneys deposited in the Series 2018A Costs of Issuance Subaccount such amount as is required to pay the premium and expenses for such insurance policies and Qualified Reserve Credit Facilities relating to the Series 2018A Bonds. There is hereby authorized to be paid from the moneys deposited in the Series 2018B Costs of Issuance Subaccount such amount as is required to pay the premium and expenses for such insurance policies and Qualified Reserve Credit Facilities relating to the Series 2018B Bonds. The Authorized Officials are, and each of them is, hereby further authorized to enter into a reimbursement agreement with the provider of any Qualified Reserve Credit Facility to provide for the Authority's reimbursement of the provider for any amounts drawn under the Qualified Reserve Credit Facility in a manner consistent with the Indenture. Any determination of the Authorized Officials under this paragraph shall be based on the written advice of the Financial Advisor.

(e) Certificates. The Authorized Officials are, and each of them is, authorized and directed, in their official capacities, to execute and deliver to the Series 2018A/B Original Purchasers the certificates required by the Bond Purchase Agreement to be executed on behalf of the Authority.

(f) Delivery of Bonds. The Authorized Officials are, and each of them is, authorized and directed to make the necessary arrangements with the Series 2018A/B Original Purchasers to establish the date, location, procedure and conditions for the delivery of the Series 2018A/B Bonds to the Series 2018A/B Original Purchasers. The Authorized Officials are, and each of them is, further authorized and directed to make the necessary arrangements for the printing of the Series 2018A/B Bonds, and the execution, authentication and delivery of the Series 2018A/B Bonds to DTC for the accounts of the Series 2018A/B Original Purchasers in accordance with this Resolution and the Indenture, and upon the receipt of payment of the purchase price, to cause such amount to be applied in accordance with the terms and provisions of this Resolution and the Indenture.

Section 5. Allocation of Proceeds of the Series 2018A/B Bonds; Tax Covenants.

(a) Allocation of Proceeds of the Series 2018A/B Bonds. The proceeds from the sale of the Series 2018A/B Bonds shall be allocated, deposited and credited for the purposes approved in this Resolution and as specified in the Twenty-Third Supplemental Indenture.

(b) Tax Covenants. The Board authorizes the Authorized Officials to approve the tax covenants, authorizations and agreements necessary to achieve and maintain the tax-exempt status of the Series 2018A/B Bonds.

Section 6. Twenty-Third Supplemental Indenture and Other Documents. The Authorized Officials are, and each of them is, authorized in connection with the issuance of the Series 2018A/B Bonds, to execute, acknowledge and deliver in the name of and on behalf of the Authority, the Twenty-Third Supplemental Indenture, substantially in the form thereof submitted to the Authority at or prior to this meeting, but with such changes therein as may be permitted by the Indenture and this Resolution and approved by the Authorized Officer executing the document

on behalf of the Authority. The approval of those changes shall be conclusively evidenced by the execution of the document by an Authorized Official.

The Authorized Officials and any other member, officer or employee of the Authority are each authorized to execute and deliver, on behalf of the Authority, such other certificates, documents and instruments related to the Series 2018A/B Bonds as are necessary in connection with the transactions authorized in this Resolution, and to do all other things required of them or the Authority pursuant to the Indenture, the Twenty-Third Supplemental Indenture, the Bond Purchase Agreement and this Resolution.

No covenant, agreement or obligation contained herein shall be deemed to be a covenant, agreement or obligation of any present or future member of the Board or officer, employee or agent of the Authority in his or her individual capacity, and neither the members of the Board nor any officer of the Authority executing the Series 2018A/B Bonds shall be liable personally thereon or be subject to any personal liability or accountability by reason of the issuance thereof. No member of the Board or officer, employee, agent or advisor of the Authority shall incur any personal liability with respect to any other action taken by him pursuant to this Resolution or the Indenture or any other document authorized by this Resolution, provided such member, officer, employee, agent or advisor acts in good faith.

Section 7. Official Statement; Continuing Disclosure. The Authorized Officials shall cause to be prepared and issued on behalf of the Authority, an official statement (the "Official Statement") relating to the original issuance of the Series 2018A/B Bonds. The Authorized Officials are, and each of them is, authorized to execute the Official Statement on behalf of the Authority, which shall be in substantially the form of the Official Statement submitted to the Authority at this meeting, with such changes as the Authorized Official who executes it may approve, the execution thereof on behalf of the Authority by an Authorized Official to be conclusive evidence of such authorization and approval (including approval of any such changes), and copies thereof are hereby authorized to be prepared and furnished to the Series 2018A/B Original Purchasers for distribution to prospective purchasers of the Series 2018A/B Bonds and other interested persons. The preliminary Official Statement, shall be "deemed substantially final" by the Authority within the meaning of Rule 15c2-12 of the Securities Exchange Commission, subject to completion as provided below.

The distribution by the Authority and by the Series 2018A/B Original Purchasers of the preliminary Official Statement and the Official Statement, in such form and with any changes as may be approved in writing by an Authorized Official, is hereby authorized and approved.

The Authority shall make sufficient copies of the Official Statement, with any supplements, available to the Series 2018A/B Original Purchasers to sell book entry interests in the Series 2018A/B Bonds, and will provide copies as appropriate to the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access website at [www.emma.msrb.org](http://www.emma.msrb.org).

The Authorized Officials are each hereby authorized to furnish such information, to execute such instruments and to take such other action in cooperation with the Series 2018A/B

Original Purchasers as may be reasonably requested to qualify the Series 2018A/B Bonds for offer and sale under the Blue Sky or other securities laws and regulations and to determine their eligibility for investment under the laws and regulations of such states and other jurisdictions of the United States of America as may be designated by the Series 2018A/B Original Purchasers; provided, however, that the Authority shall not be required to register as a dealer or broker in any such state or jurisdiction or become subject to the service of process in any jurisdiction in which the Authority is not now subject to such service.

The Authorized Officials are each hereby further authorized: (i) to supplement and complete the “deemed substantially final” preliminary Official Statement by affixing thereto or inserting therein information to identify the Series 2018A/B Original Purchasers and to specify the final principal amount, interest rates and redemption provisions of the Series 2018A/B Bonds, the price of the Series 2018A/B Bonds to the general public, any credit enhancement provisions with respect to the Series 2018A/B Bonds and any change in ratings of the Series 2018A/B Bonds resulting from such credit enhancement, and such other information as is necessary to supplement and complete the Official Statement with the approved and agreed upon terms of Series 2018A/B Bonds, and (ii) to make such other changes to the preliminary Official Statement or the Official Statement as are, in the judgment of an Authorized Official, necessary and appropriate in order to make the preliminary Official Statement or the Official Statement not materially misleading and to comply with applicable securities laws or otherwise to enable the Authority to fulfill its obligations regarding the preliminary Official Statement or the Official Statement under the Bond Purchase Agreement.

The Authority hereby covenants and agrees that it will comply with and carry out all of the provisions of the Continuing Disclosure Agreement. Notwithstanding any other provision of this Resolution or the Indenture, failure of the Authority to comply with the Continuing Disclosure Agreement shall not be considered an Event of Default; however, any Holder of Series 2018A/B Bonds may, and the Trustee may (and, at the request of the Holders of at least 25% in aggregate principal amount of Outstanding Series 2018A/B Bonds, shall) take such actions as may be necessary and appropriate, including seeking mandamus or specific performance by court order, to cause the Authority to comply with its obligations under this paragraph. The Authorized Officials are, and each of them is, hereby authorized and directed to execute and deliver the Continuing Disclosure Agreement in substantially the form submitted to the Authority at or prior to this meeting with such changes therein as may be approved by the officer executing the Continuing Disclosure Agreement. The approval of those changes shall be conclusively evidenced by the execution of the Continuing Disclosure Agreement by an Authorized Official.

Section 8. General. The appropriate officers and employees of the Authority will do all things necessary and proper to implement and carry out the orders and agreements set forth or approved in this Resolution for the proper fulfillment of the purposes thereof. The Authority shall furnish to the Series 2018A/B Original Purchasers of the Series 2018A/B Bonds a true and certified transcript of all proceedings relating to the authorization and issuance of the Series 2018A/B Bonds along with other information as is necessary or proper with respect to the Series 2018A/B Bonds.

Section 9. Multiple Series. Notwithstanding anything herein to the contrary, each of the Series 2018A Bonds and the Series 2018B Bonds may be issued in one or more separate series or subseries, each bearing a distinctive designation, provided that the Series 2018A/B Bonds of all series in the aggregate, must satisfy the requirements and comply with the restrictions of this Resolution and the Indenture. Separate series and subseries of Series 2018A/B Bonds may be issued at the same or different times and so may have different dates of issuance. The Series 2018A/B Bonds of each series and subseries shall be designated as provided in the applicable Certificate of Award. A separate Certificate of Award may be delivered for each series or subseries, and each reference in this Resolution to the Certificate of Award shall refer to each and all such Certificates of Award. A separate Supplemental Trust Indenture may be entered into for each series or subseries, and each reference in this Resolution to the Twenty-Third Supplemental Indenture shall refer to each and all such Supplemental Trust Indentures, but any Supplemental Trust Indenture subsequent to the Twenty-Third Supplemental Indenture shall bear a different designation. A separate Bond Purchase Agreement and Continuing Disclosure Agreement may be entered into for each series or subseries, and each reference in this Resolution to the Bond Purchase Agreement or to the Continuing Disclosure Agreement shall refer to each and all such Bond Purchase Agreements or Continuing Disclosure Agreements, respectively. A separate Official Statement may be prepared for each series or subseries, and each reference in this Resolution to the Official Statement shall refer to each and all such Official Statements.

Section 10. Effective Date. This Resolution shall take effect immediately.

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Secretary to the Board of Directors

**PRELIMINARY OFFICIAL STATEMENT DATED \_\_\_\_\_, 2018**

**NEW ISSUE – BOOK-ENTRY ONLY**

**RATINGS: Standard & Poor’s: [ ]**

**Moody’s: [ ]**

**See “RATINGS” herein**

**[GREEN BOND ASSESSMENT RATING (for Series 2018A): Moody’s: [ ]]**

*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 2018A/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 imposed on individuals and corporations, and (ii) the Series 2018A/B Bonds and the interest thereon are exempt from District taxation, except estate, inheritance and gift taxes. Interest on the Series 2018A/B Bonds may be subject to certain federal taxes imposed only on certain corporations, including the corporate alternative minimum tax on a portion of that interest. For a more complete discussion of the tax aspects, see “TAX MATTERS” herein.*

*[DC Water Logo]*

**\$100,000,000\***

**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds,  
Series 2018A  
(Green Bonds)**

**\$200,000,000\***

**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds,  
Series 2018B**

**Dated: Date of Delivery**

**Due: As shown on inside cover**

**Authority for Issuance.** The Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds) (the “Series 2018A Bonds”) and the Public Utility Senior Lien Revenue Bonds, Series 2018B (the “Series 2018B Bonds”) and, together with the Series 2018A Bonds, the “Series 2018A/B 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-Third Supplemental Indenture of Trust, by and between the Authority and the Trustee, dated the date of issuance and delivery of the Series 2018A/B Bonds (the “Twenty-Third Supplemental Indenture” and, together with the Master Indenture, as previously amended and supplemented, the “Indenture”).

**Use of Proceeds.** The proceeds of the Series 2018A Bonds will be used to pay (i) a portion of the costs of the Authority’s DC Clean Rivers Project (the “DC Clean Rivers Project” or, the “Series 2018A Project”), and (ii) the costs of issuing the Series 2018A Bonds. The proceeds of the Series 2018B Bonds will be used to (i) pay a portion of the costs of certain capital improvements to the System (the “Series 2018B Project”), (ii) refund the outstanding Series B CP Notes, and (iii) pay the costs of issuing the Series 2018B Bonds.

**Denominations and Interest.** The Series 2018A/B 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 2018A/B 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 October 1, 2018.

**Book-Entry Only.** The Series 2018A/B 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 2018A/B Bonds, the principal of and premium, if any, and interest on the Series 2018A/B 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 2018A/B Bonds, as more fully described herein. See APPENDIX E – “DTC Book-Entry Only System.”

**Redemption.** The Series 2018A/B Bonds are subject to redemption prior to maturity, as more fully described herein. See “THE SERIES 2018A/B BONDS – Redemption Provisions.”

**Security.** The Series 2018A/B Bonds will be secured by a pledge of Net Revenues that will be on a parity with the pledge of Net Revenues that secures any Outstanding Senior Debt and other Senior Debt the Authority may issue from time to time in the future, all as further described and defined herein. The Series 2018A/B Bonds will not be secured by a Debt Service Reserve Fund. See “SECURITY FOR THE SERIES 2018A/B BONDS.”

**Limited Obligation.** The Series 2018A/B Bonds shall be special, limited obligations of the Authority payable solely from the Net Revenues of the Authority. The Series 2018A/B Bonds shall be without recourse to the District of Columbia (the “District”). The Series 2018A/B Bonds shall not be general obligations of the District or of the Authority. The Series 2018A/B 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 2018A/B 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 2018A Project consists of a portion of the DC Clean Rivers Project. Based upon an independent assessment of the DC Clean Rivers Project and of the Authority applying environmental, social and governance criteria, the Authority has designated the Series 2018A Project as a “Green Project” and has designated the Series 2018A Bonds as “Green Bonds.” See “PLAN OF FINANCE.”

*[Clean Rivers Logo]*

The Series 2018A/B Bonds are offered when, as and if issued by the Authority and received by the Underwriters (as hereinafter defined). Certain legal matters with respect to the issuance of the Series 2018A/B Bonds are subject to the approval of Squire Patton Boggs (US) LLP and Leftwich LLC, Co-Bond Counsel to the Authority. Squire Patton Boggs (US) LLP and Leftwich LLC 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 2018A/B Bonds will be available for delivery through the facilities of DTC in New York, New York on or about \_\_\_\_\_, 2018.

**GOLDMAN SACHS & Co. LLC**  
Joint Bookrunner

**BARCLAYS CAPITAL**  
Joint Bookrunner

**BofA/Merrill Lynch**

**J.P. Morgan**

**Loop Capital Markets**

**Ramirez & 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: \_\_\_\_\_, 2018

\* Preliminary; subject to change.

THIS PRELIMINARY OFFICIAL STATEMENT AND THE INFORMATION CONTAINED IN IT ARE SUBJECT TO COMPLETION AND AMENDMENT IN A FINAL OFFICIAL STATEMENT. Under no circumstances shall this Preliminary Official Statement constitute an offer to sell or the solicitation of an offer to buy, and there shall not be any sale of the Bonds offered hereby, in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of that jurisdiction.

**MATURITY SCHEDULE**

**\$100,000,000\***  
**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**  
**Public Utility Senior Lien Revenue Bonds**  
**Series 2018A**  
**(Green Bonds)**

**Serial Bonds**

<b>Year (Oct. 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>	<b>Yield</b>	<b>CUSIP No.†</b>
--------------------------	-------------------------	----------------------	--------------	-------------------

**Term Bonds**

\$[ ] [ ]% Term Bonds, due October 1, 20[ ], Yield [ ]%\* CUSIP [ ]†

**\$200,000,000\***  
**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**  
**Public Utility Senior Lien Revenue Bonds**  
**Series 2018B**

**Serial Bonds**

<b>Year (Oct. 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>	<b>Yield</b>	<b>CUSIP No.†</b>
--------------------------	-------------------------	----------------------	--------------	-------------------

**Term Bonds**

\$[ ] [ ]% Term Bonds, due October 1, 20[ ], Yield [ ]%\*\* CUSIP [ ]†

\* Preliminary; subject to change.

\*\* Yield calculated to first optional redemption date of [ ] 1, 20[ ].

† CUSIP® is a registered trademark of the American Bankers Association. CUSIP Global Services (CGS) is managed on behalf of the American Bankers Association by S&P Global Market Intelligence. Copyright(c) 2018 CUSIP Global Services. All rights reserved. CUSIP® data herein is provided by CUSIP Global Services. This data is not intended to create a database and does not serve in any way as a substitute for the CGS database. CUSIP® numbers are provided for convenience of reference only. Neither the Authority nor the Underwriters or their agents or counsel are responsible for the accuracy of such numbers. No representation is made as to their correctness on the Series 2018A/B Bonds or as included herein. The CUSIP number for a specific maturity is subject to being changed after the issuance of the Series 2018A/B Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the Series 2018A/B Bonds.

**District of Columbia Water and Sewer Authority**  
**5000 Overlook Avenue, S.W.**  
**Washington, D.C. 20032**  
**(202) 787-2000**  
[www.dewater.com](http://www.dewater.com)

**Principal Board Members**

Tommy Wells, Chairman  
Ellen O. Boardman  
Rachna Butani  
Timothy L. Firestine  
David Franco  
Bradley Frome  
Bonnie Kirkland  
Nicholas A. Majett  
James W. Patteson  
Emile Thompson  
*Vacant*

**Jurisdiction**

*District of Columbia*  
*District of Columbia*  
*District of Columbia*  
*Montgomery County*  
*District of Columbia*  
*Prince George's County*  
*Montgomery County*  
*Prince George's County*  
*Fairfax County*  
*District of Columbia*  
*District of Columbia*

**Alternate Board Members**

Krystal Brumfield  
Patty Bubar  
Kendrick Curry  
Ivan Frishberg  
Anthony Giancola  
Howard Gibbs  
Fariba Kassiri  
Sarah Motsch  
Adam Ortiz  
Jed Ross  
*Vacant*

**Jurisdiction**

*District of Columbia*  
*Montgomery County*  
*District of Columbia*  
*District of Columbia*  
*District of Columbia*  
*District of Columbia*  
*Montgomery County*  
*Fairfax County*  
*Prince George's County*  
*District of Columbia*  
*Prince George's County*

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Leonard R. Benson  
Meena Gowda  
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Charles Kiely  
Carlton Ray  
Aklile Tesfaye

**Title**

*Interim CEO and General Manager*  
*Chief Financial Officer*  
*Chief Engineer*  
*Acting General Counsel*  
*Chief of Staff*  
*Chief Operating Officer*  
*Assistant General Manager of Customer Care & Operations*  
*Director of DC Clean Rivers Project*  
*Assistant General Manager of Wastewater Treatment*

**Authority Consultants and Counsel**

Squire Patton Boggs (US) LLP and Leftwich LLC  
Amawalk Consulting Group LLC  
Johnson, Mirmiran, and Thompson, Inc.  
PFM Financial Advisors LLC and G~Entry Principle, P.C.

*Co-Bond Counsel and*  
*Co-Disclosure Counsel*  
*Financial Feasibility Consultant*  
*Engineering Feasibility Consultant*  
*Co-Financial Advisors*



## 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 2018A/B 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 2018A/B 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 2018A/B 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](http://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 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B 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.

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## OFFICIAL STATEMENT

**\$100,000,000\***

**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)**

**\$200,000,000\***

**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018B**

## 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 Senior Lien Revenue Bonds, Series 2018A (Green Bonds), in the original principal amount of \$100,000,000\* (the “Series 2018A Bonds”) and its Public Utility Senior Lien Revenue Bonds, Series 2018B Bonds, in the original principal amount of \$200,000,000\* (the “Series 2018B Bonds” and the Series 2018A Bonds, each a “Series” and, together, the “Series 2018A/B 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 2018A/B 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 2018A/B Bonds (the “Indenture”), including by the Twenty-Third Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Series 2018A/B Bonds (the “Twenty-Third Supplemental Indenture”), each by and between the Authority and Wells Fargo Bank, N.A., as trustee (the “Trustee”), and a resolution of the Authority’s Board of Directors passed at its \_\_\_\_\_, 2018 meeting authorizing the issuance of the Series 2018A/B Bonds.

### 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 777; 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 2018A/B 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 2018A/B Bonds. The Authority makes no representation as to the accuracy or completeness of information derived from other sources.

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\* Preliminary; subject to change.

**Use of the Series 2018A/B Bond Proceeds**

The proceeds of the Series 2018A Bonds will be used to pay (i) a portion of the costs of the DC Clean Rivers Project (as hereinafter defined) (the “Series 2018A Project”) and (ii) the costs of issuing the Series 2018A Bonds. For a description of the DC Clean Rivers Project, see “CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Combined Sewer Overflow Projects.” Based on the results of a past independent assessment by VIGEO of the DC Clean Rivers Project’s environmental, social, and governance characteristics, the Authority has designated the Series 2018A Project as a “Green Project” and the Series 2018A Bonds as “Green Bonds.” 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 2018A Bonds is entitled to any additional security other than as provided in the Indenture. Moody’s has assigned a Green Bond Assessment of [ ] to the Series 2018A Bonds.

The proceeds of the Series 2018A Bonds to be used to pay the costs of the Series 2018A Project will be deposited in a segregated account of the Construction Fund established and maintained under the Indenture (the “2018A Construction Account”). Such proceeds will be invested in Permitted Investments pursuant to the Indenture. 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. See “PLAN OF FINANCE.”

The proceeds of the Series 2018B Bonds will be used to (i) pay the costs of certain capital improvements to the System (the “Series 2018B Project”), (ii) refund the outstanding Series B CP Notes (as hereinafter defined), and (iii) pay the costs of issuing the Series 2018B Bonds.

A portion of the proceeds of the Series 2018B Bonds to be used to pay the costs of the Series 2018B Project will be deposited in a segregated account of the Construction Fund established and maintained under the Indenture (the “2018B Construction Account”). Such proceeds will be invested in Permitted Investments pursuant to the Indenture. See “PLAN OF FINANCE” and “CAPITAL IMPROVEMENT PROGRAM.”

**Security and Source of Payment**

Under the Indenture, the Authority may issue “Senior Debt” and “Subordinate Debt” from time to time. The Series 2018A/B Bonds will constitute Senior Debt under the Indenture. The Series 2018A/B Bonds will be secured by a senior pledge of Net Revenues that is on a parity with the pledge of Net Revenues that secures any Outstanding Senior Debt and other Senior Debt the Authority may issue from time to time in the future, without preference, priority or distinction of any Senior Debt over any other Senior Debt. Under the Indenture, the Authority may also issue “Subordinate Debt” which is secured by a pledge of Net Revenues subordinate to the Series 2018A/B Bonds and other Senior Debt. Prior to the issuance of the Series 2018A/B Bonds, \$796,080,000 aggregate principal amount of Senior Debt and \$2,346,553,443 aggregate principal amount of Subordinate Debt will be outstanding (including \$90 million of the Commercial Paper Notes, which is expected to be refunded with the proceeds of the Series 2018B Bonds). See “OUTSTANDING INDEBTEDNESS.” The Series 2018A/B 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 “RATES AND CHARGES.” The Series 2018A/B Bonds will not be secured by a Debt Service Reserve Fund.

**The Series 2018A/B Bonds shall be special and limited obligations of the Authority. The Series 2018A/B Bonds shall be without recourse to the District. The Series 2018A/B Bonds shall not be general obligations of the District or of the Authority. The Series 2018A/B 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 2018A/B 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.**

**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 2018A/B 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 2018A/B 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 \$4.0 billion on a cash disbursement basis. The Board approved the CIP on March 1, 2018. See “CAPITAL IMPROVEMENT PROGRAM.”

### **Miscellaneous**

This Official Statement contains brief descriptions of the Series 2018A/B 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 2018A/B 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 2018A/B Bonds.

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

## THE SERIES 2018A/B BONDS

### General

The Series 2018A/B 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 2018A/B 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 October 1, 2018 (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 2018A/B 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 2018A/B Bonds. Individual purchases of interests in the Series 2018A/B 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 2018A/B Bonds as nominee of DTC, references herein to the holders or registered owners of the Series 2018A/B Bonds will mean Cede & Co. and will not mean the beneficial owners (“Beneficial Owners”) of the Series 2018A/B Bonds. Beneficial interests in the Series 2018A/B Bonds may be held through DTC directly as a participant or indirectly through organizations that are participants in such system. See APPENDIX E – “DTC Book-Entry Only System.”

As long as the Series 2018A/B 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 2018A/B Bonds (the “Bondholders”). If the book-entry only system is discontinued, interest on the Series 2018A/B 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 2018A/B Bonds or (iv) any other action taken by DTC or its partnership nominee as owner of the Series 2018A/B Bonds. For more information on DTC and the book-entry only system, see APPENDIX E – “DTC Book-Entry Only System.”

### Redemption Provisions

#### *Optional Redemption*

The Series 2018A/B Bonds maturing on or after October 1, 20[\_\_\_], are subject to optional redemption prior to maturity on or after [\_\_\_] 1, 20[\_\_\_], 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 2018A Bonds maturing on October 1, 20[\_\_\_] (the “Series 2018A 20[\_\_\_] Term Bonds”) are subject to mandatory sinking fund redemption in part (in accordance with the procedures described below in “– Selection of the Series 2018A/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 2018A Bonds called for redemption plus interest accrued to the redemption date.



**Series 2018A 20[ ] Term Bonds**

Year	Amount
†	
† Final Maturity	

The Series 2018B Bonds maturing on October 1, 20[ ] (the “Series 2018B Term Bonds”), are subject to mandatory sinking fund redemption in part (in accordance with the procedures described below in “ – Selection of the Series 2018A/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 2018B Bonds called for redemption plus interest accrued to the redemption date.

**Series 2018B 20[ ] Term Bonds**

Year	Amount
†	
† Final Maturity	

The principal amount of the Series 2018A/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 2018A/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 2018A/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 2018A/B Bonds, the Trustee shall then credit an amount equal to the principal of such Series 2018A/B Bonds so purchased towards the sinking fund installments for the Series 2018A/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 2018A/B Bonds to be Redeemed” below.

*[Make-Whole Redemption provisions, if applicable]*

*Selection of the Series 2018A/B Bonds to be Redeemed*

The particular maturities of the Series 2018A/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 2018A/B Bond of a maturity is called for prior redemption and if the Series 2018A/B Bonds are registered in book-entry only form and DTC or a successor securities depository is the sole registered owner of such Series 2018A/B Bonds, the particular Series 2018A/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 2018A/B Bond to be redeemed shall be in the principal amount of \$5,000 or integral multiples thereof and (ii) in selecting Series 2018A/B Bonds for redemption, each Series 2018A/B Bond shall be considered as representing that number of the Series 2018A/B Bonds that is obtained by dividing the principal amount of such Series 2018A/B Bond by \$5,000.

*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 2018A/B Bonds. If no qualified securities depository is the registered owner of the Series 2018A/B Bonds, a notice of redemption shall be mailed to the registered owners of the Series 2018A/B Bonds. See “THE SERIES 2018A/B BONDS – Book-Entry Only System.”

The Trustee shall send notice of the call for redemption, identifying the Series 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B Bonds, the notice of redemption of the Series 2018A/B 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 2018A/B 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 2018A Bonds.** A portion of the proceeds of the Series 2018A Bonds will be used to pay the costs of the Series 2018A Project. For a description of the DC Clean Rivers Project (of which the Series 2018A 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 2018A Construction Account. The proceeds therein will be invested in Permitted Investments pursuant to the Indenture. The remainder of the proceeds of the Series 2018A Bonds will be used to pay costs of issuing the Series 2018A Bonds.

**Series 2018B Bonds.** A portion of the proceeds of the Series 2018B Bonds will be used to pay the costs of the Series 2018B Project. See “CAPITAL IMPROVEMENT PROGRAM.” Such proceeds will be deposited in the 2018B Construction Account. The proceeds therein will be invested in Permitted Investments pursuant to the Indenture.

A portion of the proceeds of the Series 2018B Bonds will be used to refund the outstanding Series B CP Notes. The remainder of the proceeds of the Series 2018B Bonds will be used to pay costs of issuing the Series 2018B Bonds.

**SOURCES AND USES OF FUNDS**

The proceeds of the Series 2018A/B Bonds are expected to be applied as follows:

<b>Sources of Funds</b>	<b>Series 2018A Bonds</b>	<b>Series 2018B Bonds</b>	<b>Total</b>
Par Amount			
Original Issue Discount/Premium			
<b>Total Sources</b>			
<b>Uses of Funds</b>			
Deposit to 2018A Construction Account			
Deposit to 2018B Construction Account			
Deposit to Subordinated Principal and Interest Account*			
Underwriters' Discount			
Other Costs of Issuance			
<b>Total Uses</b>			

\* Deposit will be used to refund the outstanding Series B CP Notes.

**SECURITY FOR THE SERIES 2018A/B BONDS**

**Pledge of the Master Indenture**

The Series 2018A/B 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 2018A/B Bonds will constitute Senior Debt under the Indenture, payable solely from the Net Revenues of the System. The Series 2018A/B Bonds are payable and secured on a parity with the Outstanding Senior Debt and all other Senior 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. No Account in the Debt Service Reserve Fund will be established for the Series 2018A/B Bonds.

## 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 subaccounts 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.* On November 20, 2014, the Seventeenth Supplemental Indenture amended the Master Indenture to provide that, 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 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 amounts: (i) \$ \_\_\_\_ (or \_\_\_\_%) (Fiscal Year 2013), (ii) \$ \_\_\_\_ (or \_\_\_\_%) (Fiscal Year 2014), (iii) \$ \_\_\_\_ (or \_\_\_\_%) (Fiscal Year 2015), (iv) \$ \_\_\_\_ (or \_\_\_\_%) (Fiscal Year 2016), and (v) \$ \_\_\_\_ (or \_\_\_\_%) (Fiscal Year 2017).

According to the Report of the Office of Management and Budget (“OMB”) to the Congress for Fiscal Year 2017, and as confirmed by the Internal Revenue Service, interest subsidy payments to issuers of direct payment bonds processed on or after October 1, 2017, through and including September 30, 2018, will be reduced by 6.6%, 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 2024. Any such additional sequester order signed by the President may or may not establish a different reduction value.

The largest Direct Payment the Authority currently expects to collect in any future year is \$5,710,149; 6.6% of that amount is approximately \$376,850. The Authority cannot predict by what percentage, if any, cuts may be made to interest subsidy 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 2018. The projected debt service shown in “DEBT SERVICE REQUIREMENTS – Outstanding Senior and Subordinate Debt” reflects the known subsidy reduction of 6.6% for Fiscal Year 2018, and assumes Direct Payments equal to 32% of the interest payments on Series 2010A Bonds in each year starting in Fiscal Year 2018. 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.

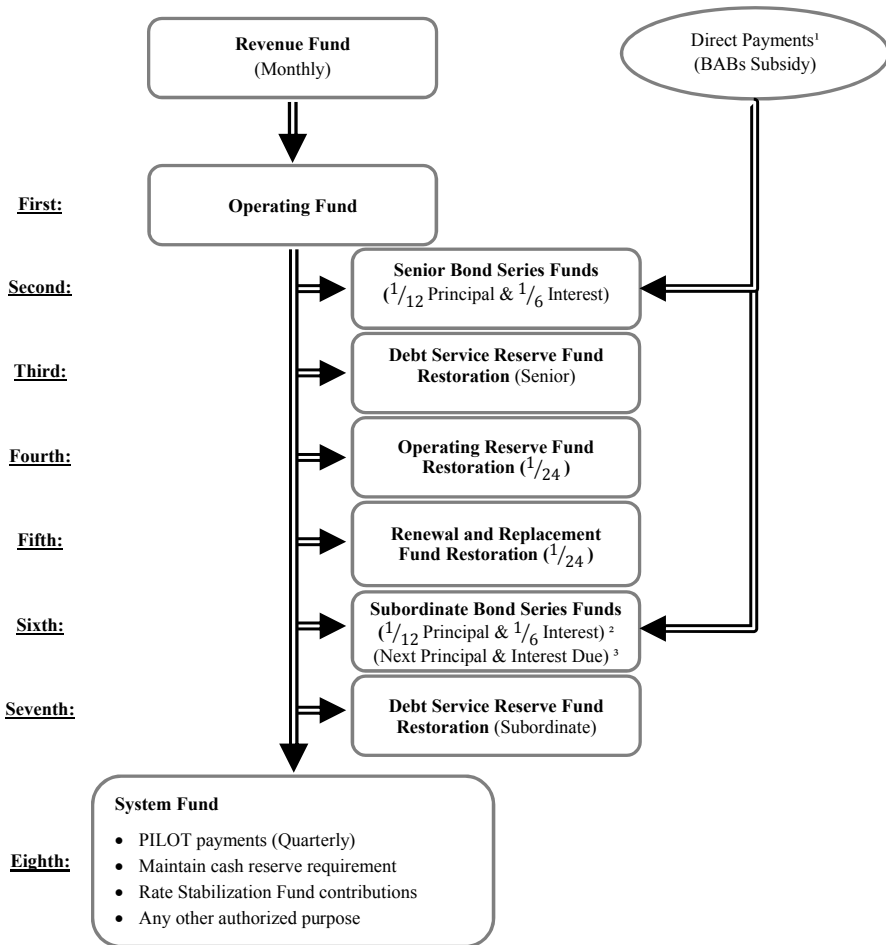
**Limited Remedies of Holders of Subordinate Debt**

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**



<sup>1</sup> 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.

<sup>2</sup>For fixed rate Subordinate Debt

<sup>3</sup>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 Authority shall deposit Net Revenues to the fund, in 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 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. See “– Pledge of Master Indenture – Direct Payment Bonds and Effect of Sequestration on Direct Payments” above.

For a more extensive discussion of the terms and provisions of the Indenture including the security for the Series 2018A/B 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 2018A/B 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 September 30, 2017, the balance in the Operating Reserve Fund was \$49.8 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 original plant in service cost, 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 September 30, 2017, 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 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. The Authority withdrew \$7.5 million from the Rate Stabilization Fund in 2015. In Fiscal Years 2015, 2016 and 2017, the Authority made net deposits into the Rate Stabilization Fund of \$17.5 million, \$19.0 million and \$10.0 million, respectively. The Authority may withdraw additional funds in future years to reduce rate increases that might otherwise be required; however, the Authority does not currently have plans to withdraw additional funds in Fiscal Years 2018-2022. See “FINANCIAL OPERATIONS – Reserve Funds – Rate Stabilization Fund.” The Rate Stabilization Fund has no minimum balance requirements. As of

September 30, 2017, the balance in the Rate Stabilization Fund was \$61.45 million. See also “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 2018, the operating reserves requirement is \$125.5 million. As of September 30, 2017, the Authority had an operating reserve cash balance of \$147.2 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 million or 140 days of operating reserves to be consistent with the projected reserve balances in the Authority’s Financial Plan.

As of February 28, 2018, there are 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 2018A/B 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:

- iii. 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
- iv. 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:

- v. evidence that the Authority has made provision as required by the Indenture for the payment or redemption of all Indebtedness to be refunded; and
- vi. 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 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 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 2018A/B 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 2018A/B 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 and (iii) the Series 2018A/B Bonds, as well as annual and aggregate totals.

Fiscal Year Ending September 30 <sup>1</sup>	Outstanding Senior Debt	Series 2018A/B Bonds			Total Senior Debt	Outstanding Subordinate Debt 1,2,3,4,5,6,7	Direct payments Relating to Series 2010A Bonds	Total Subordinate Debt <sup>10</sup>	Total Senior and Subordinate Debt
		Principal	Interest	Total					
2018 <sup>11</sup>	\$61,723,775				\$61,723,775	\$122,263,455	\$(5,333,279)	\$116,930,176	\$178,653,951
2019	57,284,200				57,284,200	128,380,102	(5,220,707)	123,159,394	180,443,594
2020	58,061,350				58,061,350	132,237,607	(5,220,707)	127,016,899	185,078,249
2021	58,061,975				58,061,975	137,455,339	(5,161,933)	132,293,406	190,355,381
2022	58,059,850				58,059,850	137,361,779	(5,099,176)	132,262,603	190,322,453
2023	58,066,700				58,066,700	137,294,363	(5,033,083)	132,261,280	190,327,980
2024	42,808,475				42,808,475	152,473,015	(4,963,430)	147,509,585	190,318,060
2025	42,810,950				42,810,950	152,372,953	(4,878,673)	147,494,280	190,305,230
2026	42,806,950				42,806,950	152,287,062	(4,791,835)	147,495,227	190,302,177
2027	42,810,150				42,810,150	152,182,476	(4,702,827)	147,479,649	190,289,799
2028	42,808,450				42,808,450	152,094,212	(4,611,477)	147,482,735	190,291,185
2029	34,695,250				34,695,250	159,635,846	(4,426,435)	155,209,411	189,904,661
2030	31,829,750				31,829,750	159,420,369	(4,232,061)	155,188,308	187,018,058
2031	31,521,500				31,521,500	159,077,247	(4,034,152)	155,043,095	186,564,595
2032	35,039,000				35,039,000	158,989,718	(3,830,589)	155,159,128	190,198,128
2033	34,696,250				34,696,250	158,757,179	(3,618,456)	155,138,723	189,834,973
2034	34,697,000				34,697,000	160,239,576	(3,399,962)	156,839,615	191,536,615
2035	34,694,000				34,694,000	160,000,175	(3,174,929)	156,825,246	191,519,246
2036	34,696,500				34,696,500	160,035,908	(2,944,242)	157,091,665	191,788,165
2037	37,198,250				37,198,250	147,913,024	(2,705,427)	145,207,598	182,405,848
2038	34,248,250				34,248,250	144,585,999	(2,459,985)	142,126,014	176,374,264
2039	32,936,750				32,936,750	144,019,753	(2,207,298)	141,812,455	174,749,205
2040	32,932,750				32,932,750	147,171,538	(1,948,692)	145,222,846	178,155,596
2041	36,993,000				36,993,000	138,698,120	(971,165)	137,726,955	174,719,955
2042	36,991,200				36,991,200	140,396,239	(741,097)	139,655,143	176,646,343
2043	36,988,200				36,988,200	146,508,334	(502,723)	146,005,611	182,993,811
2044	36,993,200				36,993,200	146,167,265	(255,779)	145,911,486	182,904,686
2045	34,545,000				34,545,000	74,092,304	-	74,092,304	108,637,304
2046	34,540,800				34,540,800	49,160,950	-	49,160,950	83,701,750
2047	34,540,800				34,540,800	42,705,650	-	42,705,650	77,246,450
2048	30,499,000				30,499,000	40,075,313	-	40,075,313	70,574,313
2049	30,499,250				30,499,250	11,875,123	-	11,875,123	42,374,373
2050	30,502,750				30,502,750	11,873,750	-	11,873,750	42,376,500
2051	30,498,000				30,498,000	-	-	-	30,498,000
2052	30,499,000				30,499,000	-	-	-	30,499,000
2053 - 2104 <sup>8</sup>	16,849,000				16,849,000	-	-	-	16,849,000
2105	44,918,000				44,918,000	-	-	-	44,918,000
2106	44,917,758				44,917,758	-	-	-	44,917,758
2107	44,918,480				44,918,480	-	-	-	44,918,480
2108	44,917,986				44,917,986	-	-	-	44,917,986
2109	44,918,053				44,918,053	-	-	-	44,918,053
2110	44,918,215				44,918,215	-	-	-	44,918,215
2111	44,917,860				44,917,860	-	-	-	44,917,860
2112	44,918,233				44,918,233	-	-	-	44,918,233
2113	44,918,340				44,918,340	-	-	-	44,918,340
2114	44,918,040				44,918,040	-	-	-	44,918,040
<b>Total<sup>9</sup></b>	<b>\$2,703,907,240</b>				<b>\$2,703,907,240</b>	<b>\$4,217,801,742</b>	<b>\$(96,470,119)</b>	<b>\$4,121,331,623</b>	<b>\$6,825,238,862</b>

\* Certain totals may not add due to rounding.

<sup>1</sup> 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, 2018, are shown in the Fiscal Year ending September 30, 2018.

<sup>2</sup> Outstanding Subordinate Debt is calculated excluding the impact of the direct payment of the federal BABs subsidy related to the Series 2010A Bonds. See "SECURITY FOR THE SERIES 2018A/B BONDS – Direct Payments – Sequestration."

<sup>3</sup> 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.

<sup>4</sup> The Authority currently has \$119.2 million of Commercial Paper outstanding, of which \$29.2 million is assumed outstanding after the issuance of the Series 2018A/B Bonds. Debt service is based on a hypothetical amortization of the full outstanding amount at 20 years with an assumed interest rate of 3.25%.

<sup>5</sup> Includes the Authority's Debt Service requirements for Government Notes associated with Jennings Randolph.

<sup>6</sup> Series 2014 B Bonds are weekly-reset variable rate bonds payable through a Liquidity Facility provided by TD Bank, N.A., which expires on July 23, 2017. For calculation of the projected debt service requirement, the all-inclusive rate was assumed to be 1.50% in 2018, 2.00% in 2019 and 3.25% thereafter. The debt is assumed to amortize in FY 2041 - FY 2050.

<sup>7</sup> The Authority currently has \$50 million of Extendable Maturity Commercial Paper outstanding. Debt service is based on a hypothetical amortization of the full outstanding amount at 30 years with an assumed interest rate of 3.25%.

<sup>8</sup> Amounts shown for FY 2053 - FY 2104 are annual totals for each fiscal year and do not represent the cumulative total.

<sup>9</sup> Amounts represent cumulative totals for all Fiscal Years shown. Totals from consolidated rows are included.

<sup>10</sup> Total Subordinate Debt is calculated including the impact of the direct payment of the federal BABs subsidy 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 6.6% was applied for 2018. Thereafter, the subsidy amount is assumed to be 32% of the interest payments. See "SECURITY FOR THE SERIES 2018A/B 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 2018A/B BONDS – Direct Payments - Sequestration."

**List of Outstanding Indebtedness**

The Authority's indebtedness as of October 1, 2017, 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 <sup>1</sup>
<b>Senior Debt</b>				
Series 1998 Bonds	\$ 266,120	5.50-6.00%	2028	\$141,855
Series 2009A Bonds	300,000	3.00-5.50	2039	4,225
Series 2014A Bonds	350,000	4.814	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	200,000
Total Senior Debt				\$796,080
<b>Subordinate Debt</b>				
Series 2008A Bonds	\$ 290,375	5.00%	2034	\$ 6,865
Series 2010A Bonds	300,000	4.07-5.52 <sup>2</sup>	2044	300,000
Series 2012A Bonds	177,430	3.00-5.00	2037	153,600
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 <sup>3</sup>	2050	100,000
Series 2014C Bonds	377,700	3.00-5.00	2044	377,110
Series 2015A Bonds	100,000	2.00-5.00	2045	100,000
Series 2015B Bonds	250,000	5.00-5.25	2044	250,000
Series 2016A Bonds	389,110	5.00-5.25	2039	389,110
Series 2016B Bonds	25,000	3.43 <sup>4</sup>	2046	25,000
<b>Government Notes</b>				
Jennings Randolph Reservoir Debt	\$ 18,269	3.25%	2041	\$12,453
<b>Commercial Paper Notes ("CP Notes")<sup>5</sup></b>				
Series C CP Notes (taxable)	\$ 29,200 <sup>6</sup>	VR	2020 <sup>7</sup>	\$29,200
<b>Extendable Municipal Commercial Paper Notes ("EMCP Notes")</b>				
Series A EMCP Notes	\$ 50,000 <sup>8</sup>	VR	N/A <sup>9</sup>	\$50,000
Total Subordinate Debt				\$2,256,553
<b>Total</b>				<b>\$3,052,633</b>

<sup>1</sup> Amounts outstanding do not reflect any amortization of accrued principal.

<sup>2</sup> 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 2018A/B BONDS – Direct Payments – Sequestration."

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

<sup>4</sup> 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.

<sup>5</sup> 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. [As of the date of this Official Statement, \$90 million of the Series B CP Notes were outstanding, which are expected to be refunded with the Series 2018B Bonds.]

<sup>6</sup> Maximum amount authorized to be outstanding at any one time for the Series C CP Notes is \$50 million.

<sup>7</sup> Final maturity of the CP Notes reflects expiration of current credit facility.

<sup>8</sup> Maximum amount authorized to be outstanding at any one time for the Series A EMCP Notes is \$100 million.

<sup>9</sup> 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 above, as of October 1, 2017, the Authority had Senior Debt outstanding in the aggregate principal amount of \$796,080,000 consisting of its Public Utility Senior Lien Revenue Bonds, Series 1998 (the “Series 1998 Senior Bonds”), its Public Utility Senior Lien Revenue Bonds, Series 2009A (the “Series 2009A 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”) and its Public Utility Senior Lien Revenue Bonds, Series 2017B (the “Series 2017B Senior Bonds”). The Authority expects to issue additional Senior Debt in the future to finance capital improvements to the System. See “CAPITAL IMPROVEMENT PROGRAM.” Upon the issuance of the Series 2018A/B Bonds, the amount of Outstanding Senior Debt will be \$[\_\_\_].

### Outstanding Subordinate Debt

The Subordinate Debt summarized above consists of the following categories of outstanding debt: (i) Subordinate bonds (including Environmental Impact Bonds); (ii) Government Notes; and (iii) Commercial Paper Notes. As of October 1, 2017, the Authority had Subordinate Debt outstanding in the aggregate principal amount of \$[\_\_\_]. Upon the issuance of the Series 2018A/B Bonds, the amount of Outstanding Subordinate Debt will remain unchanged.]

Subordinate Bonds. As of October 1, 2017, the Authority had Subordinate bonds outstanding in the aggregate principal amount of \$2,256,553,443 consisting of its Public Utility Subordinate Lien Revenue Bonds of various series as described above in Outstanding Indebtedness. 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 \$25,000,000 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 (“GI”). 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 potential obligation of the Authority to pay the outcome payment is an unsecured obligation. The net proceeds of the issuance will be 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 (CSOs) that pollute the District’s waterways.

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, 2017, the Authority had \$12,453,443 of Government Notes outstanding. Upon the issuance of the Series 2018A/B 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. The Board has authorized the three series of notes to be issued under the commercial paper program in the aggregate principal amounts as follows: (i) the tax-exempt Series A CP Notes in an aggregate principal amount not to exceed \$0 (the Authority is reserving the right to authorize an additional amount of Series A CP Notes in the future, but currently the Series A CP Notes are not enhanced by a liquidity facility), (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”), each as Subordinate Debt. See “OUTSTANDING INDEBTEDNESS – Outstanding Senior Debt.” 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. 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 the date of this Official Statement, \$90 million of the Series B CP Notes and \$29.2 million of the Series C CP Notes were outstanding. The Authority expects to refund the outstanding Series B CP Notes with the Series 2018B Bonds.

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 pledge of Net Revenues on a parity with the 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, 2017, \$50 million of the EMCP Notes were 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 700,000 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 \$20.5 million as of September 30, 1997, to \$[ ] million as of September 30, 2017. The Authority’s operating revenues have increased, from \$221.5 million in Fiscal Year 1997 to \$643.2 million in Fiscal Year 2017.

[The Authority’s accomplishments have been recognized by several industry associations and publications.]

- *Government Finance Officers Association*: Award for Excellence in Government Finance (2016).
- *Government Finance Officers Association*: Certificate of Achievement for Excellence in Financial Reporting Program (2016).
- *Government Finance Officers Association*: Distinguished Budget Presentation Award Program (2016).
- *SmartCEO*: Healthiest Employer Award (2016).
- *National Association of Clean Water Agencies*: Utility of the Future Award (2016)
- *The Bond Buyer*: Non-Traditional Deal of the Year (2016)

- *American Institute of Architects, Maryland and Northern Virginia Chapters*: “Unbuilt” Award and Jurors’ Citation in Conceptual Unbuilt Architecture for DC Water Headquarters Building (2017).
- *Breakthroughs in Tunneling*: 2017 Tunneling Achievement Award for the Blue Plains Tunnel (2017).
- *Engineering News Record*: Project of the Year, Water/Environment Project of the Year overall and for the Mid-Atlantic for the Blue Plains Tunnel (2017).
- *Government Finance Officers Association*: Certificate of Achievement for Excellence in Financial Reporting Program (2017).
- *Government Finance Officers Association*: Distinguished Budget Presentation Award Program (2017).
- *Government Finance Officers Association*: Excellence in Public Finance for the Environmental Impact Bond (2017).
- *Government Fleet*: Leading Fleet Award (2017).
- *International Tunneling Awards Finalist*: Sustainability Initiative of the Year for the Anacostia River Tunnel (2017).
- *National Association of Clean Water Agencies*: Platinum Peak Performance Award for 5 years of 100% compliance with NPDES requirements (2017).
- *National Association of Fleet Administrators*: 100 Best Fleets and Green Fleet Awards (2017).
- *National Capital Chapter American Concrete Institute*: Excellence in Concrete Award for the First Street Tunnel (2017).
- *WEF/WERF/NACWA/EPA*: Utility of the Future in Beneficial Biosolids Refuse (2017).

### **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 2018A/B 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 “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 Sewerage Services, Water Quality and Water Services, 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.

<b>Principal Board Members</b>	<b>Appointing Authority</b>	<b>Term Start Date*</b>	<b>Term Expiration</b>
Tommy Wells, Chairman	District of Columbia	December 2016	September 2020
Ellen O. Boardman	District of Columbia	July 2013	September 2020
Rachna Butani	District of Columbia	July 2012	September 2018
Timothy L. Firestine	Montgomery County	February 2007	May 2020
David Franco	District of Columbia	May 2017	September 2019
Bradley Frome	Prince George’s County	June 2015	September 2018
Bonnie Kirkland	Montgomery County	March 2018	May 2020
Nicholas A. Majett	Prince George’s County	June 2014	September 2018
James W. Patteson	Fairfax County	September 2015	September 2019
Emile Thompson	District of Columbia	December 2016	September 2020
<i>Vacant</i>	District of Columbia		

\* 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 **[add Bachelor degree]**, a Juris Doctor from the Columbus School of Law at Catholic University and a Master of Social Work from the University of Minnesota.

*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 degree]** from Catholic University and a Juris Doctor from the University Columbus School of Law.

*Rachna Butani (District of Columbia)*

Ms. Butani was appointed as a principal member to the Board in July 2012. Ms. Butani serves as Director at HRGM Corporation. Ms. Butani has been with HRGM since 2001. Previously, Ms. Butani served as an Associate for Wachovia Securities, and as a consultant for Deloitte & Touche, LLP. Ms. Butani serves as a Board member for the Professional Women in Construction and holds a Virginia Class A Contractor’s License. Ms. Butani 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.

*Timothy L. Firestine (Montgomery County)*

Mr. Firestine was appointed as a principal member to the Board in February 2007. Mr. Firestine serves as the Chief Administrative Officer for Montgomery County. Prior to his current position, Mr. Firestine was Chief Financial Officer for Montgomery County and held other positions in public sector financial management. Mr. Firestine holds a Bachelor of Arts in Political Science from Albright College and a Master in Public Administration from the University of Pittsburgh.

*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 a number of successful businesses in the District, including Discount Mart, Trumpets Restaurants and Tracks Nightclub. Mr. Franco also founded Universal Gear, a men's retail clothing store chain anchored in the District with stores in New York, Chicago, Atlanta and Rehoboth Beach, Delaware, and online presence. 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.

*Bradley Frome (Prince George's County)*

Mr. Frome was appointed as principal member to the Board in June 2015. Mr. Frome is currently the Assistant Deputy Chief Administrative Officer for the Economic Development and Public Infrastructure Team within the Administration of County Executive Rushern L. Baker, III. Mr. Frome was appointed to this position in early 2014. Mr. Frome previously served as the Deputy Chief of Staff for County Executive Baker from 2010-2014. Mr. Frome began his work in the public sector for the Maryland House of Delegates as a Legislative Director for four years and served six years as the Chief of Staff to a Council Member for Prince George's County. Mr. Frome graduated cum laude from the University of Maryland in College Park with a Bachelor of Science in Government and Politics and attended George Washington University Law School.

*Bonnie Kirkland (Montgomery County)*

Ms. Kirkland was appointed as a principal member to the Board in March 2018. Ms. Kirkland is the Assistant Chief Administrative Officer for Montgomery County. She has over 30 years of legislative and policy experience, including 10 years of experience with the Office of the Attorney General and also serving as Chief Legislative Officer for two Maryland Governors. In addition, Ms. Kirkland served as Special Secretary for the Office of Children, Youth and Families, where she managed and directed interagency efforts and monitored services for children with special needs and community partnerships throughout Maryland. She also served as Staff Director for the Aging Subcommittee of the U.S. Senate Health, Education, Labor and Pensions Committee and as Deputy Director for Committee Staffing and Legal Review for the Department of Legislative Services in Annapolis. Since September 2011, Ms. Kirkland has been teaching law students about legislation, legislative process and statutory interpretation as an Adjunct Professor at the University of Baltimore School of Law. **[add education]**

*Nicholas A. Majett (Prince George's County)*

Mr. Majett was appointed as a principal member of the Board in June 2014. Mr. Majett serves as the Chief Administrative Officer for Prince George's County. He previously served the District government in several capacities for over 29 years. In 1985, Mr. Majett joined the D.C. Office of the Attorney General and served as an Assistant Attorney General for approximately 19 years. During his tenure as an Assistant Attorney General, Mr. Majett regularly handled regulatory, real estate, tax and civil cases and prosecuted tax and government fraud cases. In 2005, he was elected to the District of Columbia Bar Association's District of Columbia Affairs Section Steering Committee where he currently serves as a member. He is also a member of the Board of Directors for the Washington, DC Economic Partnership, a member of the DC Streetcar Task Force, and former Board Member of Joseph's House, non-profit organization in the District. Mr. Majett holds a Bachelor of Science and a Juris Doctor from Howard University.

*James W. Patteson (Fairfax County)*

Mr. Patteson was appointed as a principal member to the Board in September 2015. Mr. Patteson is the Director of the Fairfax County Department of Public Works and Environmental Services ("DPWES"). Prior to serving as director of DPWES, Mr. Patteson served as the Director of DPWES' Land Development Services. Mr. Patteson began his career with Fairfax County in 1985, and has worked in a variety of agencies, including the Department of Housing and Community Development, Office of the County Executive, Facilities Management, and various DPWES departments. Mr. Patteson earned his Bachelor of Science in Civil and Environmental Engineering from Virginia Polytechnic and State University, and a Master in Public Administration from George Mason 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 CEO/General Manager, who is appointed by the Board. The CEO is supported by the Assistant General Managers for Blue Plains, Consumer Services, and Support Services; the Chief Financial Officer; and the Chief Engineer. The Assistant General Manager for Blue Plains oversees the departments of Wastewater Treatment Services and Maintenance Services. The Assistant General Manager for Consumer Services oversees the departments of Customer Service, Sewer Services, Water Services and Water/Sewer Pump Maintenance. The Assistant General Manager for Support Services oversees the departments of Human Capital Management, Labor Relations, Facilities and Security, Procurement, Fleet Management, and Safety and Occupational Management. The Chief Financial Officer oversees the departments of Finance, Accounting and Budget. The Chief Engineer oversees the Capital Improvement Program as well as the departments of Engineering and Technical Services, Permit Operations, and DC Clean Rivers. Also reporting to the CEO are the offices of the General Counsel, Information Technology and External Affairs.

### **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.

#### *Henderson J. Brown, IV, Interim CEO and General Manager*

Henderson Brown was appointed Interim Chief Executive Officer and General Manager in January 2018. Mr. Brown rejoined the Authority as General Counsel in March 2016, after originally serving the Authority in that role from 1998 until 2004. Following his initial tenure with the Authority, Mr. Brown served as Associate General Counsel for Tyson Foods, Inc. and was the principal and owner of Employment Solutions, LLC, a firm that handles civil rights cases and provides human resources consulting for businesses, federal agencies and local Maryland municipal entities. Mr. Brown holds a Juris Doctorate from the Georgetown University Law Center and a Bachelor's degree from Amherst College in Massachusetts. He is admitted to the bar in Maryland, the District of Columbia, the United States Fourth District Court for Maryland and the United States Courts of Appeals (Fourth and District of Columbia Circuits).

#### *Matthew T. Brown, Chief Financial Officer*

Mr. Brown was appointed Chief Financial Officer in 2017. From 2015 until his appointment as Chief Financial Officer, Mr. Brown served as a principal member and chairman of the Board. 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 Sewer District, Public Financial Management and the Metropolitan Washington 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, Chief Operating Officer*

Mr. George was appointed Chief Operating Officer in 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.

#### *Leonard R. Benson, Chief Engineer*

Mr. Benson was appointed Chief Engineer in August 2010, after 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.

#### *Meena Gowda, Acting General Counsel*

Ms. Gowda was appointed Acting General Counsel in January 2018, after serving as Deputy General Counsel since January 2017, and Principal Counsel since 2000. Prior to joining the Authority, Ms. Gowda worked in a private law firm and the District of Columbia Office of Corporation Counsel (now known as the District of Columbia Office of the Attorney General). Ms. Gowda has served on several boards and committees in a variety of establishments, including charter schools, county government and social organizations. Ms. Gowda holds a law degree from the University of Bangalore and has attended the Dickinson School of Law. Ms. Gowda is admitted to practice law in the District of Columbia and is member of the District of Columbia Bar.

*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.

*Charles Kiely, Assistant General Manager of Consumer Care & Operations*

Mr. Kiely joined the Authority as Director of Customer Services Department in November 2002. Prior to joining the Authority, Mr. Kiely was Executive Vice President of Customer Services for Commonwealth Electric, Cambridge Electric and Commonwealth Gas Companies serving 78 communities in eastern and central Massachusetts. He was later appointed Vice President of Customer Care for NSTAR, formed after the BEC Energy and Commonwealth Energy merger, creating the largest investor-owned gas and electric utility in Massachusetts. Mr. Kiely received a B.S. in Management from the University of Massachusetts and an M.B.A. from Bentley College.

*Carlton Ray, Director, 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 (CSOs) 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 CSO 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, Assistant General Manager, Blue Plains*

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).

### **Authority's Relationship to District**

Section 424A of the Home Rule Act (D.C. Official Code Section 1-204.25) sets forth the powers and responsibilities of the District's Chief Financial Officer (the "District CFO"). The "District of Columbia Water and Sewer Authority Independence Preservation Act," P.L. 110-273, enacted by the Congress on July 15, 2008, amended the Home Rule Act to make clear that (i) the authority of the District CFO to hire, supervise and remove certain financial management employees 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. The Act 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 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. On December 15, 2014, the District and the Authority entered into a new Memorandum of Understanding (the "2014

PILOT MOU”) amending the 1998 PILOT MOU. According to the terms of the 2014 PILOT MOU, the Authority made a PILOT payment to the District in the amount of \$15,022,169.00 in Fiscal Year 2015 for the services provided by the District to the Authority. In Fiscal Years 2016 to 2024, 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. 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 amount of the ROW Fee payment to the District for Fiscal Years 2015 to 2024 and revise 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 sewer 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.

**Employees and Labor Relations**

The total number of authorized positions for the Authority for Fiscal Year 2018 is 1,274. As of September 30, 2017, the Authority had 1,134 full-time equivalent employees, of whom 718 were represented by five unions:

- American Federation of Government Employees (“AFGE”) consisting of Locals 631, 872 and 2553, representing 482 employees;
- American Federation of State, County and Municipal Employees (“AFSCME”), Local 2091, representing 221 employees; and,

- National Association of Government Employees (“NAGE”), representing 15 employees.

The Authority and the unions operate under a single Master Agreement on Compensation which was signed on July 6, 2017 and is set to expire on September 30, 2019.

There are five separate working conditions agreements with the unions. The working condition agreement with NAGE will expire on September 30, 2019. The Authority is negotiating successor agreements on working conditions with the other four unions.

The percentage of current employees eligible to retire within the next 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 Ten Years**  
(based on age and years of service)

	12/31/2017	12/31/2020	12/31/2025
Employees	11%	6%	15%
Directors and Executives	>1%	>1%	>1%

Source: Authority records.

[The percentage of current Authority employees eligible to retire in five years is slightly higher than the median five-year retirement eligibility for combined water and wastewater utilities, which is 22% (as reported by the 2010 American Water Works Association/Water Environment Federation Qualserve Survey), and is within the range experienced by other large municipal water and wastewater utilities. To prepare for future retirements, since 2006, the Authority has had in place a comprehensive succession planning program for senior executives and a knowledge capture program for operational elements of the organization. In addition to identifying tacit knowledge use in operational activities, the knowledge capture program is identifying needed competencies to improve the replacement process, as well as improving the efficiency of the studied processes.]

**Retirement/Pension Plan**

The Authority employees hired before October 1, 1987, participate in the U.S. Civil Service Retirement System (the “CSRS”). The employees and the Authority each annually contribute 7% of the employee’s base pay to the CSRS. The Authority employees who retire under the CSRS receive retiree medical and life insurance benefits under the Federal Employees’ Health Benefits Program and the Federal Employees’ Group Life Insurance Program at no cost to the Authority. The Authority has no other post-employment benefits liability relating to medical or life insurance benefits under the CSRS programs.

With a few exceptions, all of the employees hired after September 30, 1987, participate in the U.S. Social Security System and the Authority’s Defined Contribution Plan. Under the Authority’s Defined Contribution Plan, the Authority annually contributes 7% of base pay plus an additional 5% of base pay earning above the Social Security Wage Base. Employees do not contribute to this plan and are 100% vested in the plan after three years of continuous service. The Authority has no other post-employment benefits liability relating to medical or life insurance benefits under the Defined Contribution Plan. The Authority employees hired after September 30, 1987, do not receive any retiree medical or life insurance benefits.

Starting in January 2000, employees who were hired after September 30, 1987, participate in a 457(b) Deferred Compensation plan administered by the Authority. 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 100% vested in their contributions.

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

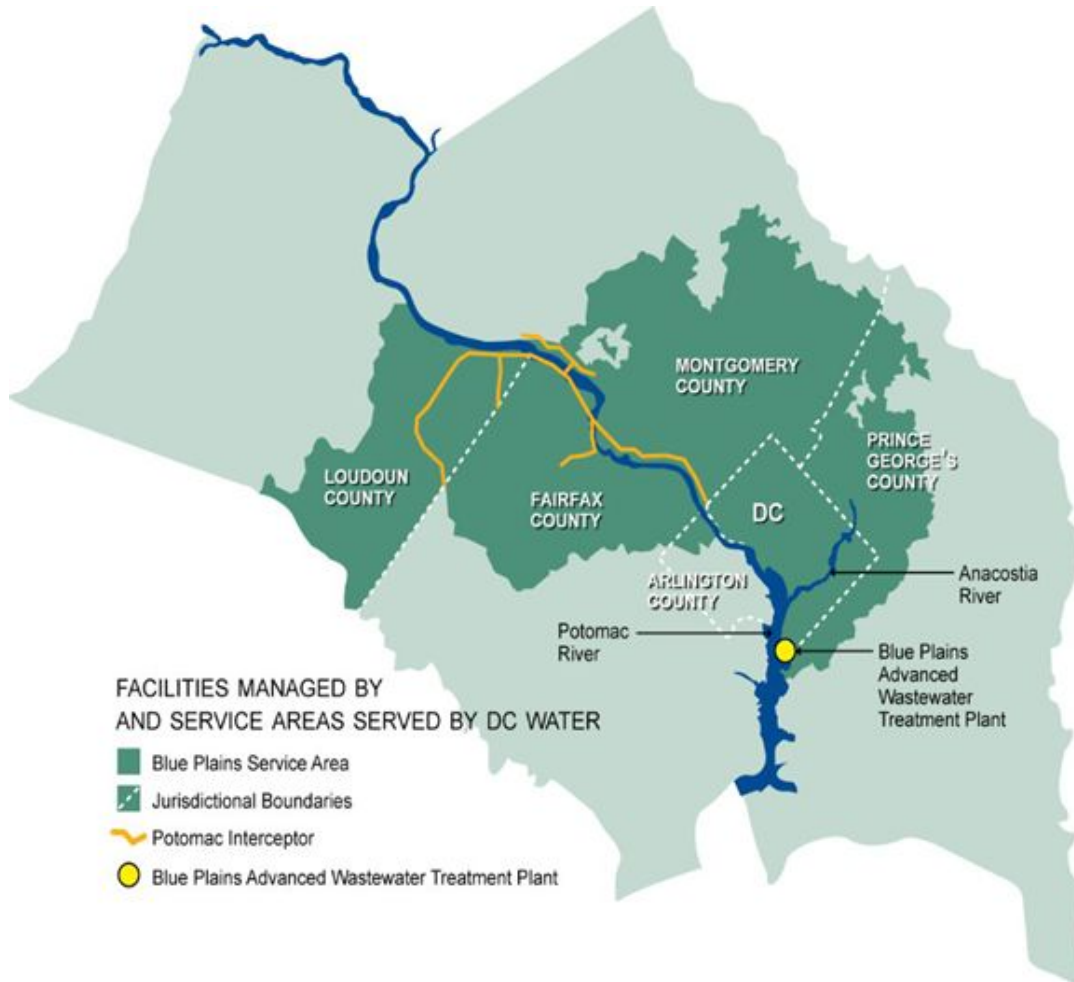
**Risk Management and Insurance**

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 2017. 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, 2017 with coverage through July 1, 2018. Since the passage of the Terrorism Risk Insurance Act of 2002 ("TRIA"), terrorism coverage is included under all insurance policies.

## 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

#### *History and Description of 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 370 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 [700,000] 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. A series of recent upgrades to the Authority's sanitary sewer system 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 and Maryland, 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. 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 continues on schedule. The current FY 2018 – FY 2027 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." Implementation of the DC Clean Rivers Project is required by a consent decree (the "2005 LTCP Consent Decree") dated March 25, 2005, among the Authority, the District, and the United States. The Authority successfully renegotiated the terms of the 2005 LTCP Consent Decree to allow the Authority to incorporate large scale green infrastructure ("GI") in the DC Clean Rivers Project and remain in compliance with the 2005 LTCP Consent Decree. With the modifications to the 2005 LTCP Consent Decree, the DC Clean Rivers Project 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. 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

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

on customers' properties. See "CUSTOMER BASE, RATES AND CHARGES – Rate-Setting Authority – Components of Retail Rates and Charges – Clean Rivers Impervious Area Charge." 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 the Potomac Watershed and "Green Infrastructure" in the Rock Creek Watershed. The 2005 LTCP Consent Decree does not have an expiration date.

*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 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 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. 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. Unlike many municipal wastewater treatment facilities that discharge into the Chesapeake Bay, the Authority has historically removed phosphorus and nitrogen and is currently meeting the reduction goal. 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.

The NPDES Permit required the Authority to comply with a new total nitrogen discharge limit by January 1, 2015. The new total nitrogen discharge limit matches the 2010 goal of the Chesapeake 2000 Agreement. The Authority negotiated with EPA Region III to define the scope and schedule of capital improvements necessary to implement this modification and as a result developed the Blue Plains Enhanced Nitrogen Removal Facilities program ("ENRF"), which is designed to improve treatment processes to achieve advanced treatment with nitrification and denitrification facilities. The ENRF was completed and began treating the full Blue Plains plant flow in October, 2014. As a result of the successful completion and placement in service of the ENRF, the Authority satisfied its obligation under the NPDES Permit to reduce nitrogen discharge from Blue Plains by January 1, 2015. See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Wastewater Treatment Projects."

*Air Quality Issues.* In March 2008, the Authority submitted an application to the District of Columbia Department of Environment for a Title V air quality operating permit pursuant to Chapter 3 of Title 20 of the District of Columbia Municipal Regulations (referred to as a Chapter 3 Operating Permit). As of the date of this Official Statement, the Authority's application was still pending.

*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, the District is performing its Triennial Review of Water Quality standards to determine whether a revision of the standards is appropriate. The Authority will continually monitor such proposed regulations and will advocate, as necessary, on behalf of itself and its rate payers.

A specific example of the foregoing is that, 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 DC Water, 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 dismissing the Authority's complaint.

**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)
2008	40,755	111.7	150.5
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

Source: Authority’s 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. [The proposed overall budget for the Authority’s share of the costs of Aqueduct capital improvements totals approximately \$296 million.] Over the next ten years, the Authority estimates that its cost of the Washington Aqueduct Project will be \$120.1 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 budget contemplates a potential divesting of the Aqueduct by USACE. In response to that proposal, 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 by USACE 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 370 mgd currently exceeds the day-to-day demands and peak requirements of their respective service areas.

Finished water from the Dalecarlia WTP is pumped by the Dalecarlia Pumping Station to the following reservoirs which serve various pressure zones within the District: Brentwood, Foxhall, Van Ness and Fort Reno Reservoir No. 1 and No. 2. Finished water from the McMillan WTP is pumped by the Authority's Bryant Street Pumping station to District customers. Brentwood and Reno No. 1 reservoirs, which can store up to 143.5 million gallons ("mg") of finished water, are the Authority's facilities. The other three reservoirs are owned and operated by the Aqueduct and can store up to 125 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.

#### *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 decreased from 72.40% in 2016 to 72.14% in 2017. 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 dewateres 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.

[UPDATE] The Authority estimates the cost of the lead service line replacement program in the CIP at \$[ ] million. Since inception of the line replacement program through September 30, 2017, the Authority expended [ ] million on the lead service line replacement program. See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Water Projects."

### **Protection of the Water System and Wastewater System**

In 2000, the Authority developed and began implementing 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 developed and implemented additional security measures beyond the 2000 Security Program.

The Aqueduct and each of the Aqueduct Customers has 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 sewer 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 addition, as to cybersecurity, in accordance with Executive Order 13636 "Improving Critical Infrastructure Cyber Security," the Authority has developed a cybersecurity framework that enables it and its partners to meet all of the Authority's business/mission objectives by implementing information systems with consideration to IT-related risk. This 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 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.



While the Aqueduct and the Authority have taken these actions to help ensure the security of the System, the Authority does not represent that any existing or additional safety and security measures will be adequate in the event that terrorist activities are directed against the System.

**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)

Fiscal Year	Mandates(a)	Health and Safety(b)	Board Policy(c)	Potential Failure(d)	High Profile Good Neighbor(e)	Good Engineering / High Payback(f)	Good Engineering / Lower Payback(g)	Total
FY 2018	\$220,594	\$10,328	\$32,116	\$36,138	\$5,812	\$92,413	\$52,549	\$449,950
FY 2019	206,711	7,019	43,217	47,806	3,663	76,930	53,771	439,118
FY 2020	152,280	7,041	63,657	57,981	4,152	87,635	47,595	420,342
FY 2021	142,424	11,344	37,695	37,540	1,122	119,039	53,517	402,681
FY 2022	197,784	9,496	10,087	38,155	165	133,632	56,328	445,647
FY 2023	154,862	4,883	19,363	39,348	303	122,177	44,377	385,312
FY 2024	63,987	7,251	38,615	30,456	2,206	129,966	53,803	326,284
FY 2025	54,461	1,296	60,417	33,961	389	121,212	46,624	318,360
FY 2026	132,361	1,503	61,314	34,272	-	116,760	93,218	439,428
FY 2027	89,417	1,021	47,707	15,336	-	85,510	136,013	375,004
<b>Total</b>	<b>\$1,414,882</b>	<b>\$61,181</b>	<b>\$414,188</b>	<b>\$370,993</b>	<b>\$17,812</b>	<b>\$1,085,274</b>	<b>\$637,796</b>	<b>\$4,002,125</b>
% of Total	<b>35.4%</b>	<b>1.5%</b>	<b>10.3%</b>	<b>9.3%</b>	<b>0.4%</b>	<b>27.1%</b>	<b>15.9%</b>	

<sup>a</sup> Agreements, regulatory standards, court orders, issues and permits requirements, stipulated agreements, etc.

<sup>b</sup> Projects required to address public safety.

<sup>c</sup> Projects undertaken as a result of the Board’s commitment to outside agencies.

<sup>d</sup> Projects related to facilities in danger of failing or critical to meeting permit requirements.

<sup>e</sup> Projects that address public concerns.

<sup>f</sup> Projects that are necessary to fulfill mission and upgrade facilities.

<sup>g</sup> Lower priority projects.

Source: Authority records.

Since its creation in 1996 through September 30, 2017, the Authority has expended approximately \$5.4 billion, on a cash disbursement basis, for capital improvement projects, including \$2.5 billion for projects at Blue Plains, \$814.3 million for Water System infrastructure projects, \$1.7 billion for the DC Clean Rivers Project and combined sewer projects, \$375.0 million for sanitary sewer projects, \$30.2 million for non-process facilities, and \$84.0 million for meter replacement/AMR projects.

The Authority estimates the cost of the Fiscal Year 2018 – 2027 CIP at \$4.0 billion on a cash disbursement basis, including approximately \$855.9 million for wastewater treatment projects at Blue Plains, \$1.4 billion for the DC Clean Rivers Project and combined sewer projects, \$730.7 million for Water System infrastructure projects, \$532.5 million for sanitary sewer projects, \$24.5 million for stormwater projects, \$108.0 million for non-process facilities, \$152.8 million for capital equipment, \$120.0 million for Washington Aqueduct Division projects and \$45.3 million for meter replacement/AMR projects. The Board approved the CIP on March 1, 2018.

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

**Table 5. Fiscal Year 2018 - 2027 Capital Improvement Program  
Sources and Uses of Capital Funds  
Fiscal Years ended/ending September 30  
(\$ in thousands)<sup>1</sup>**

	Actual(s) <sup>2</sup>	Projected										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total
<b>BEGINNING BALANCE</b>	\$106,057	\$172,706	\$249,878	\$134,554	\$123,657	\$121,193	\$122,019	\$121,503	\$122,842	\$136,701	\$101,360	\$172,706
<b>SOURCES OF FUNDS:</b>												
Proceeds from Rev. Bonds	332,373	300,000	110,000	195,183	159,054	201,898	150,265	100,000	100,000	135,964	100,000	1,552,364
Proceeds from Environmental Impact Bonds	25,000	0	0	0	0	0	0	0	0	0	0	0
System Availability Fee (SAF)	0	1,925	3,850	5,775	7,700	7,700	7,700	7,700	7,700	7,700	7,700	65,450
Transfer from Operations (CRIAC)	0	13,513	30,824	34,047	38,684	41,543	44,396	45,734	45,890	46,867	48,284	389,782
Transfer from Operations (Pay-Go)	117,272	87,803	65,948	77,992	89,264	94,846	98,566	101,074	103,126	107,869	111,372	937,860
EPA Grants /FEMA Grants/DC Reimbursement	14,246	23,620	44,339	29,996	25,300	20,941	20,941	20,941	20,941	15,083	15,083	237,183
CSO Grants	14,021	8,500	0	0	0	0	0	0	0	0	0	8,500
Wholesale Customer Capital Contributions	107,288	90,214	65,851	62,795	79,022	77,526	61,425	51,175	53,561	89,243	96,586	727,398
Interest Income	1,764	1,549	2,981	3,658	1,193	2,019	1,503	1,000	1,000	1,360	1,000	17,262
<b>Total Sources</b>	\$611,964	\$527,124	\$323,793	\$409,446	\$400,216	\$446,472	\$384,795	\$327,623	\$332,218	\$404,085	\$380,024	\$3,935,798
<b>USES OF FUNDS:</b>												
Water Projects	\$47,309	\$58,044	\$45,747	\$84,256	\$62,341	\$48,241	\$53,471	\$88,055	\$99,661	\$101,344	\$89,510	\$730,670
Blue Plains Projects	148,104	95,485	74,617	77,853	87,960	89,820	69,560	51,607	62,172	117,623	129,252	855,949
Sanitary Sewer Projects	40,059	29,802	32,947	34,046	53,050	74,492	73,917	75,912	58,882	60,769	38,672	532,489
Combined Sewer	13,127	13,502	10,951	12,511	9,832	10,226	13,397	20,124	15,593	7,393	5,622	119,151
Combined Sewer LTCP (Clean River Project)	216,298	168,314	189,392	148,042	138,289	192,859	151,111	59,569	50,018	128,404	87,197	1,313,195
Stormwater Projects	1,384	945	4,909	2,400	2,312	5,839	1,212	1,784	1,642	1,276	2,133	24,452
Non Process Facilities	25,189	32,194	33,107	18,907	7,860	1,551	25	6,615	7,773	0	0	108,032
Washington Aqueduct Division Projects	15,483	11,768	12,930	12,944	13,039	13,039	12,312	11,768	11,441	10,496	10,315	120,052
Capital Equipment	18,324	27,135	27,400	24,265	23,380	6,961	7,688	8,232	8,559	9,504	9,685	152,809
Meter Replacement / AMR / CIS	20,038	12,763	7,118	5,118	4,618	2,618	2,618	2,618	2,618	2,618	2,618	45,325
<b>Total Uses</b>	\$453,315	\$449,952	\$439,118	\$420,342	\$402,681	\$445,646	\$385,311	\$326,284	\$318,359	\$439,427	\$375,004	\$4,002,124
<b>SOURCES MINUS USES</b>	66,649	77,172	(115,325)	(10,896)	(2,465)	826	(516)	1,339	13,859	(35,342)	5,020	(66,326)
<b>ENDING BALANCE<sup>3</sup></b>	172,706	249,878	134,554	123,657	121,193	122,019	121,503	122,842	136,701	101,360	106,380	106,380

<sup>1</sup>Totals may not add due to rounding

<sup>2</sup>Preliminary results, unaudited

<sup>3</sup>Beginning in FY 2019, the Authority will set aside \$30 million of cash on hand from the above sources to serve as a contingency for the 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 2027.

Source: Authority Records.

### Categories of CIP Projects

*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, 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. The recent upgrades relating to the digestion process include 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; (iii) a facility upgrade to improve secondary treatment performance for more efficient overall nitrogen removal capability; (iv) construction of a new facility to treat high nitrogen load dewatering recycles; (v) initiating the design phase for projects to upgrade a raw wastewater pump station, the filtration and disinfection facility and the gravity thickener complex; and (vi) a major design-build project continues to build, by 2018, 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. [UPDATE]

The projected ten-year disbursements for wastewater treatment projects are approximately \$856 million, which includes approximately \$[655] million in disbursements for liquid, plantwide and solids processing projects such as major improvements to filtration, and pumping facilities and \$[189] million for the ENRF program projects such as the Tunnel Dewatering Pump Station and Enhanced Clarification Facility. [UPDATE]

*Sanitary Sewer Projects.* The CIP includes approximately \$532 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 3<sup>rd</sup> & 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. [UPDATE]

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 \$1.42 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 storm water 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 GI 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. GI technologies capture, infiltrate, treat and reuse polluted storm water runoff before it enters the sewer system. Examples of GI technologies include rain gardens, porous pavements, bio-swells, 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 – 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 \$24 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 (16) operated and maintained by the District.

*Non-Process Facilities Projects.* As of Fiscal Year 2017, non-process facilities projects were reallocated from Wastewater Treatment, Combined Sewer Overflow, Sewer, and Water to the new service area. 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 \$108 million in projected disbursements for this new service area.

*Washington Aqueduct Projects.* The Washington 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 \$120 million for Aqueduct projects. See “THE SYSTEM – The Water System – Water System Regulation and Permits – NPDES Permit and Water Treatment System Sediments.”

*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 \$731 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, like 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.”

*Capital Equipment Projects.* The CIP includes approximately \$153 million for major information technology projects, vehicle fleet upgrades and maintenance of 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 (AMR) 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. [UPDATE]

## **CIP Financing Sources**

The Authority expects to finance the CIP from the sources summarized below.

*Revenue Bonds/Commercial Paper Notes.* The Authority expects to finance approximately \$1.552 billion, or 39.4% of the CIP financing sources, 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

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\* The 25-year completion period is the result of successful negotiations between the Authority and EPA regarding the date by which the Authority must comply with the 2005 LTCP Consent Decree. Despite this difference in the term of the DC Clean Rivers Project, the cost estimates for the DC Clean Rivers Project in the CIP remain accurate.

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, \$90 million of the Series B CP Notes and \$29.2 million of the Series C CP Notes were outstanding. The outstanding Series B CP Notes are expected to be refunded with the proceeds of the Series 2018B Bonds. 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.

*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. The Authority expects to finance approximately \$727 million, or 18.5% of the CIP financing sources, with capital funding from wholesale customers. As of the date of this Official Statement, all wholesale customers were current on their capital contributions payments.

*Federal and Other Grants.* The Authority receives annual grants under the Clean Water Act and Safe Drinking Water Act for a variety of projects at Blue Plains and for the Water System. In addition, the Authority has received a special Congressional appropriation for improvements to the combined sewer system. The Authority expects to be reimbursed by the District for certain capital investments. The Authority expects to finance approximately \$246 million, or 6.2% of the CIP financing sources, with federal grants. Pursuant to the Safe Drinking Water Act and the Clean Water Act, the federal government makes annual appropriations for projects 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.

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 September 30, 2017, the Authority had received \$238.8 million in grant funding to date for the DC Clean Rivers Project.

*Pay-As-You-Go Financing.* 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 Authority expects to finance approximately \$938 million, or 23.8%, of the CIP financing sources with pay-as-you-go funds.

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.* 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. The Authority estimates that \$17 million in interest income, or 0.4%, will be available to finance the CIP.

*System Availability Fee.* On June 17, 2016, DC Water's Board approved a new System Availability Fee ("SAF") to be effective in Fiscal Year 2018. The SAFs 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 DC Water 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 Fee is based on meter size. The Authority currently expects to raise about \$65 million, or 1.7% of the CIP financing sources, from the revenues generated by the SAF.

*Clean Rivers Impervious Area Charge.* Beginning in 2018, the Authority intends to dedicate a portion of the rate revenues received from the Clean Rivers Impervious Area Charge (“CRIAC”) to fund capital projects. The Authority currently expects to generate about \$390 million, or 9.9% of the CIP financing sources, from CRIAC.

**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.

[UPDATE] 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 undertaken during the five-year period from Fiscal Year 2013 through Fiscal Year 2017 was \$[\_\_\_], or [\_\_\_]% of the total original value of the contracts of \$[\_\_\_] 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, 2017, the System had 127,284 active, metered water and wastewater accounts ([\_\_\_] of which are accounts of the Authority and [\_\_\_] 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 four categories: residential, commercial, governmental and wholesale. The number of accounts in each of the categories is set forth in Table 6.

**Table 6. Customer Categories and Accounts**

<u>Customer Category</u>	<u>Number of Accounts</u>	<u>% of Total Operating Revenue</u>
Residential, Multifamily, Commercial	124,610	62%
Governmental (Federal, District and D.C. Housing Authority) <sup>1</sup>	2,667	17
Wholesale	7	16
<b>Total</b>	<b>127,284</b>	<b>95%<sup>2</sup></b>

<sup>1</sup> 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.

<sup>2</sup> The remaining 5% 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. For the three year period from Fiscal Year 2015 through Fiscal Year 2017, the residential, commercial and multifamily customer revenue represented about 45% 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 2017, which in aggregate represented 2.51% of total operating revenues.

**Table 7. Ten Largest Commercial Customers (2017)**

<b>Customer</b>	<b>Revenue</b>	<b>% of Total Operating Revenues</b>
Howard University	\$3,957,007	0.6%
George Washington University	2,477,970	0.4
William C. Smith & Co.	2,226,722	0.3
Washington Hospital Center	1,624,588	0.3
Georgetown University	1,438,247	0.2
Metropolitan Washington Airports Authority	1,068,877	0.2
Amtrak	983,244	0.2
Georgetown University Hospital	808,884	0.1
Medstar-Georgetown Medical Center	807,540	0.1
American University	750,235	0.1
<b>Total</b>	<b>\$16,143,294</b>	<b>2.5%</b>

Source: Authority records.

Table 8 reflects the Authority's ten largest government customers in Fiscal Year 2017, which in aggregate represented 5.93% of total operating revenues.

**Table 8. Ten Largest Government Customers (2017)**

<b>Customer</b>	<b>Revenue</b>	<b>% of Total Operating Revenues</b>
D.C. Housing Authority	\$7,492,820	1.16%
U.S. General Services Administration	7,092,342	1.10
National Park Service	4,621,035	0.72
U.S. Congress	4,597,331	0.71
Smithsonian Institution	3,635,763	0.57
Bolling Air Force Base	3,115,393	0.48
D.C. Board of Education	2,497,561	0.39
Federal Naval Research Lab	1,853,214	0.29
Department of the Navy	1,662,225	0.26
D.C. Recreation and Parks	1,604,350	0.25
<b>Total</b>	<b>\$38,172,034</b>	<b>5.93%</b>

Source: Authority records.

### Customer Demand

Table 9 shows the average percentage of annual water consumption by customer category from Fiscal Year 2013 through Fiscal Year 2017. The results illustrate the diversification of the Authority's customer base.

**Table 9. Average Annual Consumption By Customer Category**  
**Fiscal Years 2013 – 2017**  
(millions of Ccf)

<b>Customer</b>	<b>Average Annual Consumption</b>	<b>% of Total Consumption</b>
Residential Single-Family	7.40	21.3%
Commercial	12.94	37.2
Residential Multi-Family	8.05	23.1
D. C. Municipal Government	0.95	2.7
Federal Government	4.65	13.4
D. C. Housing Authority	0.77	2.2
<b>Total Consumption</b>	<b>34.77</b>	<b>100.0%</b>

Source: Authority Records

Table 10 shows projected annual consumption for the Authority's customer categories for Fiscal Years 2018 through 2022. 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<sup>1,2</sup>**  
Fiscal Years ending September 30  
(Millions of Ccf)

	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Residential Single-Family	7.04	6.97	6.90	6.83	6.76
Commercial <sup>3</sup>	12.02	11.90	11.78	11.67	11.55
Residential Multi-Family	8.80	8.71	8.63	8.54	8.45
D. C. Municipal Government <sup>4</sup>	0.98	0.97	0.96	0.95	0.94
Federal Government	4.29	4.25	4.21	4.17	4.12
D.C. Housing Authority	0.76	0.75	0.74	0.74	0.73
<b>Total Consumption</b>	<b>33.89</b>	<b>33.56</b>	<b>33.22</b>	<b>32.89</b>	<b>32.56</b>

Source: Amawalk

<sup>1</sup> Totals may not add due to rounding.

<sup>2</sup> Total water consumption in Fiscal Years 2019 - 2022 reflects the assumption of a 1% annual decline.

<sup>3</sup> Reflects consumption at commercial facilities and selected facilities at Howard University and Soldiers' Home.

<sup>4</sup> Reflects consumption at District of Columbia Government facilities and the Authority facilities.

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 2013 and Fiscal Year 2014 by 5.7% and 3.6%, respectively. About 70% of the total decline in Fiscal Years 2013 and 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. See "-- Rate-Setting Authority" for additional information.

The Authority anticipates that consumption will total 33.89 million Ccf in Fiscal Year 2018, representing a decrease of 1.4% 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 2019, 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) is 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 Clean Rivers Impervious Areas Charge (“CRIAC”), are unaffected by changes in the quantity of customer water use. Consumption-based retail water and sewer revenues within the District are estimated to comprise about 56% of total revenues (excluding PILOT/ROW fees) in Fiscal Years 2018 through 2022. The Authority evaluates its water consumption projections annually in connection with its budget preparations and more frequently if the need arises.

### **Rate-Setting Authority**

#### *Retail Rates, Fees and Charges*

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.

The Authority adopted several changes to its retail rate structure, which 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 rates, fees and charges, see “CUSTOMER BASE, RATES AND CHARGES – Components of Retail Rates and Charges” and “Historical and Projected Retail Rates.”

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 expects to adopt (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 include: greater revenue certainty, increased budget discipline, and better alignment between revenues and expenditures. The retail rates and charges are expected to change in each year. See “– Historical and Projected Retail Rates.” As is currently the case, if in any year the Authority determines that revenues are materially less than expectations 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 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 6.9% of the Authority’s total annual revenues during Fiscal Year 2018 through Fiscal Year 2022 (excluding PILOT/ROW fees).

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. An executive order signed by the President 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 DC Water.
- 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 12.2% of the Authority’s total annual revenues during Fiscal Year 2018 through Fiscal Year 2022 (excluding PILOT/ROW fees).

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**

*Water and Wastewater Charges*

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 primary retail rates and fees are as follows:

- i. Water and Wastewater Consumption Rates. These 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. 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 the Fiscal Year 2015 Cost of Service Study (“2015 COS Study”). Based on the results of the 2015 COS Study, the Authority’s management recommended a restructuring of its rates, charges and fees to the Board to include water rate classes for Residential, Multi-Family and Non-Residential customers. Sewer rates remain uniform for all customers. On February 5, 2015, the Board approved a resolution adopting this new rate structure which became effective October 1, 2015, for Fiscal Year 2016. Water and wastewater consumption rates increased by 5.0% per year in Fiscal Years 2017 and 2018 compared to Fiscal Year 2016.

The 2018 Cost of Service Study (“2018 COS Study) prepared by RFC has recommended no changes to the rate structure and water rate classes but has recommended decreases in water rates, an increase to the sewer rate and a reduction in the CRIAC in Fiscal Year 2019 to better align rates and revenues with the cost of providing service.

- ii. 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 will remain unchanged in Fiscal Years 2019 and 2020.
- iii. Water System Replacement Fee. The Authority modified its rate structure and implemented the meter-based Water System Replacement Fee in Fiscal Year 2016 in order to recover the cost of the 1% renewal and replacement program for water service lines. The Water System Replacement Fee will remain unchanged in Fiscal Years 2019 and 2020. It is anticipated that the Water System Replacement Fee will generate \$39.7 million in revenue per year from Fiscal Years 2018 through 2022.

*Clean Rivers Impervious Area Charge*

The Water and Sewer Authority Equitable Ratemaking Amendment Act of 2008 (the “2008 Amendment Act”), enacted by the Council in 2008, 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 sewer 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.

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 \$2.6 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 accounts within each tier are shown as of September 30, 2017 in Table 11. [UPDATE]

**Table 11. Equivalent Residential Unit Tiers**

<b>Tiers</b>	<b>Size of Impervious Area (square feet)</b>	<b>Equivalent Residential Unit</b>	<b>No. of Properties (as of September 30, 2017)</b>
Tier 1	100 – 600	0.6	
Tier 2	700 – 2,000	1.0	
Tier 3	2,100 – 3,000	2.4	
Tier 4	3,100 – 7,000	3.8	
Tier 5	7,100 – 11,000	8.6	
Tier 6	11,100 and more	13.5	

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. Effective October 1, 2018, the CRIAC rate is expected to decrease to \$23.00 per ERU for Fiscal Year 2019. The decrease in CRIAC rate is part of the rate adjustments proposed as result of the 2018 COS Study. The CRIAC rate is expected to increase to \$25.58 per ERU for Fiscal Year 2020, effective October 1, 2019. Further increases in the CRIAC are expected in Fiscal Years 2021 and 2022.

On January 23, 2009, the Mayor of the District signed the Water and Sewer Authority Equitable Ratemaking Act of 2008, which states that DC Water will establish, together with the DOEE, an incentive program to institute certain eligible best management practices that reduce the amount of stormwater runoff generated from a property. On April 4, 2013, the Board approved a resolution that authorized staff to advertise the CRIAC Incentive Program for public comment and the rulemaking process. The proposed program is a three year pilot credit program for CRIAC that will provide a 4% maximum incentive credit (the actual credit amount is to be calculated based upon the DOEE formula proposed on October 5, 2012), with a not-to-exceed annual budgeted allowance of \$500,000. The public hearing that was held on May 8, 2013, was the formal process for obtaining public input, and a final decision was reached on July 3, 2013. The not-to-exceed annual budgeted allowance of \$500,000 in credits is taken into consideration in the projection of revenues from the CRIAC.

*Clean River IAC 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 Customer Assistance Program (CAP) to low-income customers to include a CRIAC credit in the monthly bills. On December 1, 2016 the Board adopted the expansions 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.

*PILOT/Right of Way Occupancy Fee*

These fees recover the cost of the PILOT and Right of Way fees (collectively, “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, 2016 (i.e., for Fiscal Year 2017), the Authority’s PILOT/ROW Fee was \$0.65 per Ccf. The PILOT/ROW Fee increased to \$0.67 per Ccf effective October 1, 2017 (Fiscal Year 2018) and is expected to increase to \$0.68 per Ccf effective October 1, 2018 (Fiscal Year 2019).

*Stormwater Fee*

The Authority’s retail water and wastewater bills also include a stormwater fee levied on behalf of the District government. The stormwater fee is charged as a separate line item on retail customer bills. Although the Authority no longer administers the program, it will continue to be reimbursed by the District for any stormwater-related expenditure. 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 – Relationship with the District.” Effective October 1, 2016 (i.e., for Fiscal Year 2017), the stormwater fee charged to retail customers was \$2.67 per ERU, which is the current rate. The stormwater fee is expected to remain the same for Fiscal Years 2019 and 2020.

**Historical and Projected Retail Rates**

[UPDATE] The Board has raised retail water and wastewater rates regularly since 1996, in line with its policy of implementing rate increases in a gradual and predictable manner. The Board has approved class-based water volumetric rates for Residential, Multi-family, and Non-residential customer effective from [October 1, 2015 (Fiscal Year 2016).] The current rates are set forth in Table 12 below.

**Table 12. Retail Class-Based Water Volumetric Rates**

Water Volumetric	Class-Based (w/lifeline)	
	FY 2017	FY 2018
Residential - 1-4 Ccf	\$ __	\$ __
Residential - >4 Ccf	__	__

Multi-Family / DC Housing	—	—
Non-Residential	—	—

Source: Authority records.

[UPDATE] Federal government customers in Virginia pay the Arlington County retail rate, which, since May 1, 2015, is \$3.15 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.

[UPDATE] Since 2000, the Board has adopted a series of ten-year financial plans that include annual, gradual rate increases. The latest of these was a retail rate increase for water and wastewater charges of 5.0% per year for Fiscal Year 2017 and Fiscal Year 2018. Fiscal Year 2019 will have a 13.5% increase as part of rate adjustments recommended by the 2018 COS Study. For Fiscal Years 2020 through 2022, the Authority’s financial plan projects retail water and wastewater rate increases of 5.0% per year.

Table 13 sets forth historical water and wastewater rates and the CRIAC of the Authority and Table 14 sets forth adopted and projected water consumption and sewer usage rates of the Authority for Fiscal Years 2018 through 2022. The revenue resulting from the CRIAC reduces the amount of revenue that must be raised through wastewater charges, resulting in a lower wastewater rate.

**Table 13. Historical Water and Wastewater Retail Rates and Charges<sup>1</sup>**

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

Fiscal Year	Water Consumption Rate	Sewer Usage Rate	Combined Rate	Water and Sewer Percent Increase	CRIAC Rate (Per ERU)	Meter Charge (Per 5/8" Meter) <sup>3</sup>	Water System Replacement Fee (Per 5/8" Meter) <sup>3</sup>
2013	3.42	4.18	7.60	5.5%	9.57	3.86	
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 <sup>2</sup>							
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 <sup>2</sup>							
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				

<sup>1</sup> Rates and charges are billed monthly.

<sup>2</sup> Percent increase reflects the overall average increase for all customers; the increases for individual customers vary by customer class and consumption.

<sup>3</sup> 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 14. Current and Projected Retail Rates and Charges<sup>1</sup>**

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

	Units	Current	Proposed <sup>2</sup>		Projected <sup>2</sup>	
		2018	2019	2020	2021	2022
Water Rates						
Residential - 0-4 Ccf	Ccf	3.39	2.91	3.06	3.21	3.37
Residential - >4 Ccf	Ccf	4.26	3.90	4.10	4.31	4.53
Multi-Family	Ccf	3.80	3.37	3.54	3.72	3.91
Non-Residential	Ccf	4.40	4.05	4.25	4.46	4.68
Sewer Rates	Ccf	6.00	7.75	8.14	8.55	8.98
Water & Sewer % Change <sup>3,4</sup>	%	5.0%	13.5%	5.0%	5.0%	5.0%
CRIAC	ERU	25.18	23.00	25.58	28.41	31.67
Meter Charge <sup>5</sup>	5/8" Meter	3.86	3.86	3.86	3.86	3.86

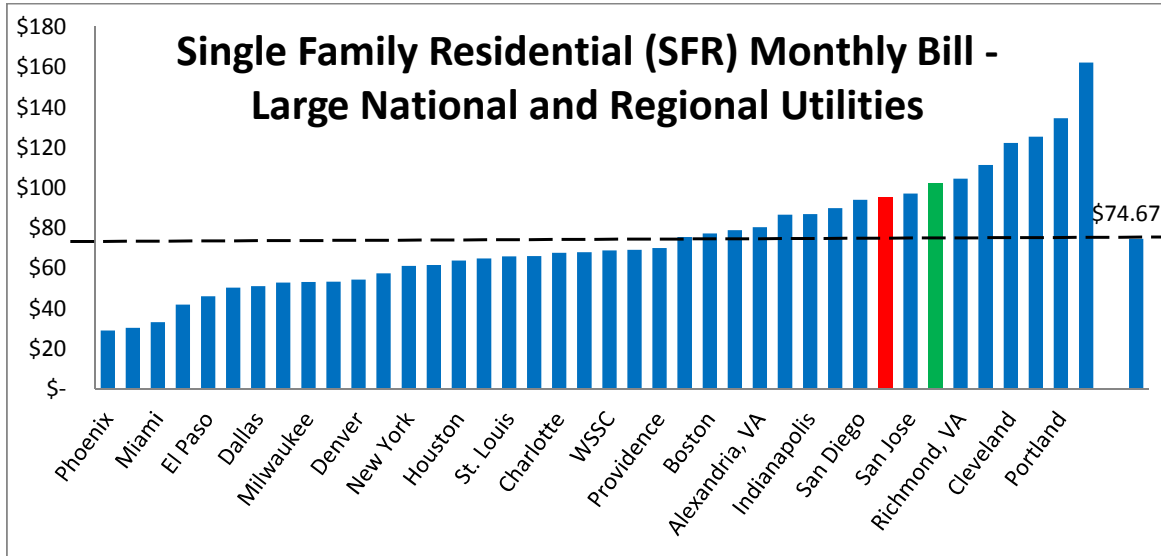
Water System Replacement Fee	5/8" Meter	6.30	6.30	6.30	6.30	6.30
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- <sup>1</sup> Rates and charges are billed monthly.
  - <sup>2</sup> Rates for Fiscal Years 2019 through 2022 are projected and subject to change.
  - <sup>3</sup> Water and sewer percent change reflects the overall average increase for all customers; the increases for individual customers will vary by customer class and consumption.
  - <sup>4</sup> In Fiscal Year 2019, the proposed decrease in water rates and the CRIAC and the increase in sewer rates is based on the 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, and Water System Replacement Fee) relative to Fiscal Year 2018 for an average residential customer is projected to be 5.9%.
  - <sup>5</sup> The Meter Charge and the Water System Replacement Fee as shown reflect a customer with a 5.8 inch 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 15 compares the Authority’s combined water, wastewater and impervious area residential charges to these utilities. The table reflects the Authority’s Fiscal Year 2018 rate and fee charges, while other utilities rates are as of March 1, 2018. The Authority’s Fiscal Year 2018 rate and fee charges are shown both with and without the pass-through of the District’s PILOT/ROW Fee in the amount of \$0.67 per Ccf, and the DOEE residential stormwater rate of \$2.67 per ERU per month.

**Table 15. Average Water and Wastewater Bill Comparison<sup>1,2</sup>**

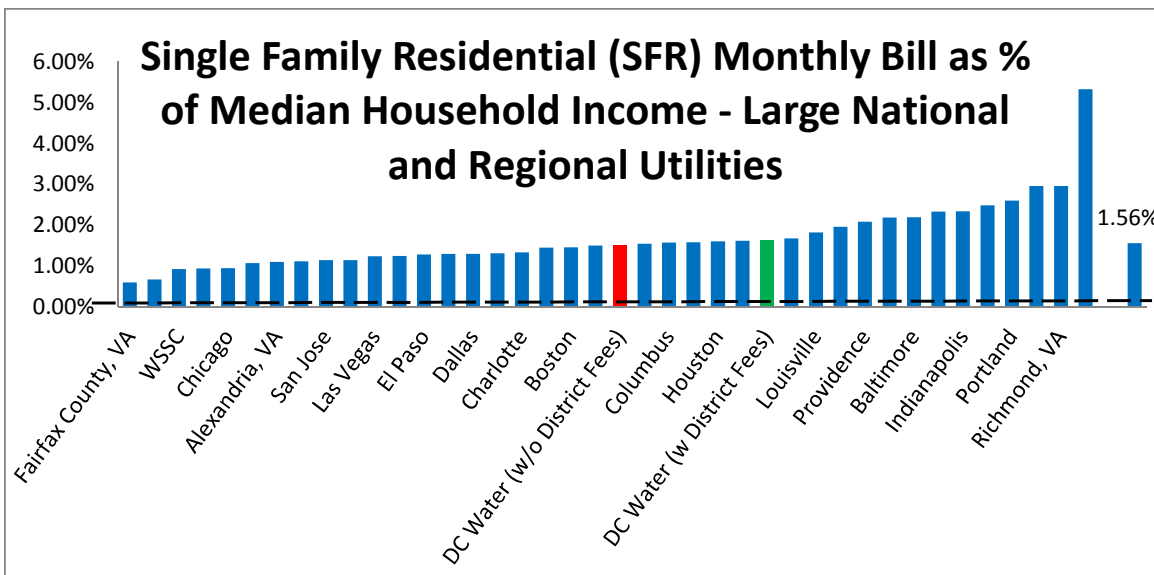


- <sup>1</sup> Assumes average residential consumption of 6.20 Ccf, or 4,638 gallons, per month.
- <sup>2</sup> User charges are based upon information provided by the identified cities and standardized assumptions regarding water consumption, wastewater discharge, stormwater drainage area and other 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. Sewer 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/sewer services. Water/sewer 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.
- <sup>3</sup> Charges for all cities reflect rate schedules in effect on March 1, 2018. The Authority’s charges with District fees include the PILOT/ROW fee totaling \$0.67 per Ccf and the DOEE residential stormwater rate of \$2.67 per ERU per month.

Source: Amawalk

The median income in the District is competitive with the median income in many other jurisdictions. Table 16 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 16. Average Water and Wastewater Bill Comparison<sup>1,2</sup>**



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

<sup>2</sup> Charges for all cities reflect rate schedules in effect on March 1, 2018. The Authority’s charges with District fees include the PILOT/ROW fee totaling \$0.67 per Ccf and the DOEE residential stormwater rate of \$2.67 per ERU per month.

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 automated meter reading (AMR), 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. During the last five Fiscal Years, the Authority’s 90-day receivable balance has ranged from \$4.9 to \$8.4 million, even with multiple rate increases that doubled the typical residential bill, with a receivable balance, as a percentage of operating revenues, of just 1.6%. 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 enhances 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 on 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 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 Automated Meter Reading System (AMR) 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 17 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. [verify percentages]

**Table 17. Retail Customer Cumulative Delinquent Balances**  
(\$ in millions)

<u>As of September 30,</u>	<u>Amount<sup>1</sup></u>	<u>Percent of Operating Revenue</u>
2013	\$4.9	1.4%
2014	5.3	1.4
2015	6.5	1.6
2016	7.7	1.6
2017	8.4	1.6

<sup>1</sup> 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.

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. The parties have been in negotiation in an effort to resolve the issues surrounding this historically exempt account. There are no other exempt accounts and the Authority does not anticipate the addition of any new exempted accounts. [UPDATE?]

**Customer Assistance Programs**

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

*CAP.* 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.

<u>Fiscal Year*</u>	<u>CAP Enhancement</u>
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 sewer services
2011	Provide a discount of the first 4 Ccf of PILOT/ROW fees.
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).

Table 18 sets forth the number of customers assisted and the total discount provided through the CAP discount since Fiscal Year 2014. The projected revenues of the Authority take into consideration the discounts provided to low-income customers under the CAP. [add FY 2013]



**Table 18. Customer Assistance Program Discount**

<b>Fiscal Year</b>	<b>Customers Assisted</b>	<b>Water/Sewer PILOT/ROW (\$)</b>	<b>WSRF Credit (\$)</b>	<b>CRIAC Credit (\$)</b>	<b>Total Amount</b>
2014	4,583	1,129,776			1,129,776
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

<sup>1</sup> The CAP data for 2016 and 2017 reflect partial-year benefits for the WSRF and CRIAC, 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.

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 19 shows the number of customers assisted by the Authority and the total amount distributed through the S.P.L.A.S.H. program for the last five Fiscal Years.

**Table 19. S.P.L.A.S.H Program Distribution**

<b>As of September 30,</b>	<b>Participating Customers</b>	<b>S.P.L.A.S.H Value</b>
2013	359	\$121,084
2014	309	100,851
2015	351	103,150
2016	309	104,269
2017	374	126,492

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**

[UPDATE] The Authority derives its revenues primarily from retail customer payments for water, wastewater and stormwater services, which account for 82.6% of total revenues, and wholesale customer payments for wastewater treatment services, which account for 12.2% of total revenues (excluding PILOT/ROW fees for Fiscal Years 2018 through 2022). 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. The average annual rate of increase in total operating expenses on a cash basis, excluding PILOT/ROW expenses, for Fiscal Years 2013 through 2017 was 3.8%. In each such year, actual expenses of the Authority were less than the budgeted amount.

Table 20 presents historical revenues, expenses and changes in net position using information contained in the audited financial statements for Fiscal Years 2013 through 2017. The Authority's complete financial statements for the Fiscal Years ended September 30, 2017, and 2016, are attached hereto as APPENDIX B.

**Table 20. Historical Revenues, Expenses and Change in Net Position**

	(\$ in thousands)				
	Fiscal Year Ended September 30				
	2013	2014	2015	2016	2017
<b>Operating revenues</b>					
Residential, commercial and multi-family customers	\$ 275,337	\$ 295,209	\$335,711	\$382,552	\$ 401,246
Federal government	45,187	39,001	54,274	63,417	67,672
District government and DC Housing Authority	21,677	28,852	32,948	38,185	40,683
Charges for wholesale wastewater treatment	87,178	96,845	112,522	91,873	101,619
Other	9,700	13,917	14,460	19,762	32,149
<b>Total Operating Revenues</b>	<b>439,079</b>	<b>473,824</b>	<b>549,915</b>	<b>595,789</b>	<b>643,169</b>
<b>Operating expenses</b>					
Personnel services	103,908	108,467	115,233	124,239	132,124
Contractual services	68,417	68,172	66,241	74,086	72,611
Chemicals, supplies and small equipment	28,987	31,748	32,935	29,524	33,381
Utilities and rent	26,098	29,939	30,848	23,934	24,262
Depreciation and amortization	77,330	77,833	83,857	89,512	97,900
Water purchases	27,223	28,407	29,109	26,345	26,796
Payment in lieu of taxes and right of way fee	21,982	11,458	20,437	20,744	21,057
<b>Total operating expenses</b>	<b>353,945</b>	<b>356,024</b>	<b>378,660</b>	<b>388,384</b>	<b>408,131</b>
<b>Operating income</b>	<b>85,134</b>	<b>117,800</b>	<b>171,255</b>	<b>207,405</b>	<b>235,038</b>
<b>Nonoperating revenue (expenses)</b>					
Interest income	1,144	977	1,316	2,629	3,740
Interest expense and fiscal charges	(63,905)	(69,288)	(61,409)	(69,118)	(68,293)
<b>Total nonoperating revenue (expenses)</b>	<b>(62,761)</b>	<b>(68,311)</b>	<b>(60,093)</b>	<b>(66,489)</b>	<b>(64,553)</b>
Change in net position before Federal grants and contributions	22,373	49,489	111,162	140,916	170,485
Contributions of capital from Federal government	58,310	94,690	67,965	32,431	24,066
<b>Change in net position</b>	<b>80,683</b>	<b>144,179</b>	<b>179,127</b>	<b>173,347</b>	<b>194,551</b>
<b>Net position, beginning of year</b>	<b>\$1,125,953</b>	<b>\$ 1,206,636</b>	<b>\$1,350,815</b>	<b>\$1,529,942</b>	<b>1,703,289</b>
<b>Net position, end of year</b>	<b>\$1,206,636</b>	<b>\$ 1,350,815</b>	<b>\$1,529,942</b>	<b>\$1,703,289</b>	<b>\$1,897,840</b>

Source: 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 21. Debt service for Fiscal Year 2013 differs from the coverage as presented in the 2013 Comprehensive Annual Financial Report due to the exclusion of transfers to District of Columbia PILOT Fund (in the table below) in calculating Net Revenues Available for Debt Service.

**Table 21. Historical Debt Service Coverage<sup>1</sup>**  
(\$ in thousands)

	Fiscal Year ended September 30				
	2013	2014	2015	2016	2017
Revenues:					
Retail	\$328,361	\$351,148	\$382,012	\$451,467	\$474,462
Wholesale	75,009	70,763	81,230	79,784	81,136
Other Non-Operating	51,088	56,082	75,354	58,078	61,419
(Contributions to/Transfers from Rate Stabilization Fund)	(1,000)	6,500	(10,000)	(19,000)	(10,000)
Total Revenues (A)	\$453,458	\$484,493	\$528,596	\$570,329	607,017
Operating Expenses (B)	252,329	281,918	273,486	298,452	292,812
Revenues Less Operating Expenses (C=A-B)	\$201,129	\$202,575	\$255,109	\$271,877	\$314,205
Debt Service:					
Senior Debt Service (D)	\$41,904	\$42,041	\$55,746	\$46,829	\$51,945
Subordinate Debt Service (E)	65,796	78,124	84,925	105,252	109,263
Total Outstanding and Projected Debt Service (F=D+E)	\$107,700	\$120,165	\$140,671	\$152,081	\$161,208
Calculation of Net Revenues Available for Senior Debt Service:					
Revenues Less Operating Expenses (C)	\$201,129	\$202,575	\$255,109	\$271,877	\$314,205
Prior Year Federal Billing Reconciliation	(5,105)	(6,000)	(5,053)	(11,679)	(19,201)
(Refund to)/Payment from wholesale customers	(5,800)	(10,069)	(2,483)	(13,017)	(10,906)
(Additions to)/Transfers from DC PILOT Fund	(\$7,900)	(7,676)	-	-	-
Customer Rebate	(\$3,298)	(5,100)	-	-	-
Net Revenues Available for Senior Debt Service (G)	\$179,026	\$173,730	\$247,574	\$247,181	\$284,098
<b>Senior Debt Service Coverage (G/D)</b>	<b>4.27x</b>	<b>4.13x</b>	<b>4.44x</b>	<b>5.28x</b>	<b>5.47</b>
Calculation of Subordinate Debt Service Coverage:					
Net Revenue Available for Senior Debt Service	\$179,026	\$173,730	\$247,574	\$247,181	\$284,098
Less Senior Debt Service (D)	(41,904)	(42,041)	(55,746)	(46,829)	(51,945)
Net Revenues Available for Subordinate Debt Service (G-D)	\$137,122	\$131,689	\$191,827	\$200,352	\$232,153
<b>Subordinate Debt Service Coverage ((G-D)/E)</b>	<b>2.08x</b>	<b>1.69x</b>	<b>2.26x</b>	<b>1.90x</b>	<b>2.12</b>
<b>Combined Debt Service Coverage (G/F)</b>	<b>1.66x</b>	<b>1.45x</b>	<b>1.76x</b>	<b>1.63x</b>	<b>1.76</b>

<sup>1</sup> 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 2018A/B 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, but subject to the Mayor's recommendations. 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 2018 and Fiscal Year 2019 Budgets*

The Board adopted the Fiscal Year 2018 operating budget (the "Fiscal Year 2018 Budget") on December 1, 2016 and the Fiscal Year 2019 operating budget (the "Fiscal Year 2019 Budget") on March 1, 2018.

The Fiscal Year 2018 Budget for net operating expenditures totals \$561.9 million, which is \$26.1 million or 5% higher than the Approved Fiscal Year 2017 Budget, primarily due to [\_\_\_\_]. The Fiscal Year 2019 Budget for net operating expenditures totals \$[\_\_\_\_] million, which is \$[\_\_\_\_] million or [\_\_\_\_]% [higher/lower] than the Approved Fiscal Year 2018 Budget, primarily due to [\_\_\_\_].

In Fiscal Year 2018 and subsequent years, 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. Simultaneously, 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 22 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 2017 and (ii) projected cash flows, cash reserves and debt service coverage for Fiscal Years 2018 through 2022. The projected revenues reflect the increases in rates and charges adopted by the Authority for Fiscal Year 2018 and the anticipated increases in rates and charges for Fiscal Years 2019 through 2022.

The projected financial results for Fiscal Years 2018 through 2022 incorporate assumptions as of [\_\_\_\_]. The projected debt service requirements include anticipated debt service on the Series 2018A/B Bonds. The first payment of debt service for the Series 2018A/B Bonds is expected to be made in Fiscal Year 2018. Including the issuance of the Series 2018A/B Bonds, the Authority anticipates issuing approximately \$966 million of new money bonds from Fiscal Year 2018 through and including Fiscal Year 2022. There are no deposits to the debt service reserve fund assumed for the Series 2018A/B 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."

	Actual 2017 <sup>2</sup>	2018	2019	Projected 2020	2021	2022
<b>Revenues and Payment Obligations</b>						
Revenues						
Retail Revenues <sup>1</sup>	\$474,462	\$493,865	\$518,281	\$549,000	\$580,214	\$606,391
Wholesale Revenues	81,136	76,028	79,237	81,614	84,062	86,584
Other Non-Operating Revenues (Contributions to RSF)	61,419 (10,000)	50,580 0	51,950 0	55,153 0	61,960 0	65,481 0
Total Revenues	607,017	620,472	649,467	685,768	726,237	758,456
Prior Year Federal Billing Reconciliation	(19,201)	(9,019)	(5,821)	0	0	0
Projected Billing Refunds	0	(4,000)	(4,000)	(4,000)	0	0
(Refund to)/Payment from IMA	(10,906)	(7,000)	(1,500)	(1,500)	0	0
Net Revenues (A)	576,910	600,453	638,147	680,268	726,237	758,456
Operating Expenses (B)	292,812	298,770	316,797	326,301	336,090	346,173
Net Revenues Available for Debt Service (C=A-B)	284,098	301,683	321,350	353,967	390,147	412,284
Total Senior Debt Service (D) <sup>3,4</sup>	51,945	71,022	75,881	83,490	90,323	90,321
Total Subordinate Debt Service (E) <sup>3,4,5,6</sup>	109,263	113,256	123,145	130,629	141,805	155,157
Total Outstanding & Projected Debt Service (F=D+E)	161,208	184,278	199,025	214,119	232,128	245,477
<b>Debt Service Coverage</b>						
Calculation of Net Revenues Available for Senior Debt Service						
<b>Senior Debt Service Coverage (C/D)</b>	<b>5.47x</b>	<b>4.25x</b>	<b>4.23x</b>	<b>4.24x</b>	<b>4.32x</b>	<b>4.56x</b>
Calculation of Subordinate Debt Service Coverage						
Net Revenue Available for Senior Debt Service (C)	284,098	301,683	321,350	353,967	390,147	412,284
Less Senior Debt Service (D)	(51,945)	(71,022)	(75,881)	(83,490)	(90,323)	(90,321)
Net Revenue Available for Subordinate Debt Service (C-D)	232,153	230,661	245,469	270,477	299,824	321,963
<b>Subordinate Debt Service Coverage [(C-D)/E]</b>	<b>2.12x</b>	<b>2.04x</b>	<b>1.99x</b>	<b>2.07x</b>	<b>2.11x</b>	<b>2.08x</b>
<b>Combined Debt Service Coverage (C/F)</b>	<b>1.76x</b>	<b>1.64x</b>	<b>1.61x</b>	<b>1.65x</b>	<b>1.68x</b>	<b>1.68x</b>
<b>Subordinated Payment Obligations</b>						
Payment In Lieu of Taxes/Right of Way Fee (G)	21,057	21,376	21,702	22,034	22,372	22,718
Defeasance/Cash Financed Capital Construction (H) <sup>7</sup>	24,199	35,260	26,999	28,556	30,129	37,747
Revenues Less Disbursements (I=A-B-F-G-H)	77,633	60,770	73,624	89,258	105,518	106,342
<b>Reserve Balances</b>						
Beginning Cash Reserve Balance (J=K+L+M)	162,652	147,212	140,000	140,000	140,000	140,000
Cash Reserve Balance Breakdown						
Beginning Undesignated Reserve Balance	78,518	62,400	56,198	55,205	52,200	50,617
Additions to/(Transfers from) Undesignated Reserve						
Annual Balance from Operations	107,740	80,789	84,944	94,758	105,518	106,342
Prior Year Federal Billing Reconciliation	(19,201)	(9,019)	(5,821)	0	0	0
Projected Billing Refunds	0	(4,000)	(4,000)	(4,000)	0	0
(Refund to)/Payment from IMA	(10,906)	(7,000)	(1,500)	(1,500)	0	0
Pay-Go Capital Financing	(93,073)	(67,982)	(73,624)	(89,258)	(105,518)	(106,342)
(Transfers to)/Transfers from 60-Day Reserve	(678)	1,010	(993)	(3,005)	(1,584)	(1,632)
Ending Undesignated Reserve Balance	62,400	56,198	55,205	52,200	50,617	48,985
Beginning 60-Day Operating Reserve Balance	49,134	49,812	48,802	49,795	52,800	54,383
Additions to/(Transfers from) 60-Day Reserve	678	(1,010)	993	3,005	1,584	1,632
60-Day Operating Reserve Balance	49,812	48,802	49,795	52,800	54,383	56,015
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	<b>147,212</b>	<b>140,000</b>	<b>140,000</b>	<b>140,000</b>	<b>140,000</b>	<b>140,000</b>
Stormwater Receipts - DC Water Share (K)	1,025	1,000	1,000	1,000	1,000	1,000
Cash Reserve Requirement Per Board Policy [Maximum of (B-K)*(120/365) or \$125.5 Million] <sup>8</sup>	125,500	125,500	125,500	125,500	125,500	125,500
Beginning Rate Stabilization Fund Balance	51,450	61,450	61,450	61,450	61,450	61,450
Transfers from Operations (Additions to Rate Stabilization Fund)	10,000	0	0	0	0	0
Additions to Operations/(Transfers from) Rate Stabilization Fund	0	0	0	0	0	0
Rate Stabilization Fund Balance	61,450	61,450	61,450	61,450	61,450	61,450

Source: *Amawalk*

Totals may not add due to rounding.

- <sup>1</sup> Includes retail revenue from water and wastewater charges as well as the Clean River Impervious Area Charge.
- <sup>2</sup> Preliminary results, unaudited.
- <sup>3</sup> Debt service is shown on a cash basis, and may differ from the CAFR.
- <sup>4</sup> Anticipated future bonds in Fiscal Years 2018 and 2020 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 anticipated future bonds in Fiscal Year 2018 is calculated based on an assumed annual interest rate of 5.00%, a term of 35 years and level debt service. Debt service for anticipated future bonds starting in Fiscal Year 2019 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 2019, 6.00% in Fiscal Year 2020, and 6.50% in Fiscal Year 2021 and all subsequent years.
- <sup>5</sup> The Total Subordinated Debt Service is net of the Build America Bonds (BABs) subsidies the Authority expects to receive from the United States Treasury equal to 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 2018A/B BONDS - Direct Payments – Sequestration."
- <sup>6</sup> 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."
- <sup>7</sup> Beginning in FY 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.
- <sup>8</sup> 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.

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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 23 shows historical revenues of the Authority for Fiscal Year 2017, and the projected revenues for Fiscal Years 2018 through 2022.

**Table 23. Historical and Projected Revenue on a Cash Basis**

Fiscal Years ended/ending September 30  
(\$ in thousands)<sup>1</sup>

	Actual <sup>2</sup>			Projected <sup>3</sup>		
	2017	2018	2019	2020	2021	2022
<b>Retail Revenue</b>	\$255,971	\$268,463	\$299,927	\$311,725	\$323,712	\$336,470
Residential, Commercial, Multi-Family	9,431	8,122	9,083	9,440	9,813	10,201
D. C. Municipal Government	36,925	39,620	41,525	47,513	49,390	51,341
Federal Government	7,171	7,428	8,303	8,634	8,975	9,329
D. C. Housing Authority	0	5	5	5	5	5
Groundwater <sup>4</sup>	11,566	10,776	10,776	10,776	10,776	10,776
Metering Fee	40,522	39,717	39,717	39,717	39,717	39,717
Water System Replacement Fee <sup>5</sup>	112,875	119,733	108,945	121,191	137,826	148,552
CRIAC	474,462	493,865	518,281	549,000	580,214	606,391
<b>Total Retail Revenue</b>	<b>\$255,971</b>	<b>\$268,463</b>	<b>\$299,927</b>	<b>\$311,725</b>	<b>\$323,712</b>	<b>\$336,470</b>
<b>Wholesale Revenue</b>						
Loudoun County & Potomac Interceptor	\$8,205	\$8,133	\$8,866	\$9,132	\$9,406	\$9,688
WSSC	59,417	55,320	57,628	59,357	61,137	62,971
Fairfax County	13,514	12,575	12,743	13,125	13,519	13,925
<b>Total Wholesale Revenue</b>	<b>\$81,136</b>	<b>\$76,028</b>	<b>\$79,237</b>	<b>\$81,614</b>	<b>\$84,062</b>	<b>\$86,584</b>
<b>Other Revenues</b>						
District Stormwater Revenues	\$1,025	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Transfer from Rate Stabilization Fund	0	0	0	0	0	0
Miscellaneous Revenues	37,747	25,459	26,085	27,882	30,684	30,626
Aqueduct Debt Service Revenue from Falls Church and Arlington	193	193	193	193	193	193
Interest Income	1,676	2,326	2,971	3,966	7,711	10,944
D.C. Right of Way Occupancy Fee/PILOT	20,777	21,601	21,701	22,113	22,372	22,718
<b>Total Other Revenue</b>	<b>\$61,419</b>	<b>\$50,580</b>	<b>\$51,950</b>	<b>\$55,153</b>	<b>\$61,960</b>	<b>\$65,481</b>
<b>Total Operating Cash Receipts</b>	<b>\$617,017</b>	<b>\$620,472</b>	<b>\$649,467</b>	<b>\$685,768</b>	<b>\$726,237</b>	<b>\$758,456</b>
<b>Less: Contributions to Rate Stabilization Fund</b>	<b>\$(10,000)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Operating Cash Receipts with RSF Transfers</b>	<b>\$607,017</b>	<b>\$620,472</b>	<b>\$649,467</b>	<b>\$685,768</b>	<b>\$726,237</b>	<b>\$758,456</b>

<sup>1</sup> All figures are presented on a cash receipt basis. Totals may not add due to rounding.

<sup>2</sup> Preliminary results, unaudited.

<sup>3</sup> Year 2018 - 2022 revenue projections are based on the Authority's financial plan.

<sup>4</sup> Groundwater revenue refers to receipts from customers that pump groundwater into the sewer system.

<sup>5</sup> 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 Year 2013 through Fiscal Year 2017, retail revenues accounted for approximately 77.5% of total revenue (excluding PILOT/ROW fees and the effects of withdrawals from the Rate Stabilization Fund), wholesale customer payments represented about 15.1% of total revenues, with the remaining 7.4% coming from a variety of sources, such as interest income, penalties and fines, 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 PILOT/ROW fees, will be \$493.9 million in Fiscal Year 2018, or 82.5% of the Authority’s total revenues (excluding PILOT/ROW fees). This amount includes approximately \$119.7 million from the CRIAC and \$39.7 million from the Water System Replacement Fee. Without the CRIAC and the Water System Replacement Fee, Fiscal Year 2018 projected revenue is expected to be \$13.4 million, or 4.2%, higher than the Fiscal Year 2017 revenues from retail customers. The projected increase in retail revenue assumes the consumption of retail customers will be lower in Fiscal Year 2018 compared to Fiscal Year 2017. Cash Receipts for the first two months of Fiscal Year 2018 (through November 30, 2017) excluding PILOT/ROW fees, were about [ ] % higher than the budgeted receipts 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 \$518.3 million in Fiscal Year 2019. This amount includes approximately \$108.9 million from the CRIAC and \$39.7 million from the Water System Replacement Fee and excludes PILOT/ROW fees. Without the effects of the CRIAC and the Water System Replacement Fee, the Fiscal Year 2018 projected revenue represents an increase of \$35.2 million or 10.5% compared to the projected Fiscal Year 2018 revenues.

Revenues from retail customers are projected to be \$549.0 million in Fiscal Year 2020. This amount includes approximately \$121.2 million from the CRIAC and 39.7 million from the Water System Replacement Fee and excludes PILOT/ROW fees. Without the effects of the CRIAC and the Water System Replacement Fee, the Fiscal Year 2019 projected revenue represents an increase of \$18.5million or 5.0% compared to the projected Fiscal Year 2019 revenues.

Retail revenues in Fiscal Years 2021 and 2022 are anticipated to increase in each year reflecting both the effects of projected rate increases 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 \$98.8 million in Fiscal Year 2016 and \$112.9 million in Fiscal Year 2017. CRIAC revenues are projected to increase to \$119.7 million in Fiscal Year 2018 and then decrease to \$108.9 million in Fiscal Year 2019 due to rate adjustment. The revenues from the CRIAC in Fiscal Years 2020 through 2022 are expected to increase reflecting the effects of projected rate increases.

#### *Water System Replacement Fee*

The revenues from Water System Replacement Fee were \$40.5 million in Fiscal Year 2017 (reflecting lag factors in the realization of receipts) and are expected to be to \$39.7 million per year in Fiscal Year 2018 through Fiscal Year 2022.

#### *Stormwater Revenues*

In Fiscal Years 2018 through 2022, the Authority anticipates that it will collect \$1 million in stormwater fees from its retail accounts to cover its share of District stormwater expenditures. 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 2017, the Authority received \$81.1 million in revenue from its wholesale customers pursuant to the IMA. Revenues from wholesale customers are expected to decrease to \$76.0 million in Fiscal Year 2018 and to increase to \$79.2 million in Fiscal Year 2019. The revenue decline of about \$5.1 million in 2018 is primarily due to changes in allocation methodology including the removal of excess contingency funding in Authority-wide budget, and incorporation of a 3-year average of actuals for wholesale estimated billing, and adjustment of existing estimated wholesale billing.

The revenues from the wholesale customers in Fiscal Years 2020 through 2022 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 2018 through Fiscal Year 2022.

*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, fund balances and market conditions affecting interest rates and other investment terms. The Authority has projected interest earnings of \$2.3 million in Fiscal Year 2018, \$3.0 million in Fiscal Year 2019, \$4.0 million in Fiscal Year 2020, \$7.7 million in Fiscal Year 2021 and \$10.9 million in Fiscal Year 2022, including interest earned from the bond reserves. The assumed annual interest earnings rates for the funds are 1.5% in Fiscal Year 2018 and 2019, 2.0% in Fiscal Year 2020, 3.0% in Fiscal Year 2021 and 4.0% in Fiscal Year 2022. Projected fund balances and interest rate assumptions are reviewed annually as part of the Authority's budget process. The available interest earnings for secure investments are historically low in today's financial markets. The Authority's assumed interest earnings reflect these conditions. Similarly, the assumed current interest rates on borrowed funds, including commercial paper interest, are also historically low compared to prior experience. This assumption reduces interest costs and resulting revenue requirements of the Authority. 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 2018.

*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 2017 were \$37.7 million. Revenues from these sources are expected to decrease to \$25.5 million in Fiscal Year 2018 and then increase to \$26.1 million in Fiscal Year 2019. Miscellaneous revenues are expected to total \$27.9 million per year in Fiscal Year 2020, \$30.7 million in Fiscal Year 2021, and \$30.6 million in Fiscal Year 2022.

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 \$21.6 million in Fiscal Year 2018, and increase to \$22.7 million in Fiscal Year 2022. The Authority and the District have negotiated new MOUs for both the PILOT and the ROW (see “THE AUTHORITY – Relationship to District”).

**System Expenditures**

*Operating Expenses*

Table 24 presents the historical Operating and Maintenance (“O&M”) expenses of the Authority for Fiscal Year 2017, and the projected O&M expenses for Fiscal Years 2018 through 2022 on a cash disbursement basis.

The projected expenses for Fiscal Year 2018 reflect the current adopted budget of the Authority which represents a 2.0% increase over the expenses for Fiscal Year 2017, excluding the PILOT/ROW payments to the District. The anticipated expenses for Fiscal Year 2019 reflect an annual increase of 6.0% over the projected expenses for Fiscal Year 2018, excluding the PILOT/ROW payments to the District. The Personnel Services amounts shown in Table 24 are net of amounts charged to capital projects.

**Table 24. Historical and Projected Operation and Maintenance Costs on a Cash Disbursement Basis**  
Fiscal Years ended/ending September 30  
(\$ in thousands)<sup>1</sup>

	Actual <sup>2</sup> 2017	Projected <sup>3</sup>				
		2018	2019	2020	2021	2022
Personnel Services	\$129,512	\$128,132	\$144,361	\$148,692	\$153,153	\$157,747
Contractual Services	78,443	79,353	81,679	84,129	86,653	89,253
Water Purchases	26,954	30,156	30,520	31,436	32,379	33,350
Chemical & Supplies	34,313	30,659	32,082	33,044	34,036	35,057
Utilities & Rent	22,695	29,399	26,915	27,722	28,554	29,411
Small Equipment	895	1,071	1,240	1,277	1,316	1,355
Total O&M Expenses	\$292,812	\$298,770	\$316,797	\$326,301	\$336,090	\$346,173
PILOT & D.C. ROW Occupancy Fee	\$21,057	\$21,376	\$21,702	\$22,034	\$22,372	\$22,718
<b>Total Expenses</b>	<b>\$313,869</b>	<b>\$320,146</b>	<b>\$338,499</b>	<b>\$348,335</b>	<b>\$358,462</b>	<b>\$368,891</b>

<sup>1</sup> All figures are presented on a cash disbursement basis. Totals may not add due to rounding.

<sup>2</sup> Preliminary results; unaudited.

<sup>3</sup> Fiscal Year 2018 - 2022 cost projections are based on the Authority’s financial plan.

Source: Amawalk.

Table 25 provides a comparison of the budgeted versus actual costs from Fiscal Year 2015 to Fiscal Year 2017 on an accrual basis. As illustrated in Table 25, 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 25. Budget to Actual Expense Comparison**  
Fiscal Years Ended September 30  
(\$ in thousands)<sup>1</sup>

Category	2015			2016			2017		
	Approved Budget	Actual Cost	Variance	Approved Budget	Actual Cost	Variance	Approved Budget	Actual Cost	Variance
Personnel Service	\$135,544	\$133,935	\$1,609	\$140,034	\$141,886	-\$1,852	\$144,761	\$149,293	-\$4,532
Contractual Service	76,944	66,241	10,703	79,244	74,087	5,157	82,760	72,951	9,809
Water Purchase	28,831	29,109	(278)	30,740	26,345	4,395	29,278	26,796	2,482
Chemical & Supplies	36,186	30,306	5,880	35,951	28,965	6,986	34,709	31,373	3,336
Utilities & Rent	30,416	30,848	(432)	35,018	23,934	11,084	28,670	24,260	4,410
Small Equipment	1,028	531	497	1,465	672	793	1,230	1,178	52
Debt Service	160,264	134,845	25,419	174,766	149,781	24,985	169,346	165,836	3,510
Cash Financed Capital Improvements	20,058	20,058	-	23,644	23,475	169	24,014	24,199	(185)
PILOT/ROW	26,687	20,437	6,250	20,744	20,744	-	21,057	21,057	-
Total Budgetary Basis Expenditures	\$515,958	\$466,310	\$49,648	\$541,605	\$489,888	\$51,717	\$535,825	\$516,943	\$23,510

<sup>1</sup> 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. The costs of such personnel are budgeted at \$21.1 million in Fiscal Year 2018, and at \$[ ] in Fiscal Year 2019.

**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 23.7% of the total personnel services budget in Fiscal Year 2018 and [ ]% of the total personnel services budget in Fiscal Year 2019.

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 2017, including an allowance for fringe benefits, totaled \$8.2 million, or about 5.5% of total personnel services costs.

**Total Personnel Expenses.** On an accrual basis, the Authority's personnel costs increased at an annual average of 6.0% per year from Fiscal Year 2013 through Fiscal Year 2017. Budgeted personnel expenses for Fiscal Year 2018 are \$149.2 million, a 3.1% increase over Fiscal Year 2017. In Fiscal Year 2019, personnel expenses are expected to increase 9.0% from the prior year. Beginning in Fiscal Year 2020, 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 Fiscal Year 2017 were \$73.0 million. The budgeted amounts for contractual services in Fiscal Year 2018 and Fiscal Year 2019 are \$79.4 million and \$81.7 million, respectively. Contractual services expenses are assumed to increase at the average annual rate of 3.0% for Fiscal Years 2020 through 2022.

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 2017 were \$26.8 million. The budgeted amount for water purchases in Fiscal Year 2018 and Fiscal Year 2019 is \$30.2 million and \$30.5 million, respectively. An average annual increase in water supply costs is assumed at approximately 3.0% in Fiscal Years 2020 through 2022.

**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 2017, on an accrual basis, were \$31.4 million. The budgeted expenses for chemicals and supplies in Fiscal Year 2018 and Fiscal Year 2019 are \$30.7 million and \$32.1 million, respectively. The average annual increase of costs for chemicals and supplies is assumed at 3.0% in Fiscal Years 2020 through 2022.

**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 2017, approximately 60% of the expenses associated with utilities and rent were attributable to the cost of power. The Combined Heat and Power ("CHP") facility provides up to a third of the plant's energy needs. [See "CAPITAL IMPROVEMENT PROGRAM – Categories of CIP Projects – Wastewater Treatment Projects."] The Authority has taken a proactive approach to the procurement of power and its 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 ConEdison 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.

**Reserve Funds**

The Authority maintains various reserve funds as previously described herein. See “SECURITY FOR THE SERIES 2018A/B 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, 2017.

*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:

- v. Maintain Senior Debt service coverage of 1.40x.\*
- vi. 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.
- vii. 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.
- viii. 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.
- ix. Attempt to match the period of debt repayment, in total, with the lives of the assets financed by any such debt.
- x. 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:

- xi. Rates and fees will be based on the actual cost to deliver each service.
- xii. Current rates must be sufficient to cover current costs and to meet all bond covenants.
- xiii. The Authority will achieve a positive net income and cash flow each year.
- xiv. Rates will be based on an annually updated ten-year financial plan (both operating and capital).
- xv. 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.

- xvi. 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 an Independent Consulting Engineering Assessment Report dated [\_\_\_\_], a copy of which is available on the Authority’s website at [www.dewater.com](http://www.dewater.com). Pursuant to the Indenture requirement for an inspection of the System at least once every five years, an Independent Consulting Engineering Assessment Report reviews the Authority’s progress in implementing capital projects and its plans to initiate additional capital improvements. The Report 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 Independent Consulting Engineering Assessment Report presents findings and conclusions based upon information provided by the Authority or others which is summarized or referred to therein. Set forth below are JMT’s principal findings and conclusions. The Independent Consulting Engineering Assessment Report 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 sufficient to meet overall staffing needs.
- The existing Water and Wastewater Systems are effectively maintained and operated.
- 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.
- 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 is within budget.

### **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 [ ], 2018, 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 2018 to 2022. 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. 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 DC Water’s Financial Plan. There can be no assurance that the Board will maintain or modify this additional financial policy.

- The water and wastewater rates, fees and charges of the Authority, including projected increases for FY 2019 through FY 2022, 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. In addition, DC Water 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.**

## TAX MATTERS

### General

In the opinion of Squire Patton Boggs (US) LLP and Leftwich LLC, Co-Bond Counsel, under existing law: (i) interest on the Series 2018A/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 imposed on individuals and corporations; and (ii) the Series 2018A/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 2018A/B Bonds.

The opinion on 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 2018A/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 2018A/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 2018A/B Bonds being included in gross income for federal income tax purposes retroactively to the date of issuance of the Series 2018A/B Bonds. The Authority has covenanted to take the actions required of it for the interest on the Series 2018A/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 2018A/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 2018A/B Bonds or the market value of the Series 2018A/B Bonds.

A portion of the interest on the Series 2018A/B Bonds earned by certain corporations may be subject to a federal corporate alternative minimum tax. In addition, interest on the Series 2018A/B Bonds may be subject to a federal branch profits tax imposed on certain foreign corporations doing business in the U.S. 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 2018A/B Bonds. Co-Bond Counsel will express no opinion regarding those consequences.

Payments of interest on tax-exempt obligations, including the Series 2018A/B Bonds, are generally subject to IRS Form 1099-INT information reporting requirements. If a 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 2018A/B Bonds ends with the issuance of the Series 2018A/B Bonds, and, unless separately engaged, Co-Bond Counsel is not obligated to defend the Authority or the owners of the Series 2018A/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 2018A/B Bonds, under current IRS procedures, the IRS will treat the Authority as the taxpayer and the beneficial owners of the Series 2018A/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 2018A/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 2018A/B Bonds.

Prospective purchasers of the Series 2018A/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 2018A/B Bonds at other than their original issuance, should consult their own tax advisers 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 U.S. Congress. Court proceedings may also be filed, the outcome of which could modify the tax treatment of obligations such as the Series 2018A/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 2018A/B Bonds will not have an adverse effect on the tax status of interest on the Series 2018A/B Bonds or the market value or marketability of the Series 2018A/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 2018A/B Bonds from gross income for federal or state income tax purposes for all or certain taxpayers.

For example, recent presidential and legislative proposals would eliminate, reduce or otherwise alter the tax benefits currently provided to certain owners of state and local government bonds, including proposals that would result in additional federal income tax on taxpayers that own tax-exempt obligations if their incomes exceed certain thresholds. Investors in the Series 2018A/B Bonds should be aware that any such future legislative actions (including federal income tax reform) may retroactively change the treatment of all or a portion of the interest on the Series 2018A/B Bonds for federal income tax purposes for all or certain taxpayers. In such event, the market value of the Series 2018A/B Bonds may be adversely 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 advisers to analyze the importance of these risks.

#### **Original Issue Premium/Discount**

[to come]

#### **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 2018A/B Bonds or questioning or affecting the validity of the Series 2018A/B 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 2018A/B Bonds are subject to the approving opinions of Squire Patton Boggs (US) LLP and Leftwich LLC, Co-Bond Counsel, which will be furnished upon delivery of the Series 2018A/B Bonds, substantially in the form set forth as APPENDIX F. Squire Patton Boggs (US) LLP and Leftwich LLC 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 2016 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.

## 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 2018A/B 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 2018A/B Bonds by the Authority. The Trustee has not evaluated the risks, benefits, or propriety of any investment in the Series 2018A/B 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 2018A/B Bonds, the technical or financial feasibility of the Project, or the investment quality of the Series 2018A/B 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"), and Moody's Investors Service, Inc. ("Moody's"), have assigned long-term municipal bond ratings of "[ ]" and "[ ]" respectively, to the Series 2018A/B Bonds. A securities rating is not a recommendation to buy, sell or hold the Series 2018A/B 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; and from Moody's at 7 World Trade Center, New York, New York 10007. 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 2018A/B Bonds.

[Moody's has assigned a Green Bond Assessment of [ ] to the Series 2018A Bonds. Such assessment reflects only the view of Moody's, with respect to the assessment given by it, and any explanation of the significance of

such assessment may only be obtained from Moody's. There is no assurance that the assessment will remain in effect for any given period of time or that they will not be lowered, suspended or withdrawn entirely if, in the judgment of Moody's, circumstances so warrant. Any such lowering, suspension or withdrawal of the assessment might have an adverse effect on the market price or marketability of the Series 2018A 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 2018A/B Bonds, which will constitute a written undertaking for the benefit of the Owners of the Series 2018A/B 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 ADVISORS**

PFM Financial Advisors LLC and G-Entry Principle, PC, together, have served as co-financial advisors (the “Co-Financial Advisors”) to the Authority with respect to the issuance of the Series 2018A/B Bonds.

### **UNDERWRITING**

Goldman, Sachs & Co., 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 2018A/B Bonds at an aggregate purchase price equal to \$[ ] (which amount constitutes the aggregate principal amount of the Series 2018A/B Bonds of \$[ ], plus original issue premium of \$[ ], less the Underwriters' discount of \$[ ]).

The Bond Purchase Agreement by and among the Authority and the Representative, on behalf of itself and as representative of the Underwriters dated January 31, 2017 (the “Series 2018A/B Bond Purchase Agreement”), provides that the Underwriters will purchase all of the Series 2018A/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 2018A/B Bond Purchase Agreement, the approval of certain legal matters by counsel and certain other conditions.

The Series 2018A/B Bonds may be offered and sold to certain dealers (including dealers depositing the Series 2018A/B 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

### **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.

In addition to representing the Authority as Co-Bond Counsel and Co-Disclosure Counsel, Leftwich LLC from time to time represents the Authority in other matters, including personal injury and personnel matters.

**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 2018A/B Bonds is fully set forth in the Indenture. Neither any advertisement of the Series 2018A/B Bonds nor this Official Statement is to be construed as constituting an agreement with the purchasers of the Series 2018A/B Bonds.

The information contained herein should not be construed as representing all conditions affecting the Authority or the Series 2018A/B 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: \_\_\_\_\_  
Matthew T. Brown  
Chief Financial Officer

**APPENDIX A**  
**FINANCIAL FEASIBILITY OPINION LETTER OF**  
**AMAWALK CONSULTING GROUP LLC**  
**DATED [ ], 2018**

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**APPENDIX B**

**AUDITED FINANCIAL STATEMENTS OF THE AUTHORITY  
FOR THE YEARS ENDED SEPTEMBER 30, 2017, AND 2016**



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**APPENDIX C**  
**GLOSSARY AND SUMMARY OF THE INDENTURE**

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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 Senior Lien Revenue Bonds, Series 2018A (the “Series 2018A Bonds”) and its Public Utility Senior Lien Revenue Bonds, Series 2018B (the “Series 2018B Bonds”) and, together with the Series 2018A Bonds, the “Series 2018A/B Bonds”). The Series 2018A/B 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 2018A/B Bonds (the “Indenture”), including by the Twenty-Third Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Series 2018A/B Bonds (the “Twenty-Third 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 2018A/B 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 2018A/B Bonds required to comply with the Rule in connection with offering of the Series 2018A/B 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, 2018 (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 2018A/B 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 [ ], 2018 relating to the Series 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B Bonds or other material events affecting the tax status of the Series 2018A/B 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 2018A/B 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; or
7. Appointment of a successor or additional trustee or the change of name of a trustee.

(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 2018A/B Bonds. If such termination occurs prior to the final maturity of the Series 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B Bonds, and shall create no rights in any other person or entity.

Date: [ ], 2018

DISTRICT OF COLUMBIA WATER AND SEWER  
AUTHORITY

By \_\_\_\_\_  
Matthew T. Brown, Chief Financial Officer

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**APPENDIX E**  
**DTC BOOK-ENTRY ONLY SYSTEM**

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### DTC BOOK-ENTRY ONLY SYSTEM

**The description that follows of the procedures and record keeping with respect to beneficial ownership interests in the Series 2018A/B Bonds, payments of principal, premium, if any, and interest on the Series 2018A/B Bonds to DTC, its nominee, Participants, or Beneficial Owners, confirmation and transfer of beneficial ownership interests in the Series 2018A/B 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 2018A/B Bonds. The Series 2018A/B 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 2018A/B Bond will be issued for the Series 2018A/B 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](http://www.dtcc.com) and [www.dtc.org](http://www.dtc.org).

Purchases of the Series 2018A/B Bonds under the DTC system must be made by or through Direct Participants, who will receive a credit for such Series 2018A/B Bonds on DTC’s records. The ownership interest of each actual purchaser of each Series 2018A/B 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 2018A/B 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 2018A/B Bonds, except in the event that use of the book-entry system for the Series 2018A/B Bonds is discontinued.

To facilitate subsequent transfers, all Series 2018A/B 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 2018A/B 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 2018A/B Bonds; DTC’s records reflect only the identity of the Direct Participants to whose accounts such Series 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the Series 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B Bonds Bond certificates will be printed and delivered.

So long as Cede & Co. is the registered owner of the Series 2018A/B Bonds, as partnership nominee for DTC, references herein to Bondholders or registered owners of the Series 2018A/B Bonds (other than under the caption "TAX MATTERS") shall mean Cede & Co. and shall not mean the Beneficial Owners of the Series 2018A/B 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 2018A/B 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 2018A/B 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 2018A/B BONDS; (V) ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY DTC AS THE OWNER OF THE SERIES 2018A/B BONDS; OR (VI) ANY OTHER MATTER.

**APPENDIX F**  
**PROPOSED FORM OF OPINION OF CO-BOND COUNSEL**

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[ ], 2018

To: District of Columbia Water and Sewer Authority

Goldman, Sachs & Co.  
New York, New York,  
as Representative of the Underwriters of the Series 2018A/B Bonds

Re: District of Columbia Water and Sewer Authority  
Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)  
Public Utility Senior Lien Revenue Bonds, Series 2018B

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 \$[ ] Public Utility Senior Lien Revenue Bonds, Series 2018A/B (the "Series 2018A/B Bonds"), comprised of the \$[ ] Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds) (the "Series 2018A Bonds") and the \$[ ] Public Utility Senior Lien Revenue Bonds, Series 2018B (the "Series 2018B Bonds"), dated the date of this letter.

The Series 2018A/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, N.A., as successor to Norwest Bank Minnesota, N.A. (the "Trustee"), as supplemented and amended, including by the Twenty-Third Supplemental Indenture of Trust, dated as of the same date as and relating to the Series 2018A/B Bonds (the "Twenty-Third 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 2018A/B Bonds, a copy of each signed and authenticated Series 2018A Bond and Series 2018B 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 2018A/B Bonds and the Indenture are valid and binding obligations of the Authority, enforceable in accordance with their respective terms.
2. The Series 2018A/B Bonds constitute special, limited obligations of the Authority, and the principal of and interest and any premium (collectively, "debt service") on

the Series 2018A/B Bonds, together with debt service on other Senior 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 2018A/B Bonds are secured as Senior Debt under the Indenture and, as such, are secured by a senior lien on and pledge of (i) Net Revenues on a parity with the pledge of Net Revenues that secures other Senior Debt; and (ii) the moneys and Permitted Investments in the Bond Fund on a parity with the pledge of Net Revenues that secures other Senior Debt. The Series 2018A/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 2018A/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 imposed on individuals and corporations; however, portions of the interest on the Series 2018A/B Bonds earned by certain corporations may be subject to a corporate alternative minimum tax. The Series 2018A/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 2018A/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 2018A/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 2018A/B Bonds may cause interest on the Series 2018A/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 2018A/B Bonds and the enforceability of the Series 2018A/B 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.

The opinions rendered in this letter are stated only as of this date, and no other opinion shall be implied or inferred as a result of anything contained in or omitted from this letter. Our

engagement as co-bond counsel with respect to the Series 2018A/B Bonds has concluded on this date.

Very truly yours,

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**SPB**  
**DRAFT: 3/15/2018**

**TWENTY-THIRD SUPPLEMENTAL INDENTURE OF TRUST**

**between**

**DISTRICT OF COLUMBIA  
WATER AND SEWER AUTHORITY**

**and**

**WELLS FARGO BANK, NATIONAL ASSOCIATION  
AS TRUSTEE**

**Dated May \_\_, 2018**

**THIS TWENTY-THIRD SUPPLEMENTAL INDENTURE OF TRUST** dated the \_\_\_\_ day of May, 2018 (as defined in more detail below, the “**Twenty-Third Supplemental Indenture**”), by and between the District of Columbia Water and Sewer Authority (the “**Authority**”), an independent authority of the District of Columbia (the “**District**”), and Wells Fargo Bank, National Association, a national banking association, having a corporate trust office in Columbia, Maryland, as trustee (in such capacity, together with any successor in such capacity, herein called the “**Trustee**”), provides:

**WHEREAS**, the Authority and the Trustee (its predecessor in that capacity having been Norwest Bank, N.A.) entered into the Master Indenture of Trust, dated as of April 1, 1998 (the “**Master Indenture**” and, as previously supplemented and amended by the First Supplemental Indenture, the Second Supplemental Indenture, the Third Supplemental Indenture, the Fourth Supplemental Indenture, the Fifth Supplemental Indenture, the Sixth Supplemental Indenture, the Seventh Supplemental Indenture, the Eighth Supplemental Indenture, the Ninth Supplemental Indenture, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Twelfth Supplemental Indenture, the Thirteenth Supplemental Indenture, the Fourteenth Supplemental Indenture, the Fifteenth Supplemental Indenture, the Sixteenth Supplemental Indenture, the Seventeenth Supplemental Indenture, the Eighteenth Supplemental Indenture, the Nineteenth Supplemental Indenture, the Twentieth Supplemental Indenture, the Twenty-First Supplemental Indenture and the Twenty-Second Supplemental Indenture, all as hereinafter defined, and as it may further be supplemented and amended in accordance with its terms, the “**Indenture**”), to provide for financing or refinancing the acquisition, construction, operation, maintenance and extension of the System (as defined in the Master Indenture) by the issuance of bonds, notes and other obligations payable solely from Net Revenues (as defined in the Master Indenture); and

**WHEREAS**, pursuant to the First Supplemental Indenture of Trust, dated as of April 1, 1998 (the “**First Supplemental Indenture**”), between the Authority and the Trustee, the Authority issued its Public Utility Revenue Bonds, Series 1998 (the “**Series 1998 Senior Lien Bonds**”) in the aggregate principal amount of \$266,120,000, to finance Costs of the System (as defined in the Master Indenture) and to refund then outstanding debt of the Authority; and

**WHEREAS**, the Master Indenture permits the Authority, for certain purposes and subject to certain conditions, to issue Other System Indebtedness (as defined therein) secured on a parity with the Series 1998 Senior Lien Bonds and referred to collectively with the Series 1998 Senior Lien Bonds as “Senior Debt,” and also permits the Authority to issue Subordinate Debt (as defined therein), to which it has pledged to its payment Net Revenues, as a subordinate lien pledge after the pledge of Net Revenues to Senior Debt; and

**WHEREAS**, pursuant to the Second Supplemental Indenture of Trust, dated as of November 1, 2001 (the “**Second Supplemental Indenture**”), between the Authority and the Trustee, the Authority amended and supplemented the Master Indenture in accordance with its terms to clarify provisions thereof related to certain forms of Indebtedness (as defined in the Master Indenture, i.e., Senior Debt and Subordinate Debt) and thereby facilitate the issuance of such forms of Indebtedness; and

**WHEREAS**, pursuant to the Third Supplemental Indenture of Trust, dated as of November 1, 2001 (the “**Third Supplemental Indenture**”), between the Authority and the

Trustee, the Authority (i) issued its Commercial Paper Notes, Series A (the “**2001 Series A Notes**”) to finance certain Costs of the System, and its Commercial Paper Notes, Series B (the “**2001 Series B Notes**” and, together with the 2001 Series A Notes, the “**Series 2001 Notes**”) in the aggregate principal amount of \$50,000,000 to finance certain Costs of the System, (ii) designated the Series 2001 Notes as Subordinate Debt for purposes of the Indenture, and (iii) made provision for the securing of the Series 2001 Notes and of the Reimbursement Obligations to the Bank that provided the Letters of Credit (all as defined therein) that secure the Series 2001 Notes; and

**WHEREAS**, pursuant to the Fourth Supplemental Indenture of Trust, dated August 12, 2003 (the “**Fourth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinated Lien Revenue Bonds, Series 2003, dated August 12, 2003 (the “**Series 2003 Subordinated Bonds**”), in the aggregate principal amount of \$176,220,000 to finance certain Costs of the System and retire Series 2001 Notes, (ii) designated the Series 2003 Subordinated Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2003 Subordinated Bonds 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; and

**WHEREAS**, pursuant to the Fifth Supplemental Indenture of Trust, dated August 3, 2004 (the “**Fifth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinated Lien Revenue Bonds, Series 2004, as Subseries 2004A-1, Subseries 2004A-2, Subseries 2004B-1 and Subseries B-2 (collectively, the “**Series 2004 Subordinated Bonds**”) in the aggregate principal amount of \$295,000,000 to finance certain Costs of the System, (ii) designated the Series 2004 Subordinated Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2004 Subordinated Bonds 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 the Series 2003 Subordinated Bonds and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Sixth Supplemental Indenture of Trust, dated June 6, 2007 (the “**Sixth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinated Lien Revenue Bonds, Series 2007A (the “**Series 2007A Subordinated Bonds**”), in the aggregate principal amount of \$218,715,000 to finance certain Costs of the System and retire Series 2001 Notes, (ii) designated the Series 2007A Subordinated Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2007A Subordinated Bonds 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 the Series 2003 Subordinated Bonds, the Series 2004 Subordinated Bonds, the Series 2007B Subordinated Bonds and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Seventh Supplemental Indenture of Trust, dated June 6, 2007 (the “**Seventh Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinated Lien Taxable Revenue Bonds, Series 2007B

(the “**Series 2007B Subordinated Bonds**”), in the aggregate principal amount of \$59,000,000 to finance certain Costs of the System, (ii) designated the Series 2007B Subordinated Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2007B Subordinated Bonds 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 the Series 2003 Subordinated Bonds, the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Eighth Supplemental Indenture of Trust, dated April 24, 2008 (the “**Eighth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinated Lien Revenue Refunding Bonds, Series 2008 (the “**Series 2008 Subordinated Bonds**”), in the aggregate principal amount of \$290,375,000 to (a) currently refund all of the outstanding Series 2004 Subordinated Bonds and a portion of the Series 2007B Subordinated Bonds, and (b) pay issuance costs of the Series 2008 Subordinated Bonds, (ii) designated the Series 2008 Subordinated Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2008 Subordinated Bonds 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 the Series 2003 Subordinated Bonds, the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2007B Subordinated Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Ninth Supplemental Indenture of Trust, dated December 19, 2008 (the “**Ninth Supplemental Indenture**”), between the Authority and the Trustee, the Authority agreed to confer on the Holders of the Series 2003 Subordinated Bonds additional rights related to the Reserve Credit Facility (as defined therein) and to cure any ambiguity or omission in the Indenture regarding the obligations of the Authority as a consequence of a downgrade of the Reserve Policy related to the Series 2003 Subordinated Bonds, or in the event that the Reserve Policy were to cease to be in effect; and

**WHEREAS**, pursuant to the Tenth Supplemental Indenture of Trust, dated February 12, 2009 (the “**Tenth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Senior Lien Revenue Bonds, Series 2009A (the “**Series 2009A Senior Lien Bonds**”), in the aggregate principal amount of \$300,000,000 to finance certain Costs of the System and retire Series 2001 Notes, (ii) designated the Series 2009A Senior Lien Bonds as Senior Debt for purposes of the Indenture, and (iii) secured the Series 2009A Senior Lien Bonds by a pledge of Net Revenues on a parity with the pledge of Net Revenues that secures the 1998 Senior Lien Bonds and other Senior Debt, including, without limitation, other Senior Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Eleventh Supplemental Indenture of Trust, dated June 2, 2010, as supplemented and amended by the First Amendment to Eleventh Supplemental Indenture of Trust, dated April 5, 2013, and by the Second Amendment to Eleventh Supplemental Indenture of Trust, dated May 18, 2015 (together, the “**Eleventh Supplemental Indenture**”), each between the Authority and the Trustee, the Authority: (i) authorized the



issuance of its (a) Commercial Paper Notes, Series A (the “**2010 Series A Notes**”) in the aggregate principal amount of \$0 to finance certain Costs of the System, (b) Commercial Paper Notes, Series B (the “**2010 Series B Notes**”) in the aggregate principal amount of \$100,000,000 to finance certain Costs of the System, and (c) Commercial Paper Notes, Series C (the “**2010 Series C Notes**”) and, together with the 2010 Series A Notes and the 2010 Series B Note, the “**Series 2010 Notes**”) in the aggregate principal amount of \$50,000,000 to finance certain Costs of the System, (ii) designated the Series 2010 Notes as Subordinate Debt for purposes of the Indenture, and (iii) made provision for the securing of the Series 2010 Notes and of the Authority’s reimbursement obligations to the Bank (as defined in the Eleventh Supplemental Indenture) that provided the Substitute Letters of Credit (as defined in the Eleventh Supplemental Indenture) that secure the Series 2010 Notes; and

**WHEREAS**, pursuant to the Twelfth Supplemental Indenture of Trust, dated October 27, 2010 (the “**Twelfth Supplemental Indenture**”), between the Authority and the Trustee, the Authority (i) issued its Public Utility Subordinate Lien Revenue Bonds, Series 2010A (Federally Taxable – Issuer Subsidy – Build America Bonds) (the “**Series 2010A Subordinated Bonds**”) in the aggregate principal amount of \$300,000,000 to finance certain Costs of the System and fund capitalized interest on a portion of the Series 2010A Subordinate Bonds, subject to specified limitations, (ii) designated the Series 2010A Subordinate Bonds as Subordinate Debt for purposes of the Indenture, (iii) secured the Series 2010A Subordinate Bonds 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 the Series 2013 Subordinated Bonds, the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2007B Subordinated Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future, and (iv) included provisions in the Indenture related to potential Direct Payments (as defined therein) received or expected to be received by the Authority, including certain provisions requiring the consent of the holders of a majority of Outstanding Bonds; and

**WHEREAS**, pursuant to the Thirteenth Supplemental Indenture of Trust, dated March 22, 2012 (the “**Thirteenth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i)(a) issued its Public Utility Subordinate Lien Revenue Bonds, Series 2012A (the “**Series 2012A Subordinate Bonds**”) in the aggregate principal of \$177,430,000 to finance certain Costs of the System and pay certain costs of issuance, (b) designated the Series 2012A Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (c) secured the Series 2012A Subordinate Bonds 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 the Series 2003 Subordinated Bonds, the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future, (ii)(a) issued its Public Utility Subordinate Lien Multimodal Revenue Bonds, Series 2012B (the “**Series 2012B Subordinate Bonds**”) in the aggregate principal amount of \$100,000,000 to finance certain Costs of the System, fund capitalized interest on a portion of the Series 2012B Subordinate Bonds subject to specified limitations, and pay certain costs of issuance, (b) designated the Series 2012B Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (c) secured the Series 2012B Subordinate Bonds 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 the Series 2003 Subordinated Bonds, the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future, and (iii)(a) issued its Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2012C (the “**Series 2012C Subordinate Bonds**”) in the aggregate principal amount of \$163,215,000, and applied the proceeds thereof, together with any other funds of the Authority, to advance refund the Series 2003 Subordinated Bonds and caused them to be deemed paid and no longer Outstanding for purposes of the Indenture, and paid certain costs of issuance, (b) designated the Series 2012C Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (c) secured the Series 2012C Subordinate Bonds 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 the Series 2003 Subordinated Bonds, the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Fourteenth Supplemental Indenture of Trust, dated as of August 1, 2013 (the “**Fourteenth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinate Lien Revenue Bonds, Series 2013A in the aggregate principal amount of \$300,000,000 (the “**Series 2013A Subordinate Bonds**”) to finance certain Costs of the System and pay certain costs of issuance, (ii) designated the Series 2013A Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2013A Subordinate Bonds 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Fifteenth Supplemental Indenture of Trust, dated July 23, 2014 (the “**Fifteenth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Senior Lien Revenue Bonds, Series 2014A (Federally Taxable) (Green Bonds) in the aggregate principal amount of \$350,000,000 (the “**Series 2014A Senior Lien Bonds**”) to finance certain Costs of the System and pay certain costs of issuance, (ii) designated the Series 2014A Senior Lien Bonds as Senior Debt for purposes of the Indenture, and (iii) secured the Series 2014A Senior Lien Bonds by a pledge of Net Revenues on a parity with the pledge of Net Revenues that secures the Series 1998 Senior Lien Bonds, the Series 2009A Senior Lien Bonds, and other Senior Debt, including, without limitation, other Senior Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Sixteenth Supplemental Indenture of Trust, dated July 23, 2014 (the “**Sixteenth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinate Lien Multimodal Revenue Bonds, Series

2014B, in the aggregate principal amount of \$100,000,000 (the “**Series 2014B Subordinate Bonds**”) to finance certain Costs of the System and pay certain costs of issuance, (ii) designated the Series 2014B Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2014B Subordinate Bonds 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds, the Series 2013A Subordinate Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Seventeenth Supplemental Indenture of Trust, dated November 20, 2014 (the “**Seventeenth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2014C, in the aggregate principal amount of \$377,700,000 (the “**Series 2014C Subordinate Bonds**”) to (a) advance refund all or a portion of the Authority’s outstanding Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, and the Series 2009A Senior Lien Bonds, and current refund all of the Authority’s outstanding Subseries 2012B-1 of the Series 2012 Subordinate Bonds, and (b) pay issuance costs of the Series 2014C Subordinate Bonds, (ii) designated the Series 2014C Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2014C Subordinate Bonds 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds, the Series 2013A Subordinate Bonds, Series 2014B Subordinate Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Eighteenth Supplemental Indenture of Trust, dated October 15, 2015 (the “**Eighteenth Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinate Lien Revenue Bonds, Series 2015A in the aggregate principal amount of \$100,000,000 (the “**Series 2015A Subordinate Bonds**”) to (a) finance certain Costs of the System, and (b) pay issuance costs of the Series 2015A Subordinate Bonds, (ii) designated the Series 2015A Subordinate Bonds as Subordinate Debt for purposes of the Indenture, (iii) secured the Series 2015A Subordinate Bonds 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds, the Series 2013A Subordinate Bonds, Series 2014B Subordinate Bonds, Series 2015B Senior Lien Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future, (iv) issued its Public Utility Subordinate Lien Revenue Bonds, Series 2015B in an aggregate principal amount of \$250,000,000 (the “**Series 2015B**

**Subordinate Bonds**” and, together with the Series 2015A Subordinate Bonds, the “**Series 2015A/B Subordinate Bonds**”) to (a) finance certain Costs of the System, and (b) pay issuance costs of the Series 2015B Subordinate Bonds, (v) designated the Series 2015B Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (vi) secured the Series 2015B Subordinate Bonds 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds, the Series 2013A Subordinate Bonds, Series 2014B Subordinate Bonds, Series 2015A Subordinate Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Nineteenth Supplemental Indenture of Trust, dated December 1, 2015 (the “**Nineteenth Supplemental Indenture**”) between the Trustee and the Authority, the Authority authorized (i) the issuance of its Extendable Municipal Commercial Paper Notes, Series A (the “**Series A EMCP Notes**”) in the aggregate principal amount of not to exceed \$100,000,000 outstanding at any time to finance certain Costs of the System, (ii) designated the Series A EMCP Notes as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series A EMCP Notes 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds, the Series 2013A Subordinate Bonds, Series 2014B Subordinate Bonds, Series 2015A Subordinate Bonds, the Series 2015B Bonds, and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Twentieth Supplemental Indenture of Trust, dated February 24, 2016 (the “**Twentieth Supplemental Indenture**”) between the Trustee and the Authority, the Authority (i) issued its Public Utility Subordinate Lien Revenue Refunding Bonds, Series 2016A in the aggregate principal amount of \$389,110,000 (the “**Series 2016A Subordinate Bonds**”) to (a) refund all or a portion of the Authority’s outstanding Series 2007A Subordinated Bonds, Series 2008A Subordinated Bonds, and Series 2009A Senior Lien Bonds, and (b) pay issuance costs of the Series 2016A Subordinate Bonds, (ii) designated the Series 2016A Subordinate Bonds as Subordinate Debt for purposes of the Indenture, and (iii) secured the Series 2016A Subordinate Bonds 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds, the Series 2013A Subordinate Bonds, Series 2014B Subordinate Bonds, Series 2015A Subordinate Bonds, the Series 2015B Subordinate Bonds and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Twenty-First Supplemental Indenture of Trust, dated September 29, 2016 (the “**Twenty-First Supplemental Indenture**”) between the Trustee and the Authority, the Authority (i) issued its Public Utility Subordinate Lien Revenue Bonds, Series 2016B (Environmental Impact Bonds) in the aggregate principal amount of \$25,000,000 (the “**Series 2016B Subordinate Bonds**”) to (a) finance certain Costs of the System (specifically, a portion of the costs of the Authority’s DC Clean Rivers Project); and (b) pay certain costs of issuance, (ii) designated the Series 2016B Subordinate Bonds as Subordinate Debt, as Variable Rate Indebtedness and as Tender Indebtedness for purposes of the Indenture, and (iii) secured the Series 2016B Subordinate Bonds 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 the Series 2004 Subordinated Bonds, the Series 2007A Subordinated Bonds, the Series 2008A Subordinated Bonds, the Series 2010 Notes, the Series 2010A Subordinated Bonds, the Series 2012A Subordinate Bonds, the Series 2012B Subordinate Bonds, the Series 2012C Subordinate Bonds, the Series 2013A Subordinate Bonds, Series 2014B Subordinate Bonds, Series 2015A Subordinate Bonds, the Series 2015B Subordinate Bonds, the Series 2016A Subordinate Bonds and other Subordinate Debt, including, without limitation, other Subordinate Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, pursuant to the Twenty-Second Supplemental Indenture of Trust, dated February 23, 2017 (the “**Twenty-Second Supplemental Indenture**”), between the Authority and the Trustee, the Authority: (i) issued its Public Utility Subordinate Lien Revenue Bonds, Series 2017A in the aggregate principal amount of \$100,000,000 (the “**Series 2017A Senior Lien Bonds**”) to (a) finance certain Costs of the System (specifically, a portion of the costs of the Authority’s DC Clean Rivers Project), and (b) pay issuance costs of the Series 2017A Senior Lien Bonds, (ii) designated the Series 2017A Senior Lien Bonds as Senior Debt for purposes of the Indenture, (iii) secured the Series 2017A Senior Lien Bonds by a pledge of Net Revenues on a parity with the pledge of Net Revenues that secures the Series 1998 Senior Lien Bonds, the Series 2009A Senior Lien Bonds, the Series 2014A Senior Lien Bonds, the Series 2017B Senior Lien Bonds, and other Senior Debt, including, without limitation, other Senior Debt that the Authority may issue from time to time in the future, (iv) issued its Public Utility Senior Lien Revenue Bonds, Series 2017B in an aggregate principal amount of \$200,000,000 (the “**Series 2017B Senior Lien Bonds**” and, together with the Series 2017A Senior Lien Bonds, the “**Series 2017A/B Senior Lien Bonds**”) to (a) finance certain Costs of the System, and (b) pay issuance costs of the Series 2017B Senior Lien Bonds, (v) designated the Series 2017B Senior Lien Bonds as Senior Debt for purposes of the Indenture, and (vi) secured the Series 2017B Senior Lien Bonds by a pledge of Net Revenues on a parity with the pledge of Net Revenues that secures the Series 1998 Senior Lien Bonds, the Series 2009A Senior Lien Bonds, the Series 2014A Senior Lien Bonds, the Series 2017A Senior Lien Bonds, and other Senior Debt, including, without limitation, other Senior Debt that the Authority may issue from time to time in the future; and

**WHEREAS**, the Authority now intends to: (i)(a) issue Public Utility Senior Lien Revenue Bonds, Series 2018A in the aggregate principal amount of \$YYY,YYY,YYY (the “**Series 2018A Senior Lien Bonds**”) to (1) finance certain Costs of the System (specifically, a portion of the costs of the Authority’s DC Clean Rivers Project), and (2) pay issuance costs of the Series 2018A Senior Lien Bonds, (b) designate the Series 2018A Senior Lien Bonds as Senior Debt for purposes of the Indenture, and (iii) secure the Series 2018A Senior Lien Bonds

by a pledge of Net Revenues on a parity with the pledge of Net Revenues that secures the Series 1998 Senior Lien Bonds, the Series 2009A Senior Lien Bonds, the Series 2014A Senior Lien Bonds, the Series 2017A/B Senior Lien Bonds, and other Senior Debt, including, without limitation, other Senior Debt that the Authority may issue from time to time in the future, and (ii)(a) issue the Public Utility Senior Lien Revenue Bonds, Series 2018B in an aggregate principal amount of \$ZZZ,ZZZ,ZZZ (the “**Series 2018B Senior Lien Bonds**” and, together with the Series 2018A Senior Lien Bonds, the “**Series 2018A/B Senior Lien Bonds**”) to (1) finance certain Costs of the System, (2) pay issuance costs of the Series 2018B Senior Lien Bonds, and (3) refund all of the Authority’s outstanding Commercial Paper Notes, Series B, presently outstanding in the aggregate principal amount of \$90,000,0000 (collectively, the “**Series 2018 CP Notes**”), (b) designate the Series 2018B Senior Lien Bonds as Senior Debt for purposes of the Indenture, and (iii) secure the Series 2018B Senior Lien Bonds by a pledge of Net Revenues on a parity with the pledge of Net Revenues that secures the Series 1998 Senior Lien Bonds, the Series 2009A Senior Lien Bonds, the Series 2014A Senior Lien Bonds, the Series 2017A/B Senior Lien Bonds, and other Senior Debt, including, without limitation, other Senior Debt that the Authority may issue from time to time in the future; and

**NOW THEREFORE**, in consideration of the premises and the mutual covenants and agreements hereinafter contained, the parties hereto agree, as follows:

**ARTICLE I  
TWENTY-THIRD SUPPLEMENTAL INDENTURE**

**Section 101. Authorization of Twenty-Third Supplemental Indenture.**

This Twenty-Third Supplemental Indenture is authorized and executed by the Authority and delivered to the Trustee pursuant to and in accordance with Articles III and X of the Master Indenture. All terms, covenants, conditions and agreements of the Indenture shall apply with full force and effect to the Series 2018A/B Senior Lien Bonds as Senior Debt and to the Holders thereof as Holders of Senior Debt, except as otherwise provided in this Twenty-Third Supplemental Indenture.

**Section 102. Definitions.**

Except as otherwise defined in this Twenty-Third Supplemental Indenture, capitalized words and terms defined in the Master Indenture as amended by the First Supplemental Indenture, the Second Supplemental Indenture, the Third Supplemental Indenture, the Fourth Supplemental Indenture, the Fifth Supplemental Indenture, the Sixth Supplemental Indenture, the Seventh Supplemental Indenture, the Eighth Supplemental Indenture, the Ninth Supplemental Indenture, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Twelfth Supplemental Indenture, the Thirteenth Supplemental Indenture, the Fourteenth Supplemental Indenture, the Fifteenth Supplemental Indenture, the Sixteenth Supplemental Indenture, the Seventeenth Supplemental Indenture, the Eighteenth Supplemental Indenture, the Nineteenth Supplemental Indenture, the Twentieth Supplemental Indenture, the Twenty-First Supplemental Indenture and the Twenty-Second Supplemental Indenture are used in this Twenty-Third Supplemental Indenture with the meanings assigned to them therein. In addition, the following

words as used in this Twenty-Third Supplemental Indenture have the following meanings unless the context or use clearly indicates another or different intent or meaning:

“Book-entry form” or “book-entry system” means a form or system under which the physical Series 2018A/B Senior Lien Bond certificates in fully registered form are issued only to a Depository or its nominee as Holder, with the certificated Series 2018A/B Senior Lien Bonds held by and “immobilized” in the custody of the Depository, and the book-entry system, maintained by and the responsibility of the Depository and not maintained by or the responsibility of the Authority or the Trustee, is the record that identifies, and records the transfer of the interests of, the owners of beneficial, book-entry interests in the Series 2018A/B Senior Lien Bonds.

“Depository” means 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 Series 2018A/B Senior Lien Bonds, and to effect transfers of book-entry interests in Series 2018A/B Senior Lien Bonds, and includes and means initially The Depository Trust Company (a limited purpose trust company) (“DTC”), New York, New York.

“Interest Payment Dates” for the Series 2018A/B Senior Lien Bonds means each April 1 and October 1 commencing [October 1, 2018], and thereafter during the time the Series 2018A/B Senior Lien Bonds are outstanding.

“Series 2018A Construction Account” means the Series 2018A Construction Account established by this Twenty-Third Supplemental Indenture in the Construction Fund.

“Series 2018A Costs of Issuance Subaccount” means the Series 2018A Costs of Issuance Subaccount established by this Twenty-Third Supplemental Indenture in the Series 2018A Construction Account of the Construction Fund.

“Series 2018B Construction Account” means the Series 2018B Construction Account established by this Twenty-Third Supplemental Indenture in the Construction Fund.

“Series 2018B Costs of Issuance Subaccount” means the Series 2018B Costs of Issuance Subaccount established by this Twenty-Third Supplemental Indenture in the Series 2018B Construction Account of the Construction Fund.

“Series 2018A/B Rebate Fund” means the Series 2018A/B Rebate Fund established by this Twenty-Third Supplemental Indenture.

“Series 2018A/B Resolution” means Resolution No. 18-\_\_, adopted by the Authority’s Board of Directors on [April 5, 2018], authorizing the Series 2018A/B Senior Lien Bonds.

“Series 2018A/B Senior Lien Bond Event of Default” means any of the events defined as such in Section 901 of the Master Indenture.

“Series 2018A/B Senior Lien Bondholder” or “holder of Series 2018A/B Senior Lien Bonds” means the registered owner of a Series 2018A/B Senior Lien Bond.

“Series 2018A/B Senior Lien Bonds Interest Subaccount” means the Series 2018A/B Senior Lien Bonds Interest Subaccount established by this Twenty-Third Supplemental Indenture in the Interest Account in the Bond Fund.

“Series 2018A/B Senior Lien Bonds Principal Subaccount” means the Series 2018A/B Senior Lien Bonds Principal Subaccount established by this Twenty-Third Supplemental Indenture in the Principal Account in the Bond Fund.

“Twenty-Third Supplemental Indenture” means this Twenty-Third Supplemental Indenture of Trust, dated May \_\_, 2018, between the Authority and the Trustee, which supplements and amends the Master Indenture, as previously supplemented and amended by the First Supplemental Indenture, the Second Supplemental Indenture, the Third Supplemental Indenture, the Fourth Supplemental Indenture, the Fifth Supplemental Indenture, the Sixth Supplemental Indenture, the Seventh Supplemental Indenture, the Eighth Supplemental Indenture, the Ninth Supplemental Indenture, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Twelfth Supplemental Indenture, the Thirteenth Supplemental Indenture, the Fourteenth Supplemental Indenture, the Fifteenth Supplemental Indenture, the Sixteenth Supplemental Indenture, the Seventeenth Supplemental Indenture, the Eighteenth Supplemental Indenture, the Nineteenth Supplemental Indenture, the Twentieth Supplemental Indenture, the Twenty-First Supplemental Indenture and the Twenty-Second Supplemental Indenture.

**Section 103. Reference to Articles and Sections.**

Unless otherwise indicated, all references herein to particular articles or sections are references to articles or sections of this Twenty-Third Supplemental Indenture.

**ARTICLE II  
AUTHORIZATION, DETAILS AND FORM  
OF SERIES 2018A/B SENIOR LIEN BONDS**

**Section 201. Authorization of Series 2018A/B Senior Lien Bonds.**

Pursuant to Article III of the Master Indenture and, specifically, Section 303 thereof, and the Series 2018A/B Resolution, the Authority is authorized to issue:

(i) Series 2018A Senior Lien Bonds in the aggregate principal amount of \$100,000,000.00, for the purpose of (a) financing Costs of the System (specifically, a portion of the costs of the Authority’s DC Clean Rivers Project), and (b) paying issuance costs of the Series 2018A Senior Lien Bonds. The Series 2018A Senior Lien Bonds shall be issued as Senior Lien Debt pursuant to the Indenture; and

(ii) Series 2018B Senior Lien Bonds in the aggregate principal amount of \$200,000,000.00, for the purpose of (a) financing Costs of the System, (b) paying issuance costs of the Series 2018B Senior Lien Bonds, and (c) refunding the Series 2018 CP Notes. The Series 2018B Senior Lien Bonds shall be issued as Senior Lien Debt pursuant to the Indenture.



**Section 202. Details of Series 2018A/B Senior Lien Bonds.**

The Series 2018A Senior Lien Bonds shall be designated “Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)”, shall be dated May \_\_, 2018, shall be issuable only as fully registered bonds in denominations of \$5,000 and multiples thereof, shall be numbered RA-1 upward and shall bear interest at rates, payable semiannually on the Interest Payment Dates, until their final payment or maturity, and shall mature on October 1 in years and amounts, as follows:

<b>Due (Oct. 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>
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The Series 2018B Senior Lien Bonds shall be designated “Public Utility Senior Lien Revenue Bonds, Series 2018B”, shall be dated May \_\_, 2018, shall be issuable only as fully registered bonds in denominations of \$5,000 and multiples thereof, shall be numbered RB-1 upward and shall bear interest at rates, payable semiannually on the Interest Payment Dates, until their final payment or maturity, and shall mature on October 1 in years and amounts, as follows:

<b>Due (Oct. 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>
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Each Series 2018A/B Senior Lien Bond shall bear interest: (a) from its date, if such Series 2018A/B Senior Lien Bond is authenticated prior to the first Interest Payment Date, or (b) otherwise from the Interest Payment Date that is, or immediately precedes, the date on which such Series 2018A/B Senior Lien Bond is authenticated; provided, however, that if at the time of authentication of any Series 2018A/B Senior Lien Bond payment of interest is in default, such Series 2018A/B Senior Lien Bond shall bear interest from the date to which interest has been paid. The interest payable on the Series 2018A/B Senior Lien Bonds will be computed on the basis of a 360-day year of twelve 30-day months.

Principal of and premium, if any, on the Series 2018A/B Senior Lien Bonds shall be payable to the registered owners thereof upon the surrender of the applicable Series 2018A/B Senior Lien Bonds at the designated office of the Trustee. Interest on the Series 2018A/B Senior Lien Bonds shall be payable by check or draft mailed to the registered owners at their addresses as they appear on the fifteenth day of the month preceding the Interest Payment Date on the registration books kept by the Trustee; provided, however, if the Series 2018A/B Senior Lien Bonds are registered in the name of a Depository or its nominee as registered owner or at the option of a registered owner of at least \$1,000,000 of Series 2018A/B Senior Lien Bonds, payment shall be made by wire transfer to an account within the United States pursuant to the wire instructions received by the Trustee with respect to each such payment from such registered owner. Principal, premium, if any, and interest shall be payable in lawful money of the United States of America.

#### **Section 203. Form of Bonds.**

The Series 2018A/B Senior Lien Bonds shall be in substantially the forms set forth in **Exhibits A-1 and A-2**, with such appropriate variations, omissions and insertions as are permitted or required by the Indenture.

#### **Section 204. Depository Provisions.**

The Series 2018A/B Senior Lien Bonds shall initially be issued to a Depository for holding in a book-entry system. Those Series 2018A/B Senior Lien Bonds shall be registered in the name of the Depository or its nominee, as registered owner, and immobilized in the custody of the Depository or the Trustee on behalf of the Depository; and shall not be transferable or exchangeable, except for transfer to another Depository or to another nominee of a Depository, without further action by the Authority.

If any Depository determines not to continue to act as a Depository for the Series 2018A/B Senior Lien Bonds for holding in a book-entry system or the Authority determines to remove the Series 2018A/B Senior Lien Bonds from a Depository, the Authority may attempt to have established a securities depository/book-entry system relationship with another qualified Depository. If the Authority does not or is unable to do so, the Authority, after making provision for notification of the owners of book-entry interests by appropriate notice to the then Depository and any other arrangements it deems necessary, shall permit withdrawal of the Series 2018A/B Senior Lien Bonds from the Depository, and shall execute and direct the Trustee to authenticate and deliver Series 2018A/B Senior Lien Bond certificates, in fully registered form, to the assigns of the Depository or its nominee (if such Series 2018A/B Senior Lien Bonds were held by a

nominee), all at the cost and expense (including costs of printing or otherwise preparing and delivering replacement Series 2018A/B Senior Lien Bonds), if the event is not the result of Authority action or inaction, of those persons requesting that authentication and delivery. Series 2018A/B Senior Lien Bond certificates authenticated and delivered pursuant to this paragraph shall be in authorized denominations. In the event that Series 2018A/B Senior Lien Bonds shall cease to be in book-entry form, then the Authority or the Depository shall provide to the Trustee the name, address of record and taxpayer identification number of each registered holder thereof. The Trustee may rely on such information without any investigation.

If the Series 2018A/B Senior Lien Bonds are withdrawn from a Depository and printed bond certificates in fully registered form are or are to be authenticated and delivered pursuant to this Section, and if, in the opinion of Bond Counsel addressed to the Trustee, the delivery of coupon bonds payable to bearer would not result in the interest on any of the Series 2018A/B Senior Lien Bonds then outstanding becoming includable in gross income for federal income tax purposes, the Authority, without the consent of or notice to any of the holders of the Series 2018A/B Senior Lien Bonds, may authorize the exchange of Series 2018A/B Senior Lien Bond certificates in fully registered form or Series 2018A/B Senior Lien Bonds under a book-entry system for coupon bonds payable to bearer, in an aggregate principal amount not exceeding the then unmatured and unredeemed principal amount of the Series 2018A/B Senior Lien Bonds, bearing interest at the same rate and maturing on the same date, with coupons attached representing all unpaid interest due or to become due thereon. Such certificated Series 2018A/B Senior Lien Bonds will be registrable, transferable and exchangeable as set forth in Section 204 and Section 205 of the Master Indenture.

So long as a Depository holds the Series 2018A/B Senior Lien Bonds in a book-entry system (i) it or its nominee shall be the registered owner of the Series 2018A/B Senior Lien Bonds, (ii) notwithstanding anything to the contrary in this Twenty-Third Supplemental Indenture, determinations of persons entitled to payment of principal, premium, if any, and interest, transfers of ownership and exchanges and receipt of notices shall be the responsibility of the Depository and shall be effected pursuant to rules and procedures established by such Depository, (iii) the Authority and the Trustee shall not be responsible or liable for maintaining, supervising or reviewing the records maintained by the Depository, its participants or persons acting through such participants, and (iv) references in this Twenty-Third Supplemental Indenture to registered owners of the Series 2018A/B Senior Lien Bonds shall mean such Depository or its nominee and shall not mean the beneficial owners of the Series 2018A/B Senior Lien Bonds.

**Section 205. Delivery of Series 2018A/B Senior Lien Bonds.**

The Trustee shall authenticate and deliver the Series 2018A/B Senior Lien Bonds when there have been filed with or delivered to it the following items:

- (i) An original executed counterpart of this Twenty-Third Supplemental Indenture;
- (ii) A certified copy of applicable resolution(s) of the Board of Directors of the Authority and related Certificate of Award: (a) authorizing the execution and delivery of the

Twenty-Third Supplemental Indenture, and (b) authorizing the issuance, sale, award, execution and delivery of the Series 2018A/B Senior Lien Bonds.

(iii) A certificate signed by an Authorized Representative of the Authority and dated the date of such issuance, to the effect that:

(a) Either: (1) upon and immediately following such issuance, no Event of Default has occurred which has not been cured or waived, and no event or condition exists which, with the giving of notice or lapse of time or both, would become an Event of Default, or (2) if any such event or condition is happening or existing, specifying such event or condition, stating that the Authority will act with due diligence to correct such event or condition after the issuance of the Series 2018A/B Senior Lien Bonds, and describing in reasonable detail the actions to be taken by the Authority toward such correction; and

(b) All required approvals, limitations, conditions and provisions precedent to the issuance of the Series 2018A/B Senior Lien Bonds have been obtained, observed, met and satisfied.

(iv) An Opinion or Opinions of Counsel, subject to customary exceptions and qualifications, substantially to the effect that this Twenty-Third Supplemental Indenture has been duly authorized, executed and delivered to the Trustee, is a valid, binding and enforceable obligation of the Authority, and complies in all respects with the requirements of the Indenture.

(v) An opinion or opinions of Bond Counsel, subject to customary exceptions and qualifications, substantially to the effect that the issuance of the Series 2018A/B Senior Lien Bonds has been duly authorized, that the Series 2018A/B Senior Lien Bonds are valid and binding limited obligations of the Authority, and that the interest on the Series 2018A/B Senior Lien Bonds is excludable from gross income for purposes of Federal income taxation.

(vi) A certificate of an Authorized Representative of the Authority, stating that rates, fees and charges are in effect or scheduled to go into effect to meet the Rate Covenant immediately after the issuance of the Series 2018A/B Senior Lien Bonds.

(vii) A request and authorization of the Authority, signed by an Authorized Representative of the Authority, to the Trustee to authenticate and deliver such Bonds to the purchaser upon payment to the Trustee in immediately available funds for the account of the Authority of a specified sum plus accrued interest to the date of delivery.

### **ARTICLE III REDEMPTION OF SERIES 2018A/B SENIOR LIEN BONDS**

#### **Section 301. Redemption Dates and Prices.**

The Series 2018A/B Senior Lien Bonds may not be called for redemption by the Authority except as provided below:

(i) Optional Redemption. (a) The Series 2018A Senior Lien Bonds maturing on or after [October 1, 20\_\_], are subject to redemption prior to maturity at the option of the Authority

on or after [\_\_\_\_\_] 1, 20\_\_], 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.

(b) The Series 2018B Senior Lien Bonds maturing on or after [October 1, 20\_\_], are subject to redemption prior to maturity at the option of the Authority on and after [\_\_\_\_\_] 1, 20\_\_], 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

(ii) Mandatory Redemption. (a) The Series 2018A Senior Lien Bonds bearing interest at a rate of \_\_\_\_\_%, and maturing on [October 1, 20\_\_] (the “20\_\_ Term Series 2018A Senior Lien Bonds”), are required to be redeemed prior to maturity on October 1 in years and amounts upon payment of 100% of the principal amount thereof plus interest accrued to the redemption date, as follows:

The 20\_\_ Term Series 2018A Senior Lien Bonds are subject to mandatory sinking fund redemption on each October 1 as set forth below:

Year	Amount
------	--------

† Final Maturity

The Series 2018A Senior Lien Bonds bearing interest at a rate of \_\_\_\_\_%, and maturing on October 1, 20\_\_ (the “20\_\_ Term Series 2018A Senior Lien Bonds”), are required to be redeemed prior to maturity on October 1 in years and amounts upon payment of 100% of the principal amount thereof plus interest accrued to the redemption date, as follows:

The 20\_\_ Term Series 2018A Senior Lien Bonds are subject to mandatory sinking fund redemption on each October 1 as set forth below:

Year	Amount
------	--------

† Final Maturity

(b) The Series 2018B Senior Lien Bonds bearing interest at a rate of \_\_\_\_% and maturing on October 1, 20\_\_ (the “20\_\_ Term Series 2018B Senior Lien Bonds”), are required to be redeemed prior to maturity on October 1 in years and amounts upon payment of 100% of the principal amount thereof plus interest accrued to the redemption date, as follows:

Year	Amount
------	--------

† Final Maturity

The Trustee shall provide for a mandatory redemption of the Term Series 2018A/B Senior Lien Bonds in accordance with the schedules set forth above; provided, however, that on or before the 70th day next preceding any such mandatory redemption date, the Authority may:

(i) deliver to the Trustee for cancellation Term Series 2018A/B Senior Lien Bonds of the maturity required to be redeemed on such mandatory redemption date in any aggregate principal amount desired; or

(ii) instruct the Trustee in writing to apply a credit against the Authority’s next mandatory redemption obligation for any such Term Series 2018A/B Senior Lien Bonds that previously have been redeemed (other than through mandatory redemption) and canceled but not theretofore applied as a credit against any mandatory redemption obligation.

Upon the occurrence of any of the events described in clauses (i) or (ii) of the preceding sentence, the Trustee shall credit against the Authority’s mandatory redemption obligation on the next mandatory redemption date the amount of such Term Series 2018A/B Senior Lien Bonds so delivered or previously redeemed. Any principal amount of such Term Series 2018A/B Senior Lien Bonds in excess of the principal amount required to be redeemed on such mandatory redemption date shall be similarly credited in an amount equal to the principal of such Term Series 2018A/B Senior Lien Bonds so purchased towards the sinking fund installments for the Term Series 2018A/B Senior Lien Bonds of such maturity on a pro rata basis in accordance with a certificate of an Authorized Representative of the Authority, which will direct the reduction of a ratable portion of each annual mandatory sinking fund installment requirement in accordance with the procedures set forth below. Within seven days of receipt of such Term Series 2018A/B Senior Lien 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 mandatory redemption obligation on the next mandatory redemption date shall be used in such manner as determined at the written direction of the Authority.

The particular maturities of the Series 2018A/B Senior Lien Bonds to be redeemed at the option of the Authority will be determined by the Authority in its sole discretion.

If fewer than all of the Series 2018A/B Senior Lien Bonds are called for redemption, they shall be called in such order of maturity as the Authority may determine and direct the Trustee in writing. If less than all of the Series 2018A/B Senior Lien Bonds of any maturity date is called for redemption, the Series 2018A/B Senior Lien Bonds to be redeemed shall be selected by the Depository pursuant to its rules and procedures or, if the book-entry system is discontinued, shall be selected by the Trustee by lot in such manner as the Trustee in its discretion may determine. The portion of any Series 2018A/B Senior Lien Bond to be redeemed shall be in the principal amount of \$5,000 or some integral multiple thereof. In selecting Series 2018A/B Senior Lien Bonds for redemption, each Series 2018A/B Senior Lien Bond shall be considered as representing that number of Bonds which is obtained by dividing the principal amount of such Series 2018A/B Senior Lien Bond by \$5,000. If a portion of a Series 2018A/B Senior Lien Bond shall be called for redemption, a new Series 2018A/B Senior Lien Bond in principal amount equal to the unredeemed portion thereof shall be issued to the registered owner upon the surrender thereof.

[(iii) Insert Optional Make-Whole Redemption if applicable.]

**Section 302. Notice of Redemption.**

Notice of redemption of Series 2018A/B Senior Lien Bonds shall be given in the manner set forth in Section 402 of the Master Indenture; provided, however, that notices of redemption of Series 2018A/B Senior Lien Bonds sent pursuant to Section 402 of the Master Indenture shall either (i) explicitly state that the proposed redemption is conditioned on 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 2018A/B Senior Lien Bonds to be redeemed, or (ii) be sent only if sufficient money to pay the full redemption price of the Series 2018A/B Senior Lien Bonds to be redeemed is on deposit in the applicable fund or account. Notwithstanding the foregoing and the otherwise applicable requirement of Section 402 of the Master Indenture that the Trustee send notice of a call for redemption not fewer than 30 days prior to the redemption date, the Trustee may send any notice of redemption of Series 2018A/B Senior Lien Bonds not fewer than 20 days prior to the redemption date or such shorter period of time as may be acceptable to the Depository while the Series 2018A/B Senior Lien Bonds are in book-entry form and registered with a Depository, initially DTC.

**ARTICLE IV**

**APPLICATION OF PROCEEDS OF SERIES 2018A/B SENIOR LIEN BONDS**

**Section 401. Application of Proceeds of Series 2018A/B Senior Lien Bonds; Application of Related Amounts.**

The net proceeds of the Series 2018A/B Senior Lien Bonds in the amount of \$ \_\_\_\_\_, which represents the par amount of the Series 2018A/B Senior Lien Bonds (\$ \_\_\_\_\_), minus the underwriters' discount (\$ \_\_\_\_\_), and plus original

issue premium (\$ \_\_\_\_\_) by the Original Purchasers, at the request and direction of the Authority shall be applied as follows:

(i) \$ \_\_\_\_\_ from the net proceeds of the Series 2018A Senior Lien Bonds shall be deposited in the Series 2018A Construction Account.

(ii) \$ \_\_\_\_\_ from the net proceeds of the Series 2018B Senior Lien Bonds shall be deposited in the Series 2018B Construction Account.

(iii) \$ \_\_\_\_\_ from the net proceeds of the Series 2018B Senior Lien Bonds shall be deposited in the Series B Subordinate Principal Subaccount of the Subordinate Principal Account in the Subordinate Bond Fund.

(iv) \$ \_\_\_\_\_ from the net proceeds of the Series 2018A Senior Lien Bonds shall be deposited in the Series 2018A Costs of Issuance Subaccount of the Series 2018A Construction Account of the Construction Fund and used to pay costs of issuance of the Series 2018A Senior Lien Bonds.

(v) \$ \_\_\_\_\_ from the net proceeds of the Series 2018B Senior Lien Bonds shall be deposited in the Series 2018B Costs of Issuance Subaccount of the Series 2018B Construction Account of the Construction Fund and used to pay costs of issuance of the Series 2018B Senior Lien Bonds.

## ARTICLE V FUNDS AND ACCOUNTS

### **Section 501. Series 2018A Construction Account and Series 2018B Construction Account.**

(i) In the Construction Fund, there shall be established a Series 2018A Construction Account and, within that Account, a Series 2018A Costs of Issuance Subaccount. The portion of the proceeds of the Series 2018A Senior Lien Bonds specified in Section 401(iv) shall be deposited in the Series 2018A Costs of Issuance Subaccount and used to pay costs of issuance related to the Series 2018A Senior Lien Bonds. When all costs of issuance have been paid or moneys have been reserved to pay all remaining unpaid costs of issuance, the balance of any Series 2018A Senior Lien Bond proceeds remaining in excess of the amount to be reserved for payment of unpaid costs of issuance shall be deposited in the Bond Fund to be used solely to pay principal of and interest on the Series 2018A Senior Lien Bonds, in either case to the extent approved by Bond Counsel.

(ii) In the Construction Fund, there shall be established a Series 2018B Construction Account and, within that Account, a Series 2018B Costs of Issuance Subaccount. The portion of the proceeds of the Series 2018B Senior Lien Bonds specified in Section 401(v) shall be deposited in the Series 2018B Costs of Issuance Subaccount and used to pay costs of issuance related to the Series 2018B Senior Lien Bonds. When all costs of issuance have been paid or moneys have been reserved to pay all remaining unpaid costs of issuance, the balance of any Series 2018B Senior Lien Bond proceeds remaining in excess of the amount to be reserved for



payment of unpaid costs of issuance shall be deposited in the Bond Fund to be used solely to pay principal of and interest on the Series 2018B Senior Lien Bonds, in either case to the extent approved by Bond Counsel.

**Section 502. Series 2018A/B Senior Lien Bonds Subaccounts in the Interest Account and Principal Account.**

(i) Within the Interest Account there shall be established a “Series 2018A/B Senior Lien Bonds Interest Subaccount.” Within the Principal Account there shall be established a “Series 2018A/B Senior Lien Bonds Principal Subaccount.”

(ii) In accordance with Section 604(a)(1) of the Master Indenture, Net Revenues shall be deposited in the Series 2018A/B Senior Lien Bond Interest Subaccount on or prior to the last Business Day of each of the six months prior to any month in which an Interest Payment Date occurs, in an amount equal to one-sixth (1/6) of the interest due and payable on the Series 2018A/B Senior Lien Bonds on such Interest Payment Date.

(iii) In accordance with Section 604(a)(2) of the Master Indenture, Net Revenues shall be deposited in the Series 2018A/B Senior Lien Bonds Principal Subaccount on or prior to the last Business Day of each of the twelve months prior to any month in which principal of Series 2018A/B Senior Lien Bonds is payable on their stated maturity date or pursuant to mandatory redemption requirements, in an amount equal to one-twelfth (1/12) of the principal amount scheduled to be due and payable on the Series 2018A/B Senior Lien Bonds in such month.

**Section 503. Series 2018A/B Rebate Fund.** There is hereby established the Series 2018A/B Rebate Fund which shall be used in accordance with (i) Article VIII hereof, and (ii) the Authority’s covenants in the Tax Compliance Certificate of the Issuer, executed by the Authority, dated as of May \_\_, 2018.

**ARTICLE VI  
SECURITY FOR SERIES 2018A/B SENIOR LIEN BONDS**

**Section 601. Security for Series 2018A/B Senior Lien Bonds.**

The Series 2018A/B Senior Lien Bonds shall be equally and ratably secured under the Master Indenture of Trust with any other Senior Debt issued pursuant to Article III of the Master Indenture of Trust, without preference, priority or distinction of any Senior Debt over any other Senior Debt, as provided in the Master Indenture of Trust, except with respect to any separate Account relating to a specific series of Senior Debt in the Debt Service Reserve Fund created pursuant to Section 606 of the Master Indenture.

Pursuant to the WASA Act (as defined in the Master Indenture), the Authority hereby includes in this Twenty-Third Supplemental Indenture the pledge of the District 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.

## ARTICLE VII

### TAX COVENANTS

#### Section 701. Tax Covenants – General.

(i) The Authority covenants that it will use, and will restrict the use and investment of, the proceeds of the Series 2018A/B Senior Lien Bonds in such manner and to such extent as may be necessary so that (a) the Series 2018A/B Senior Lien Bonds will not constitute private activity bonds, arbitrage bonds or hedge bonds under Sections 141, 148 or 149 of the Code, or be treated other than as bonds to which Section 103(a) of the Code applies, and (b) the interest on the Series 2018A/B Senior Lien Bonds will not be treated as an item of tax preference under Section 57 of the Code.

(ii) The Authority further covenants that (a) it will take or cause to be taken such actions that may be required of it for the interest on the Series 2018A/B Senior Lien Bonds to be and remain excluded from gross income for federal income tax purposes, (b) it will not take or authorize to be taken any actions that would adversely affect that exclusion, and (c) it, or persons acting for it, will, among other acts of compliance, (1) apply the proceeds of the Series 2018A/B Senior Lien Bonds to the governmental purposes of the borrowing, (2) restrict the yield on investment property, (3) make timely and adequate payments to the federal government, including but not limited to the required payment of any Rebate Amounts under Section 148(f) of the Code, as further provided in Section 702 hereof, (4) maintain books and records and make calculations and reports, and (5) refrain from certain uses of those proceeds and, as applicable, of property financed with such proceeds, all in such manner and to the extent necessary to assure that exclusion of that interest under the Code.

(iii) The Authorized Representative of the Authority is hereby authorized (a) to make or effect any election, selection, designation, choice, consent, approval or waiver on behalf of the Authority with respect to the Series 2018A/B Senior Lien Bonds as the Authority is permitted to make or give under the federal income tax laws, including, without limitation, any of the elections provided for or available under Section 148 of the Code, for the purpose of assuring, enhancing or protecting favorable tax treatment or status of the Series 2018A/B Senior Lien Bonds or interest thereon or assisting compliance with requirements for that purpose, reducing the burden or expense of such compliance, reducing the rebate amount or payments of penalties, or making payments of special amounts in lieu of making computations to determine, or paying, excess earnings as rebate, or obviating those amounts or payments, as determined by the Authorized Representative of the Authority, which action shall be in writing and signed by the Authorized Representative of the Authority, (b) to take any and all other actions, make or obtain calculations, make payments, and make or give reports, covenants and certifications of and on behalf of the Authority, as may be appropriate to assure the exclusion of interest from gross income and the intended tax status of the Series 2018A/B Senior Lien Bonds, and (c) to give one or more appropriate certificates, for inclusion in the transcript of proceedings for the Series

2018A/B Senior Lien Bonds, setting forth the reasonable expectations of the Authority regarding the amount and use of all the proceeds of the Series 2018A/B Senior Lien Bonds, the facts, circumstances and estimates on which they are based, and other facts and circumstances relevant to the tax treatment of the interest on and the tax status of the Series 2018A/B Senior Lien Bonds.

**Section 702. Calculation and Payment of Rebate.**

(i) As used in this Section 702:

“Bond Year” means the annual period (or such shorter period from the date of issuance of the Series 2018A/B Senior Lien Bonds) provided for the computation of the Rebate Amount for the Series 2018A/B Senior Lien Bonds under Section 148(f) of the Code. The last day of a Bond Year shall be the close of business on the day preceding the anniversary of the issuance of the Series 2018A/B Senior Lien Bonds unless the Authority selects another date on which to end a Bond Year in the manner permitted by the Code, and notifies the Trustee in writing of such selection.

“Computation Date” means:

(i) (a) the last day of each fifth Bond Year while the Series 2018A/B Senior Lien Bonds are outstanding, and (b) the date on which the last Series 2018A/B Senior Lien Bonds are retired, or

(ii) such other date or dates elected by the Authority as may be permitted under the Code for computation of the Rebate Amount.

“Rebate Amount” means, as of any Computation Date, the amount then payable (or payable within 60 days of such date) to the United States pursuant to Section 148(f) of the Code and the applicable Treasury Regulations (final or temporary) thereunder.

(ii) Promptly after each Computation Date, the Authority, or an independent public accounting firm or Bond Counsel engaged by or on behalf of the Authority, shall calculate the Rebate Amount, if any, as of that Computation Date.

(iii) Within 60 days after each Computation Date, and at any other time directed by the Authorized Representative of the Authority, the Authority shall pay to the United States in accordance with Section 148(f), from any lawfully available funds, an amount equal to 90% (or such greater percentage not in excess of 100% as the Authorized Representative of the Authority may determine to pay) of the Rebate Amount determined from the Delivery Date to the end of such fifth Bond Year (but less any portion of the Rebate Amount previously paid to the United States pursuant to this Section). Within 60 days after the payment in full of all outstanding Series 2018A/B Senior Lien Bonds, the Authorized Representative of the Authority, on behalf of the Authority shall pay to the United States in accordance with Section 148(f), from any lawfully available funds, an amount equal to 100% of the Rebate Amount determined from the Delivery Date to the date of such payment in full of all outstanding Series 2018A/B Senior Lien Bonds

(but less any portion of the Rebate Amount previously paid to the United States pursuant to this Section 702(iii)).

(iv) The Authority shall keep or provide for the keeping of records of the computations made pursuant to this Section 702, payments made pursuant to this Section and all original source documents pertaining to the investment of gross proceeds and the expenditure of gross proceeds for at least six years after the maturity or retirement of the Series 2018A/B Senior Lien Bonds.

(v) The Authority, in connection with investments of the proceeds of the Series 2018A/B Senior Lien Bonds in nonpurpose investments, will not pay or agree to pay to a party other than the United States any portion of the Rebate Amount with respect to the Series 2018A/B Senior Lien Bonds through a transaction or series of transactions that reduce the aggregate amount earned on all nonpurpose investments in which gross proceeds of the Series 2018A/B Senior Lien Bonds are invested or that result in a smaller profit or a larger loss than would have resulted in an arm's length transaction in which yield on the Series 2018A/B Senior Lien Bonds was not relevant to the Authority or the other party.

(vi) If the Authority and the Trustee receive a written opinion of Bond Counsel that such action would not adversely affect the exclusion from gross income for federal income tax purposes of interest on the Series 2018A/B Senior Lien Bonds, the Authorized Representative of the Authority may, without the consent of or notice to any bondholders, adopt supplements to this Twenty-Third Supplemental Indenture to the extent necessary or desirable to modify, supplement or replace this Section 702 consistent with the other covenants of the Authority in this Twenty-Third Supplemental Indenture.

(vii) If at any time the Authority receives a written opinion of Bond Counsel that failure to comply with this Section 702 or any part of this Section 702 would not adversely affect the exclusion of interest on the Series 2018A/B Senior Lien Bonds from gross income for federal income tax purposes, the Authority may discontinue compliance with this Section 702 or part of this Section 702 to the extent set forth in that opinion.

## **ARTICLE VIII MISCELLANEOUS**

### **Section 801. Limitation of Rights.**

With the exception of rights herein expressly conferred, nothing expressed or mentioned in or to be implied from this Twenty-Third Supplemental Indenture or the Series 2018A/B Senior Lien Bonds is intended or shall be construed to give to any person other than the parties hereto and the Series 2018A/B Senior Lien Bondholders any legal or equitable right, remedy or claim under or in respect to this Twenty-Third Supplemental Indenture or any covenants, conditions and agreements herein contained since this Twenty-Third Supplemental Indenture and all of the covenants, conditions and agreements hereof are intended to be and are for the sole and exclusive benefit of the parties hereto and the Series 2018A/B Senior Lien Bondholders as herein provided.

**Section 802. Severability.**

If any provision of this Twenty-Third Supplemental Indenture shall be held invalid by any court of competent jurisdiction, such holding shall not invalidate any other provision hereof, and this Twenty-Third Supplemental Indenture shall be construed and enforced as if such illegal provision had not been contained herein.

**Section 803. Successors and Assigns.**

This Twenty-Third Supplemental Indenture shall be binding upon, inure to the benefit of and be enforceable by the parties and their respective successors and assigns.

**Section 804. Limitations on Liability.**

No covenant, agreement or obligation contained herein shall be deemed to be a covenant, agreement or obligation of any present or future member of the Board of Directors of the Authority or officer, employee or agent of the Authority in his or her individual capacity, and neither the members of the Board of Directors of the Authority nor any officer of the Authority executing the Series 2018A/B Senior Lien Bonds shall be liable personally on the Series 2018A/B Senior Lien Bonds or be subject to any personal liability or accountability by reason of the issuance thereof. No member of the Board of Directors of the Authority or officer, employee, agent or advisor of the Authority shall incur any personal liability with respect to any other action taken by him or her pursuant to this Twenty-Third Supplemental Indenture or the Indenture or any other document authorized by the Indenture, provided such member, officer, employee, agent or advisor acts in good faith.

**Section 805. Applicable Law.**

This Twenty-Third Supplemental Indenture shall be governed by the applicable laws of the District of Columbia.

**Section 806. Counterparts.**

This Twenty-Third Supplemental Indenture may be executed in several counterparts, each of which shall be deemed an original and all of which together shall constitute but one and the same instrument.

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**IN WITNESS WHEREOF**, the Authority and the Trustee have caused this Twenty-Third Supplemental Indenture to be executed in their respective corporate names as of the date first above written.

**DISTRICT OF COLUMBIA WATER  
AND SEWER AUTHORITY**

By \_\_\_\_\_  
Chief Financial Officer

**WELLS FARGO BANK, NATIONAL  
ASSOCIATION, AS TRUSTEE**

By \_\_\_\_\_

Its \_\_\_\_\_

**EXHIBIT A-1**

**SERIES 2018A BOND FORM**

Unless this certificate is presented by an authorized representative of The Depository Trust Company, a New York corporation (“DTC”), to the Authority or its agent for registration of transfer, exchange, or payment, and any certificate is registered in the name of Cede & Co., or in such other name as is requested by an authorized representative of DTC (and any payment is made to Cede & Co. or to such other entity as is requested by an authorized representative of DTC), **ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL** inasmuch as the registered owner hereof, Cede & Co., has an interest herein.

**REGISTERED NO.**  
RA-1

**REGISTERED**  
\$ \_\_\_\_\_

**UNITED STATES OF AMERICA**

**DISTRICT OF COLUMBIA**

**WATER AND SEWER AUTHORITY**

**PUBLIC UTILITY SENIOR LIEN REVENUE BOND,  
SERIES 2018A  
(Green Bonds)**

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>DATED DATE</b>	<b>CUSIP</b>
_____%	October 1, [____]	May __, 2018	254845[____]

**REGISTERED OWNER: CEDE & CO.**

**PRINCIPAL AMOUNT: \_\_\_\_\_ DOLLARS**

The District of Columbia Water and Sewer Authority (the “Authority”), for value received, hereby promises to pay upon surrender hereof at the designated corporate trust office of Wells Fargo Bank, National Association, as trustee, or its successor in trust (the “Trustee”), under the Indenture, as hereinafter defined, solely from the sources and as hereinafter provided, to the registered owner hereof, or registered assigns or legal representative, the principal sum stated above on the maturity date stated above, subject to prior redemption as hereinafter provided, and to pay, solely from such sources, interest hereon semiannually on each April 1 and October 1, beginning [October 1, 2018], at the annual rate stated above, calculated on the basis of a 360-day year of twelve 30-day months. Interest is payable from the date of this Series 2018A Senior Lien Bond (unless payment of interest hereon is in default, in which case this Series 2018A Senior Lien Bond shall bear interest from the date to which interest has been paid). Interest is payable by check or draft mailed to the registered owner hereof at its address as it

appears on the fifteenth day of the month preceding each interest payment date on registration books kept by the Trustee; provided, however, that if the Series 2018A Senior Lien Bonds, as hereinafter defined, are registered in the name of a securities depository or its nominee as registered owner or at the option of a registered owner of at least \$1,000,000 of Series 2018A Senior Lien Bonds, payment will be made by wire transfer to an account within the United States pursuant to the most recent wire instructions received by the Trustee from such registered owner. Principal, premium, if any, and interest are payable in lawful money of the United States of America. Capitalized terms which are not defined herein shall have the meanings set forth in the Indenture.

Notwithstanding any other provision hereof, this Series 2018A Senior Lien Bond is subject to book-entry form maintained by The Depository Trust Company (“DTC”), and the payment of principal, premium, if any, and interest, the providing of notices and other matters shall be made as described in the Authority’s Blanket Letter of Representations to DTC.

This Series 2018A Senior Lien Bond is one of an issue of \$\_\_\_\_\_ Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds) (the “Series 2018A Senior Lien Bonds”), of like date and tenor, except as to number, denomination, rate of interest, privilege of redemption and maturity. The Series 2018A Senior Lien Bonds are being issued on the same day as the Authority’s \$\_\_\_\_\_ Public Utility Senior Lien Revenue Bonds, Series 2018B (the “Series 2018B Senior Lien Bonds” and, together with the Series 2018A Senior Lien Bonds, the “Series 2018A/B Senior Lien Bonds”). The Series 2018A Senior Lien Bonds are issued under a Master Indenture of Trust, dated as of April 1, 1998, between the Authority and the Trustee (f.k.a. Norwest Bank, N.A.) (the “Master Indenture”), as amended and supplemented by the Twenty-Third Supplemental Indenture of Trust, dated as of May \_\_, 2018, between the Authority and the Trustee (the “Twenty-Third Supplemental Indenture”), and as previously amended and supplemented by the First Supplemental Indenture, the Second Supplemental Indenture, the Third Supplemental Indenture, the Fourth Supplemental Indenture, the Fifth Supplemental Indenture, the Sixth Supplemental Indenture, the Seventh Supplemental Indenture, the Eighth Supplemental Indenture, the Ninth Supplemental Indenture, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Twelfth Supplemental Indenture, the Thirteenth Supplemental Indenture, the Fourteenth Supplemental Indenture, the Fifteenth Supplemental Indenture, the Sixteenth Supplemental Indenture, the Seventeenth Supplemental Indenture, the Eighteenth Supplemental Indenture, the Nineteenth Supplemental Indenture, the Twentieth Supplemental Indenture, the Twenty-First Supplemental Indenture and the Twenty-Second Supplemental Indenture, all as defined in the Twenty-Third Supplemental Indenture (the “Indenture”). The Series 2018A Senior Lien Bonds are secured under the Indenture as Senior Debt by a pledge of Net Revenues on a parity with the pledge that secures other Senior Debt and senior to the pledge that secures any Subordinate Debt. Reference is hereby made to the Indenture for a description of the provisions, among others, with respect to the nature and extent of the security, the rights, duties and obligations of the Authority and the Trustee, the rights of the holders of the Series 2018A Senior Lien Bonds and the terms upon which the Series 2018A Senior Lien Bonds are issued and secured.

The Series 2018A Senior Lien Bonds and the premium, if any, and the interest thereon are limited obligations of the Authority payable from Net Revenues of the System. The Series 2018A Senior Lien Bonds shall be without recourse to the District of Columbia (the “District”).



The Series 2018A Senior Lien 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, shall not constitute a debt of the District, and shall not constitute lending of the public credit for private undertakings.

The Series 2018A Bonds maturing on or after [October 1, 20\_\_], are subject to redemption prior to maturity at the option of the Authority on or after [\_\_\_\_\_ 1 20\_\_], 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.

The Term Series 2018A Senior Lien Bonds maturing on October 1, 20-- and October 1, 20--, and bearing interest at rates of \_\_\_% and \_\_\_%, respectively, are required to be redeemed prior to maturity on October 1 in years and amounts upon payment of 100% of the principal amount thereof plus interest accrued to the redemption date, as follows:

The Term Series 2018A Senior Lien Bonds maturing October 1, 20\_\_, and bearing interest at a rate of \_\_\_%, are subject to mandatory sinking fund redemption on each October 1 as set forth below:

Year	Amount
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† Final Maturity

The Term Series 2018A Senior Lien Bonds maturing October 1, 20\_\_, and bearing interest at a rate of \_\_%, are subject to mandatory sinking fund redemption on each October 1 as set forth below:

Year	Amount
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† Final Maturity

If fewer than all of the Series 2018A Senior Lien Bonds are called for redemption, they shall be called in such order of maturity as the Authority may determine and direct the Trustee in writing. If less than all of the Series 2018A Senior Lien Bonds of any maturity date are called for redemption, the Series 2018A Senior Lien Bonds to be redeemed shall be selected by DTC pursuant to its rules and procedures or, if the book-entry system is discontinued, shall be selected by the Trustee by lot in such manner as the Trustee in its discretion may determine. The portion of any Series 2018A Senior Lien Bond to be redeemed shall be in the principal amount of \$5,000 or some integral multiple thereof. In selecting Series 2018A Senior Lien Bonds for redemption, each Series 2018A Senior Lien Bond shall be considered as representing that number of Bonds which is obtained by dividing the principal amount of such Series 2018A Senior Lien Bond by \$5,000. If a portion of a Series 2018A Senior Lien Bond shall be called for redemption, a new Series 2018A Senior Lien Bond in principal amount equal to the unredeemed portion thereof shall be issued to the registered owner upon the surrender thereof.

If any of the Series 2018A Senior Lien Bonds or portions thereof are called for redemption, the Trustee shall send notice of the call for redemption, identifying the Series 2018A Senior Lien Bonds or portions thereof to be redeemed, not fewer than 30 nor more than 60 days prior to the redemption date, by facsimile, registered or certified mail or overnight express delivery, to the registered owner of each such Series 2018A Senior Lien Bond. Provided funds for their redemption are on deposit at the place of payment on the redemption date, all Series 2018A Senior Lien Bonds or portions thereof so called for redemption shall cease to bear interest on such date, shall no longer be secured by the Indenture and shall not be deemed to be Outstanding under the provisions of the Indenture. If a portion of the Series 2018A Senior Lien Bonds shall be called for redemption, a new Series 2018A Senior Lien Bond in principal amount equal to the unredeemed portion hereof will be issued to DTC or its nominee upon the surrender hereof, or if the book-entry system is discontinued, to the registered owners of the Series 2018A Senior Lien Bonds.

The registered owner of this Series 2018A Senior Lien Bond shall have no right to enforce the provisions of the Indenture or to institute action to enforce the covenants therein or to take any action with respect to any Event of Default under the Indenture or to institute, appear in or defend any suit or other proceedings with respect thereto, except as provided in the Indenture.

Modifications or alterations of the Indenture, or of any supplement thereto, may be made only to the extent and in the circumstances permitted by the Indenture.

No covenant, agreement or obligation contained herein shall be deemed to be a covenant, agreement or obligation of any present or future member of the Board of Directors of the Authority or officer, employee or agent of the Authority in his or her individual capacity, and neither the members of the Board of Directors of the Authority nor any officer of the Authority executing the Series 2018A Senior Lien Bonds shall be liable personally on the Series 2018A Senior Lien Bonds or be subject to any personal liability or accountability by reason of the issuance thereof. No member of the Board of Directors of the Authority or officer, employee, agent or advisor of the Authority shall incur any personal liability with respect to any other action taken by him or her pursuant to this Series 2018A Senior Lien Bond, the Twenty-Third Supplemental Indenture or the Indenture or any other document authorized by the Indenture, provided such member, officer, employee, agent or advisor acts in good faith.

The Series 2018A Senior Lien Bonds are issuable as registered bonds in denominations of \$5,000 and integral multiples thereof. Upon surrender for transfer or exchange of this Series 2018A Senior Lien Bond at the principal corporate trust office of the Trustee, together with an assignment duly executed by the registered owner or its duly authorized attorney or legal representative in such form as shall be satisfactory to the Trustee, the Authority shall execute, and the Trustee shall authenticate and deliver in exchange, a new Series 2018A Senior Lien Bond or Series 2018A Senior Lien Bonds in the manner and subject to the limitations and conditions provided in the Indenture, having an equal aggregate principal amount, in authorized denominations, of the same series, form and maturity, bearing interest at the same rate and registered in the name or names as requested by the then registered owner hereof or its duly authorized attorney or legal representative. Any such exchange shall be at the expense of the Authority, except that the Trustee may charge the person requesting such exchange the amount of any tax or other governmental charge required to be paid with respect thereto.

The Trustee shall treat the registered owner as the person exclusively entitled to payment of principal, premium, if any, and interest and the exercise of all other rights and powers of the owner, except that interest payments shall be made to the person shown as owner on the fifteenth day of the month preceding each interest payment date.

All acts, conditions and things required to happen, exist or be performed precedent to and in the issuance of this Series 2018A Senior Lien Bond have happened, exist and have been performed.

This Series 2018A Senior Lien Bond shall not become obligatory for any purpose or be entitled to any security or benefit under the Indenture or be valid until the Trustee shall have executed the Certificate of Authentication appearing hereon and inserted the date of authentication hereon.

IN WITNESS WHEREOF, the DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY has caused this Series 2018A Senior Lien Bond to be executed by the manual or facsimile signatures of the Chairman of the Board of Directors, its seal to be affixed hereto or a facsimile to be printed hereon and attested by the manual or facsimile signature of the Secretary to the Authority, and this Series 2018A Senior Lien Bond to be dated May \_\_, 2018.

ATTEST:

Secretary to the Authority

Tommy Wells  
Chairman

[SEAL]

**CERTIFICATE OF AUTHENTICATION**

Date Authenticated: \_\_\_\_\_

This Series 2018A Senior Lien Bond is one of the Series 2018A Senior Lien Bonds described in the within mentioned Indenture.

**Wells Fargo Bank, National Association,**  
Trustee

By \_\_\_\_\_  
Authorized Officer or Employee

**ASSIGNMENT**

FOR VALUE RECEIVED the undersigned hereby sell(s), assign(s) and transfer(s) unto

\_\_\_\_\_  
\_\_\_\_\_

(please print or typewrite name and address, including zip code, of Transferee)

PLEASE INSERT SOCIAL SECURITY OR OTHER  
IDENTIFYING NUMBER OF TRANSFEREE

\_\_\_\_\_  
: :  
: :  
: :  
: :  
\_\_\_\_\_

the within Series 2018A Senior Lien Bond and all rights thereunder, hereby irrevocably  
constituting \_\_\_\_\_ and \_\_\_\_\_ appointing

\_\_\_\_\_, Attorney, to transfer said Series  
2018A Senior Lien Bond on the books kept for the registration thereof, with full power of  
substitution in the premises.

Dated: \_\_\_\_\_

Signature Guaranteed

\_\_\_\_\_  
NOTICE: Signature(s) must be guaranteed  
by an Eligible Guarantor Institution such  
as a Commercial Institution such as a  
Commercial Bank, Trust Company,  
Securities Broker/Dealer, Credit Union, or  
Savings Association who is a member of a  
medallion program approved by The  
Securities Transfer Association, Inc.

\_\_\_\_\_  
NOTICE: The signature above must  
correspond with the name of the registered  
owner as it appears on the front of this Series  
2018A Senior Lien Bond in every particular,  
without alteration or enlargement or any  
change whatsoever.

**EXHIBIT A-2**

**SERIES 2018B BOND FORM**

Unless this certificate is presented by an authorized representative of The Depository Trust Company, a New York corporation (“DTC”), to the Authority or its agent for registration of transfer, exchange, or payment, and any certificate is registered in the name of Cede & Co., or in such other name as is requested by an authorized representative of DTC (and any payment is made to Cede & Co. or to such other entity as is requested by an authorized representative of DTC), **ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL** inasmuch as the registered owner hereof, Cede & Co., has an interest herein.

**REGISTERED NO.**  
RB-1

**REGISTERED**  
\$ \_\_\_\_\_

**UNITED STATES OF AMERICA**

**DISTRICT OF COLUMBIA**

**WATER AND SEWER AUTHORITY**

**PUBLIC UTILITY SENIOR LIEN REVENUE BOND,  
SERIES 2018B**

<b>INTEREST RATE</b> _____%	<b>MATURITY DATE</b> October 1, [____]	<b>DATED DATE</b> May __, 2018	<b>CUSIP</b> 254845[____]
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**REGISTERED OWNER: CEDE & CO.**

**PRINCIPAL AMOUNT: \_\_\_\_\_ THOUSAND DOLLARS**

The District of Columbia Water and Sewer Authority (the “Authority”), for value received, hereby promises to pay upon surrender hereof at the designated corporate trust office of Wells Fargo Bank, National Association, as trustee, or its successor in trust (the “Trustee”), under the Indenture, as hereinafter defined, solely from the sources and as hereinafter provided, to the registered owner hereof, or registered assigns or legal representative, the principal sum stated above on the maturity date stated above, subject to prior redemption as hereinafter provided, and to pay, solely from such sources, interest hereon semiannually on each April 1 and October 1, beginning [October 1, 2018], at the annual rate stated above, calculated on the basis of a 360-day year of twelve 30-day months. Interest is payable from the date of this Series 2018B Senior Lien Bond (unless payment of interest hereon is in default, in which case this Series 2018B Senior Lien Bond shall bear interest from the date to which interest has been paid). Interest is payable by check or draft mailed to the registered owner hereof at its address as it

appears on the fifteenth day of the month preceding each interest payment date on registration books kept by the Trustee; provided, however, that if the Series 2018B Senior Lien Bonds, as hereinafter defined, are registered in the name of a securities depository or its nominee as registered owner or at the option of a registered owner of at least \$1,000,000 of Series 2018B Senior Lien Bonds, payment will be made by wire transfer to an account within the United States pursuant to the most recent wire instructions received by the Trustee from such registered owner. Principal, premium, if any, and interest are payable in lawful money of the United States of America. Capitalized terms which are not defined herein shall have the meanings set forth in the Indenture.

Notwithstanding any other provision hereof, this Series 2018B Senior Lien Bond is subject to book-entry form maintained by The Depository Trust Company (“DTC”), and the payment of principal, premium, if any, and interest, the providing of notices and other matters shall be made as described in the Authority’s Blanket Letter of Representations to DTC.

This Series 2018B Senior Lien Bond is one of an issue of \$\_\_\_\_\_ Public Utility Senior Lien Revenue Bonds, Series 2018B (the “Series 2018B Senior Lien Bonds”), of like date and tenor, except as to number, denomination, rate of interest, privilege of redemption and maturity. The Series 2018B Senior Lien Bonds are being issued on the same day as the Authority’s \$\_\_\_\_\_ Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds) (the “Series 2018A Senior Lien Bonds” and, together with the Series 2018B Senior Lien Bonds, the “Series 2018A/B Senior Lien Bonds”). The Series 2018B Senior Lien Bonds are issued under a Master Indenture of Trust, dated as of April 1, 1998, between the Authority and the Trustee (f.k.a. Norwest Bank, N.A.) (the “Master Indenture”), as amended and supplemented by the Twenty-Third Supplemental Indenture of Trust, dated as of February 23, 2017, between the Authority and the Trustee (the “Twenty-Third Supplemental Indenture”), and as previously amended and supplemented by the First Supplemental Indenture, the Second Supplemental Indenture, the Third Supplemental Indenture, the Fourth Supplemental Indenture, the Fifth Supplemental Indenture, the Sixth Supplemental Indenture, the Seventh Supplemental Indenture, the Eighth Supplemental Indenture, the Ninth Supplemental Indenture, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Twelfth Supplemental Indenture, the Thirteenth Supplemental Indenture, the Fourteenth Supplemental Indenture, the Fifteenth Supplemental Indenture, the Sixteenth Supplemental Indenture, the Seventeenth Supplemental Indenture, the Eighteenth Supplemental Indenture, the Nineteenth Supplemental Indenture, the Twentieth Supplemental Indenture, the Twenty-First Supplemental Indenture and the Twenty-Second Supplemental Indenture, all as defined in the Twenty-Third Supplemental Indenture (the “Indenture”). The Series 2018B Senior Lien Bonds are secured under the Indenture as Senior Debt by a pledge of Net Revenues on a parity with the pledge that secures other Senior Debt and senior to the pledge that secures any Subordinate Debt. Reference is hereby made to the Indenture for a description of the provisions, among others, with respect to the nature and extent of the security, the rights, duties and obligations of the Authority and the Trustee, the rights of the holders of the Series 2018B Senior Lien Bonds and the terms upon which the Series 2018B Senior Lien Bonds are issued and secured.

The Series 2018B Senior Lien Bonds and the premium, if any, and the interest thereon are limited obligations of the Authority payable from Net Revenues of the System. The Series 2018A Senior Lien Bonds shall be without recourse to the District of Columbia (the “District”).



The Series 2018A Senior Lien 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, shall not constitute a debt of the District, and shall not constitute lending of the public credit for private undertakings.

The Series 2018B Bonds maturing on or after [October 1, 20\_\_], are subject to redemption prior to maturity at the option of the Authority on and after [\_\_\_\_\_ 1, 20\_\_], 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.

The Term Series 2018B Senior Lien Bonds maturing on October 1 in the year October 1, 20\_\_, and bearing interest at the rate of \_\_\_\_%, are required to be redeemed prior to maturity on October 1 in years and amounts upon payment of 100% of the principal amount thereof plus interest accrued to the redemption date, as follows:

The Term Series 2018B Senior Lien Bonds maturing October 1, 20\_\_, are subject to mandatory sinking fund redemption on each October 1 as set forth below:

Year	Amount
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† Final Maturity

If fewer than all of the Series 2018B Senior Lien Bonds are called for redemption, they shall be called in such order of maturity as the Authority may determine and direct the Trustee in writing. If less than all of the Series 2018B Senior Lien Bonds of any maturity date are called for redemption, the Series 2018B Senior Lien Bonds to be redeemed shall be selected by DTC pursuant to its rules and procedures or, if the book-entry system is discontinued, shall be selected by the Trustee by lot in such manner as the Trustee in its discretion may determine. The portion of any Series 2018B Senior Lien Bond to be redeemed shall be in the principal amount of \$5,000 or some integral multiple thereof. In selecting Series 2018B Senior Lien Bonds for redemption, each Series 2018B Senior Lien Bond shall be considered as representing that number of Bonds which is obtained by dividing the principal amount of such Series 2018B Senior Lien Bond by \$5,000. If a portion of a Series 2018B Senior Lien Bond shall be called for redemption, a new Series 2018B Senior Lien Bond in principal amount equal to the unredeemed portion thereof shall be issued to the registered owner upon the surrender thereof.

If any of the Series 2018B Senior Lien Bonds or portions thereof are called for redemption, the Trustee shall send notice of the call for redemption, identifying the Series 2018B Senior Lien Bonds or portions thereof to be redeemed, not fewer than 30 nor more than 60 days prior to the redemption date, by facsimile, registered or certified mail or overnight express delivery, to the registered owner of each such Series 2018B Senior Lien Bond. Provided funds for their redemption are on deposit at the place of payment on the redemption date, all Series 2018B Senior Lien Bonds or portions thereof so called for redemption shall cease to bear interest on such date, shall no longer be secured by the Indenture and shall not be deemed to be Outstanding under the provisions of the Indenture. If a portion of the Series 2018B Senior Lien Bonds shall be called for redemption, a new Series 2018B Senior Lien Bond in principal amount equal to the unredeemed portion hereof will be issued to DTC or its nominee upon the surrender hereof, or if the book-entry system is discontinued, to the registered owners of the Series 2018B Senior Lien Bonds.

The registered owner of this Series 2018B Senior Lien Bond shall have no right to enforce the provisions of the Indenture or to institute action to enforce the covenants therein or to take any action with respect to any Event of Default or Series 2018B Senior Lien Bond Event of Default under the Indenture or to institute, appear in or defend any suit or other proceedings with respect thereto, except as provided in the Indenture. Specifically, and without limiting the generality of the foregoing, the Series 2018B Senior Lien Bonds, as Subordinate Debt, may not be accelerated if any Senior Debt is outstanding. Modifications or alterations of the Indenture, or of any supplement thereto, may be made only to the extent and in the circumstances permitted by the Indenture.

No covenant, agreement or obligation contained herein shall be deemed to be a covenant, agreement or obligation of any present or future member of the Board of Directors of the Authority or officer, employee or agent of the Authority in his or her individual capacity, and neither the members of the Board of Directors of the Authority nor any officer of the Authority executing the Series 2018B Senior Lien Bonds shall be liable personally on the Series 2018B Senior Lien Bonds or be subject to any personal liability or accountability by reason of the issuance thereof. No member of the Board of Directors of the Authority or officer, employee, agent or advisor of the Authority shall incur any personal liability with respect to any other

action taken by him or her pursuant to this Series 2018B Senior Lien Bond, the Twenty-Third Supplemental Indenture or the Indenture or any other document authorized by the Indenture, provided such member, officer, employee, agent or advisor acts in good faith.

The Series 2018B Senior Lien Bonds are issuable as registered bonds in denominations of \$5,000 and integral multiples thereof. Upon surrender for transfer or exchange of this Series 2018B Senior Lien Bond at the principal corporate trust office of the Trustee, together with an assignment duly executed by the registered owner or its duly authorized attorney or legal representative in such form as shall be satisfactory to the Trustee, the Authority shall execute, and the Trustee shall authenticate and deliver in exchange, a new Series 2018B Senior Lien Bond or Series 2018B Senior Lien Bonds in the manner and subject to the limitations and conditions provided in the Indenture, having an equal aggregate principal amount, in authorized denominations, of the same series, form and maturity, bearing interest at the same rate and registered in the name or names as requested by the then registered owner hereof or its duly authorized attorney or legal representative. Any such exchange shall be at the expense of the Authority, except that the Trustee may charge the person requesting such exchange the amount of any tax or other governmental charge required to be paid with respect thereto.

The Trustee shall treat the registered owner as the person exclusively entitled to payment of principal, premium, if any, and interest and the exercise of all other rights and powers of the owner, except that interest payments shall be made to the person shown as owner on the fifteenth day of the month preceding each interest payment date.

All acts, conditions and things required to happen, exist or be performed precedent to and in the issuance of this Series 2018B Senior Lien Bond have happened, exist and have been performed.

This Series 2018B Senior Lien Bond shall not become obligatory for any purpose or be entitled to any security or benefit under the Indenture or be valid until the Trustee shall have executed the Certificate of Authentication appearing hereon and inserted the date of authentication hereon.

IN WITNESS WHEREOF, the DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY has caused this Series 2018B Senior Lien Bond to be executed by the manual or facsimile signatures of the Chairman of the Board of Directors, its seal to be affixed hereto or a facsimile to be printed hereon and attested by the manual or facsimile signature of the Secretary to the Authority, and this Series 2018B Senior Lien Bond to be dated May \_\_, 2018.

ATTEST:

Secretary to the Authority

Tommy Wells  
Chairman

[SEAL]

**CERTIFICATE OF AUTHENTICATION**

Date Authenticated: \_\_\_\_\_

This Series 2018B Senior Lien Bond is one of the Series 2018B Senior Lien Bonds described in the within mentioned Indenture.

**Wells Fargo Bank, National Association,**  
Trustee

By \_\_\_\_\_  
Authorized Officer or Employee

**ASSIGNMENT**

FOR VALUE RECEIVED the undersigned hereby sell(s), assign(s) and transfer(s) unto

\_\_\_\_\_  
\_\_\_\_\_

(please print or typewrite name and address, including zip code, of Transferee)

PLEASE INSERT SOCIAL SECURITY OR OTHER  
IDENTIFYING NUMBER OF TRANSFEREE

\_\_\_\_\_  
: :  
: :  
: :  
: :  
\_\_\_\_\_

the within Series 2018B Senior Lien Bond and all rights thereunder, hereby irrevocably  
constituting \_\_\_\_\_ and \_\_\_\_\_ appointing

\_\_\_\_\_, Attorney, to transfer said Series  
2018B Senior Lien Bond on the books kept for the registration thereof, with full power of  
substitution in the premises.

Dated: \_\_\_\_\_

Signature Guaranteed

\_\_\_\_\_  
NOTICE: Signature(s) must be guaranteed  
by an Eligible Guarantor Institution such  
as a Commercial Institution such as a  
Commercial Bank, Trust Company,  
Securities Broker/Dealer, Credit Union, or  
Savings Association who is a member of a  
medallion program approved by The  
Securities Transfer Association, Inc.

\_\_\_\_\_  
NOTICE: The signature above must  
correspond with the name of the registered  
owner as it appears on the front of this Series  
2018B Senior Lien Bond in every particular,  
without alteration or enlargement or any  
change whatsoever.

M&A draft dated 3/15/18

BOND PURCHASE AGREEMENT

\$000,000,000  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)

\$000,000,000  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018B

\_\_\_\_\_, 2018

District of Columbia Water and Sewer Authority  
5000 Overlook Avenue, S.W.  
Washington, DC 20032

Ladies and Gentlemen:

Goldman Sachs & Co. LLC, as representative of the underwriters (the “Representative”) on behalf of itself and Barclays Capital Inc. (the “co-Senior Managers”), and on behalf of JP Morgan Chase & Co., Loop Capital Markets LLC, Merrill Lynch, Pierce, Fenner & Smith Inc. and Samuel A. Ramirez & Co., Inc. (collectively, the “Underwriters”), offer to enter into this bond purchase agreement (this “Agreement”) with the District of Columbia Water and Sewer Authority (the “Authority”). The offer made hereby is subject to acceptance thereof by execution of this Agreement and its delivery to the Representative, on behalf of the Underwriters, at or prior to 5:00 p.m., New York, New York Time, on the date hereof, or on such other date as may be agreed upon by the Underwriters. Upon such acceptance, this Agreement shall be in full force and effect in accordance with its terms and shall be binding upon the Authority and the Underwriters. If this offer is not so accepted, it is subject to withdrawal by the Representative on behalf of the Underwriters upon written notice delivered to the Authority at any time prior to acceptance. Terms used but not defined herein are defined in the Indenture identified below.

1. **Purchase and Sale of Bonds.** On the terms and conditions and on the basis of the representations, warranties, covenants and agreements set forth herein, the Representative, on behalf of the Underwriters, hereby agrees to purchase from the Authority for offering to the public, and the Authority hereby agrees to sell and deliver to the Underwriters for such purpose, all (but not less than all) of its Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds), in the original principal amount of \$000,000,000 (the “Series 2018A Bonds”) and its Public Utility Senior Lien Revenue Bonds, Series 2018B, in the original principal amount of \$000,000,000 (the “Series 2018B Bonds” and collectively with the Series 2018A Bonds, the “Bonds”). The proceeds of the Bonds will be used to pay (i) a portion of the costs of the Authority’s DC Clean Rivers Project, (ii) [a portion of the Authority’s currently outstanding Commercial Paper Notes] and (iii) pay costs of issuing the Bonds. The purchase price of the

Series 2018A Bonds will be \$\_\_\_\_\_ (the par amount of the Series 2018A Bonds less the Underwriters' discount of \$\_\_\_\_\_ plus net original issue premium of \$\_\_\_\_\_). The purchase price of the Series 2018B Bonds will be \$\_\_\_\_\_ (the par amount of the Series 2018B Bonds less the Underwriters' discount of \$\_\_\_\_\_ plus net original issue premium of \$\_\_\_\_\_). The Bonds will mature on the dates and in the amounts and will bear interest and will be subject to redemption prior to maturity as set forth on Exhibit A hereto.

2. **Bond Authorization.** The Bonds shall be issued under and pursuant to provisions of the laws of the United States of America and the District of Columbia (the "District"), including particularly, an act of the Council of the District entitled the "Water and Sewer Authority Establishment and Department of Public Works Reorganization Act of 1996," as amended, codified at District of Columbia Official Code Ann. Sections 34-2201.01 *et seq.*, and the acts amendatory thereof and supplemental thereto (the "Act"), and an act of the United States Congress entitled the "District of Columbia Water and Sewer Authority Act of 1996" (Public Law 104-184), as amended (the "Federal Act"), and all proceedings necessary to authorize and provide for the issuance of the Bonds, including Resolution No.18- adopted by the Board of Directors of the Authority, on \_\_\_\_\_, 2018 (the "Resolution"), and the Master Indenture of Trust, dated as of April 1, 1998 (the "Master Indenture"), between the Authority and Wells Fargo Bank, N.A., as trustee (the "Trustee"), as amended and supplemented, including by the Twenty-Third Supplemental Indenture of Trust, dated as of the Closing Date (as defined below) (the "Twenty-Third Supplemental Indenture," and together with the Master Indenture as previously amended and supplemented, the "Indenture"), between the Authority and the Trustee, substantially in the forms previously delivered to us.

3. **Closing.** At 11:00 a.m. Eastern Standard/Eastern Daylight Time on May \_\_, 2018, or at such other time and date as may be mutually agreed upon by the Authority and the Underwriters (the "Closing Date"), the Authority will, subject to the terms and conditions hereof, deliver the Bonds to the Underwriters in definitive form, duly executed and authenticated, together with the other documents hereinafter required, and, subject to the terms and conditions hereof, the Underwriters will accept such delivery and pay the purchase price of the Bonds as set forth in Section 1 hereof in federal funds to the order of the Authority (the "Closing"). Delivery of the Bonds will be made through the facilities of The Depository Trust Company, New York, New York. The Closing will occur at the offices of Squire Patton Boggs (US) LLP, Washington, D.C., or such other place as may be mutually agreed on by the Authority and the Underwriters.

4. **Public Offering of the Bonds.** It is a condition of the Authority's obligation to sell and deliver the Bonds to the Underwriters, and of the obligation of the Underwriters to purchase and accept delivery of the Bonds, that the entire principal amount of the Bonds is sold and delivered by the Authority and accepted and paid for by the Underwriters at the Closing. The Underwriters intend to make an initial public offering of all of the Bonds at prices not in excess of the initial public offering prices set forth on the cover page of the Official Statement. The Underwriters may offer and sell the Bonds to certain dealers (including dealers depositing Bonds into investment trusts) at prices lower than the initial public offering prices.

5. **Preliminary and Final Official Statement.** The Authority ratifies and consents to the legally permissible use by the Underwriters, prior to the date hereof, of the Preliminary Official Statement, dated April \_\_, 2018, relating to the Bonds (the "Preliminary Official



Statement”) in connection with the public offering of the Bonds and the Authority represents that such Preliminary Official Statement is deemed final as of its date and as of the date hereof under Rule 15c2-12 (“Rule 15c2-12”) promulgated by the U.S. Securities and Exchange Commission (the “SEC”) under the Securities Exchange Act of 1934, as amended (the “1934 Exchange Act”), except for Permitted Omissions (as defined in Rule 15c2-12). The form of the final Official Statement of the Authority relating to the Bonds, dated April \_\_, 2018, including the cover page and Appendices thereto, and any revisions, amendments or supplements thereto (the “Official Statement”) as have been approved by the Authority, Co-Bond Counsel, and the Representative. The Authority authorizes, approves, ratifies and confirms the distribution of the Preliminary Official Statement and the Official Statement in paper and electronic format by the Underwriters in connection with the public offering and sale of the Bonds.

The Authority agrees to provide to the Underwriters, at such addresses as the Underwriters specify, as many copies of the Official Statement as the Underwriters reasonably request as necessary to comply with Rule G-32 and all other applicable rules of the Municipal Securities Rulemaking Board (the “MSRB”). The Authority agrees to deliver the Official Statement within seven business days after the date hereof and not later than one business day before the Closing Date and in sufficient time to accompany any confirmation that requests payment from any customer and to permit the Underwriters to comply with the requirements of Rule 15c2-12 (defined below). The Preliminary Official Statement and the Official Statement may be revised, amended, changed or supplemented by the Authority after the execution of this Agreement only with the permission of the Underwriters.

If, during the period from the date hereof to and including the date which is 25 days after the “end of the underwriting period” (as hereinafter defined), there shall exist any event, including, but not limited to, any material adverse change in the financial condition, results of operation or condition, financial or otherwise, of the Authority, and of which the Authority has knowledge, which, in the opinion of the Underwriters and counsel to the Underwriters or in the opinion of the Authority, requires a supplement or amendment to the Official Statement so that it will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, when it is delivered to a potential investor, the Authority will supplement or amend or cause to be supplemented or amended the Official Statement in a form and in a manner approved by the Underwriters and the Authority and will furnish to the Underwriters such supplement or amendment in sufficient quantity to permit the Underwriters to comply with the requirements of Rule 15c2-12 (“Rule 15c2-12”) promulgated by the Securities and Exchange Commission (the “SEC”) under the 1934 Exchange Act.

For the purpose of the preceding paragraph, the Authority may assume that the “end of the underwriting period” (in accordance with and as defined in Rule 15c2-12) means the Closing Date unless the Representative advises the Authority in writing on the Closing Date that there remains an unsold balance of the Bonds, in which case the “end of the underwriting period” means the date as of which the Representative notifies the Authority that the Underwriters, directly or as a syndicate, no longer retain an unsold balance of the Bonds for sale to the public. The deemed end of the underwriting period, in order to allow the Underwriters to comply with Rule 15c2-12, shall be extended for additional periods of 30 days each upon receipt of written notification from the Underwriters that any Bonds remain unsold however, in no event shall the

“end of the underwriting period” extend beyond the date sixty (60) days from the Closing Date. The Representative agrees to provide to the Authority written notification that none of the Bonds remain unsold which will be deemed the end of the underwriting period.

The Representative hereby agrees to deliver a copy of the printed paper form of the Official Statement to the MSRB in an electronic format prescribed by the MSRB for its Electronic Municipal Market Access (“EMMA”) website at [www.emma.msrb.org](http://www.emma.msrb.org) within one (1) business day of receipt of the executed final Official Statement by the Underwriters.

6. **Representations, Warranties and Covenants of the Authority.** The Authority hereby represents, warrants, covenants and agrees as follows:

a. The Authority is, and at the Closing Date will be, a duly organized and validly existing corporate body and independent authority of the District established under the laws of the United States and the District, including the Act and the Federal Act, with the full legal right, power and authority to (i) adopt the Resolution, (ii) execute, deliver and perform its obligations under this Agreement, the Indenture, the Certificate of Award of the Authority establishing the purchase price, maturities, interest rates, redemption provisions and other terms of the Bonds, dated the date hereof (the “Certificate of Award”), and the Continuing Disclosure Agreement of the Authority dated as of the Closing Date (the “Continuing Disclosure Agreement,” and together with this Agreement and the Indenture, the “Bond Documents”); (iii) perform its obligations under the Water Sales Agreement, dated as of July 31, 1997, between the Authority and the United States of America, acting through the Secretary of the Army (the “Water Sales Agreement”) and the Blue Plains Intermunicipal Agreement of 2012 between the District, Fairfax County, Virginia, Montgomery County, Maryland, Prince George’s County, Maryland and the Washington Suburban Sanitary Commission (the “IMA,” and together with the Water Sales Agreement, the “System Agreements”), (iv) sell, issue and deliver the Bonds to the Underwriters as provided herein, and (v) carry out and consummate the transactions contemplated by the Resolution, the Bond Documents, the Preliminary Official Statement, the Official Statement and the System Agreements; and the Authority has complied, and at the Closing Date will be in compliance, in all material respects, with the Act and the Federal Act and with the obligations on its part in connection with the issuance of the Bonds contained in the Bonds, the Resolution, the Indenture, the Preliminary Official Statement, the Official Statement and this Agreement.

b. The Authority (i) has duly and validly adopted the Resolution, (ii) has authorized the execution and delivery of the Bond Documents, (iii) is authorized to execute, issue, sell and deliver the Bonds in book-entry form, (iv) is authorized to appoint, and has appointed, Wells Fargo Bank, N.A., as Trustee (the “Trustee”), (v) is authorized to apply and will apply the proceeds of the Bonds as provided in and subject to all of the terms and provisions of the Resolution, including the payment or reimbursement of the Authority expenses incurred in connection with the negotiation, marketing, issuance and delivery of the Bonds to the extent required by Section 14, (vi) has taken or will take on or before the Closing Date, all action necessary or appropriate for (a) execution, issuance, sale and delivery of the Bonds in book-entry form to the Underwriters, (b) approval, execution and delivery of and the performance by the Authority of its obligations contained in the Bonds and the Bond Documents, (c) the approval, distribution and use of the Preliminary Official Statement and the approval, execution,

distribution and use of the Official Statement for use by the Underwriters in connection with the public offering of the Bonds and (d) the consummation by it of all other transactions described in the Official Statement, the Bond Documents and any and all such other agreements and documents as may be required to be executed, delivered and/or received by the Authority in order to carry out, give effect to, and consummate the transactions described herein and in the Official Statement.

c. The adoption of the Resolution, the execution and delivery of the Bond Documents, the execution, issuance, sale and delivery of the Bonds in book-entry form and the performance by the Authority of its obligations hereunder and thereunder, and the performance by the Authority of its obligations under the System Agreements (collectively, the “Authority Undertakings”) are within the corporate powers of the Authority and are not in conflict with and will not constitute a breach, default or result in a violation of (i) the Act, (ii) any federal constitutional or federal or District statutory provision, including the Federal Act, (iii) any agreement or other instrument to which the Authority is a party, or (iv) any order, rule, regulation, decree or ordinance of any court of competent jurisdiction, government or governmental authority having jurisdiction over the Authority or its property.

d. The District has authorized the Authority to use all of the property and assets of the water distribution and wastewater collection, treatment and disposal systems of the Authority (the “System”), uninterrupted by the District, for as long as any revenue bonds of the Authority, including the Bonds, remain outstanding. The Authority has the full legal right, power and authority to operate the System and to collect and pledge the Revenues therefrom in accordance with the Indenture.

e. The Resolution or other appropriate actions adopted or taken by the Authority establishing the rates and charges for services of the System described in the Preliminary Official Statement and the Official Statement have been duly adopted or taken and are in full force and effect.

f. The System Agreements and all other agreements, permits, licenses, consents, approvals, actions, consent decrees and settlement orders material to the operation and management of the System, including the collection of the Revenues therefrom as described in the Preliminary Official Statement and the Official Statement, are in full force and effect as of the date hereof and will be on the Closing Date, and the Authority is not and will not be in default thereunder or in breach thereof. The System Agreements have been duly authorized, executed and delivered by the Authority and constitute valid and binding obligations of the Authority enforceable in accordance with their respective terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors’ rights generally and subject, as to enforceability, to general principles of equity.

g. The Bonds, when issued, delivered to the Underwriters and paid for, in accordance with the Act, the Resolution, the Indenture and this Agreement, will have been duly authorized, executed, issued and delivered by the Authority and will constitute valid and binding obligations of the Authority, enforceable against the Authority in accordance with their terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium and similar laws affecting creditors’ rights generally and subject, as to enforceability, to general principles of

equity. The Bonds are not a pledge of and do not involve the faith and credit or the taxing power of the District and the District shall not be liable thereon. The Bonds, the Indenture and the Resolution conform to the descriptions thereof contained in the Preliminary Official Statement and the Official Statement and the proceeds of the sale of the Bonds will be applied as described in the Preliminary Official Statement and the Official Statement.

h. The Authority is not currently failing to comply and except as disclosed in the Preliminary Official Statement and the Official Statement, has not failed to comply during the past five years with any continuing disclosure obligation pursuant to Rule 15c2-12. The Authority has agreed to deliver to the Underwriters a Continuing Disclosure Agreement with respect to the Bonds that complies with the requirements of Rule 15c2-12.

i. This Agreement constitutes, and, upon execution and delivery by the Authority and the other parties thereto, each of the other Bond Documents will constitute, the valid, binding and enforceable obligation of the Authority in accordance with their respective terms, subject to applicable bankruptcy, insolvency, and similar laws affecting creditors' rights generally and subject, as to enforceability, to general principles of equity.

j. The Authority is not in material breach of or material default under any applicable constitutional provision or law of the United States, the District or any applicable judgment or decree, or any loan agreement, indenture, bond, note, resolution, agreement or other instrument to which it is a party or to which it or any of its property or assets is otherwise subject, and no event has occurred and is continuing which, with the passage of time or the giving of notice, or both, would constitute a default or event of default under any such instrument; and the execution and delivery of the Bonds, this Agreement and the other Bond Documents and the adoption of the Resolution, and compliance with the provisions contained therein and herein, and in the System Agreements, do not conflict with or constitute a breach of or default under any constitutional provision, law, administrative regulation, judgment, decree, loan agreement, indenture, bond, note, resolution, agreement, or other instrument to which it is a party or any of its property or assets are otherwise subject, nor will any such execution, delivery, adoption, or compliance result in the creation or imposition of any lien, charge, or other security interest or encumbrance of any nature whatsoever upon any of its property or assets or under the terms of any such law, regulation or instrument, except as provided by the Bonds.

k. All authorizations, approvals, licenses, permits, consents and orders of any governmental authority, legislative body, board, agency or commission having jurisdiction of the matter have been duly obtained or, with respect to the issuance of the Bonds, will be obtained prior to the issuance of the Bonds, which are required for the due authorization by or which would constitute a condition precedent to or the absence of which would materially adversely affect the due performance by the Authority of its obligations in connection with the issuance of the Bonds and under this Agreement, except for such approvals, consents and orders as may be required under the Blue Sky or securities laws of any state in connection with the offering and sale of the Bonds.

l. Except as otherwise described in the Preliminary Official Statement and the Official Statement, there is no litigation, action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or, to

the best knowledge of the Authority, threatened against the Authority (i) affecting or seeking to prohibit, restrain or enjoin the issuance, sale or delivery of the Bonds, the use of the Preliminary Official Statement or the Official Statement or the collection of the Revenues pledged to the payment of the principal of and interest on the Bonds, (ii) in any way contesting or affecting any authority for the issuance of the Bonds or the validity, enforceability, due authorization, execution or delivery of the Bonds, including this Agreement or the other Bond Documents, or the validity or enforceability of the System Agreements, nor, to the best knowledge of the Authority, is there any basis therefor, wherein an unfavorable decision, ruling or finding would materially adversely affect the validity or enforceability of the Bonds or the Bond Documents, (iii) questioning the tax-exempt status of the Bonds under the laws of the District or the United States, (iv) affecting or in any way contesting the corporate existence or powers of the Authority or the titles of the officers of the Authority to their respective offices, (v) which may result in any material adverse change in the business or the financial condition or the financial prospects of the Authority or (vi) asserting that the Preliminary Official Statement or the Official Statement or any supplement thereto contains any untrue statement of a material fact or omits any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

m. The Authority will furnish such information, execute such instruments and take such other action in cooperation with the Underwriters as the Underwriters may reasonably request in order to (i) qualify the Bonds for offer and sale under the Blue Sky or other securities laws and regulations of such states and other jurisdictions of the United States as the Underwriters may designate, (ii) determine the eligibility of the Bonds for investment under the laws of such states and other jurisdictions, and (iii) continue such qualifications in effect so long as required for the distribution of the Bonds and will advise the Representative promptly of receipt by the Authority of any written notification with respect to the suspension of the qualification of the Bonds for sale in any jurisdiction or the initiation or threat of any proceeding for that purpose; provided, however, that the Authority will not be required to execute a general or special consent to service of process or qualify to do business in connection with any such qualification or determination in any jurisdiction.

n. The audited balance sheets of the Authority for the years ended September 30, 2017 and September 30, 2016, and the related statements of revenues, expenditures and changes in net assets and cash flows for the fiscal year ended on such date, as set forth in the Preliminary Official Statement and the Official Statement, are true, complete and correct and fairly present the financial condition of the Authority as of such date and the results of its operations for such fiscal year. There has been no material adverse change in the financial condition of the Authority since September 30, 2017, except as described in the Preliminary Official Statement and the Official Statement. The financial statements of, and other financial information of the Authority in the Preliminary Official Statement and in the Official Statement fairly present the financial position and results of the Authority as of the dates and for the periods therein set forth, and except as noted in the Preliminary Official Statement and in the Official Statement, the other historical financial information set forth in the Preliminary Official Statement and in the Official Statement has been presented on a basis consistent with that of the Authority's audited financial statements included in the Preliminary Official Statement and in the Official Statement.

o. The Authority has duly authorized, approved and delivered the Preliminary Official Statement and the Official Statement to the Underwriters.

p. The Preliminary Official Statement, as of its date and as of the date of this Agreement, did not and does not, and the Official Statement, is, as of its date and (unless the Official Statement is amended or supplemented pursuant to this Agreement) at all times subsequent thereto during the period up to and including the Closing Date, did not and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. If between the date of the Official Statement and the Closing Date any event shall occur or any pre-existing fact or condition shall become known to the Authority that might or would cause the Official Statement, as then supplemented or amended, to contain any untrue statement of a material fact or to omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, the Authority shall promptly notify the Underwriters thereof, and if in the reasonable opinion of the Underwriters, such event, fact or condition requires the preparation and publication of a supplement or amendment to the Official Statement, the Authority will at its expense supplement or amend the Official Statement in a form and in a manner approved by the Underwriters, which approval shall not be unreasonably withheld. If the Official Statement is supplemented or amended as aforesaid, at the time of each supplement or amendment thereto and (unless subsequently again supplemented or amended pursuant to such paragraph) at all times subsequent thereto during the underwriting period, as defined in Section 5, the Official Statement as so supplemented or amended will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which made, not misleading.

q. The obligation of the Authority to know or provide information within the knowledge of the Authority is limited to providing information that is in the actual knowledge of, or reasonably should have been in the actual knowledge of, the key staff members of the Authority listed in the Official Statement under the caption "Senior Management" or their respective successors.

r. The Authority undertakes that, for a period beginning with the day on which the Bonds are delivered to the Underwriters and ending on the 25th day following the end of the underwriting period, as defined in Section 5, it will apprise the Underwriters of all material developments, if any, occurring with respect to the Authority, and if requested by the Underwriters, at the Authority's expense, prepare a supplement to the Official Statement in respect of any such material event.

s. The Authority has not been notified of any listing or proposed listing by the Internal Revenue Service to the effect that the Authority is a bond issuer whose arbitrage certificates may not be relied upon.

t. Any certificate signed by an authorized delegate of the Authority in connection with the transactions described in this Agreement will be deemed a representation, warranty, covenant and agreement by the Authority to the Underwriters as to the statements made therein.

u. Prior to the Closing, the Authority will not take any action within or under its control that will cause any adverse change of a material nature in the Authority's financial position, or its results of operations or condition, financial or otherwise.

v. The Authority will not, prior to the Closing, offer or issue any bonds, notes or other obligations for borrowed money or incur any material liabilities, direct or contingent, except in the ordinary course of business, without the prior approval of the Representative.

w. The Bonds and the Twenty-Third Supplemental Indenture conform to the descriptions thereof contained in the Preliminary Official Statement and the Official Statement under the caption "THE SERIES 2018A/B BONDS" and in Appendix C "GLOSSARY AND SUMMARY OF THE INDENTURE."

7. **Representations of Underwriters.** The Underwriters represent and warrant that they will offer the Bonds only pursuant to the Official Statement and the Underwriters agree to make a public offering of the Bonds at the initial offering prices or yields set forth in the Official Statement as the Underwriters may deem necessary or desirable in connection with the offering and sale of the Bonds and to sell the Bonds to dealers (including dealer banks and dealers depositing Bonds into investment trusts) and others at prices lower than the public offering prices. At the Closing, the Representative, on behalf of the Underwriters, shall deliver to the Authority a certificate, acceptable to Co-Bond Counsel, substantially in the form of Exhibit D hereto. The Underwriters agree to deliver a final Official Statement to all purchasers of the Bonds in accordance with all applicable legal requirements.

8. **Rights to Cancellation by Underwriters.** The Underwriters will have the right to cancel their obligation to purchase, accept delivery of and to pay for the Bonds if between the date hereof and the Closing Date, the market price or marketability of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds shall be materially adversely affected in the reasonable judgment of the Representative, on behalf of the Underwriters, by the occurrence of any of the following: (a) legislation has been enacted by or introduced in Congress or a decision by a federal court of the United States or the United States Tax Court has been rendered, or a ruling, regulation or official statement by or on behalf of the Treasury Department of the United States, the Internal Revenue Service or other governmental agency has been made or proposed to be made with respect to federal taxation on revenues or other income to be derived from the operation of the Authority, or other actions or events have occurred which have the purpose or effect, directly or indirectly, of materially adversely affecting the federal income tax consequences of any of the transactions contemplated in connection herewith, including the tax-exempt status of bonds issued by the Authority under the Internal Revenue Code of 1986, as amended, or (b) legislation has been enacted, or actively considered for enactment with an effective date being prior to the date of the issuance of the Bonds, or a decision by a court of the United States has been rendered, or a ruling or regulation by the SEC or another governmental agency having jurisdiction of the subject matter has been made, the effect of which is that the Bonds are not exempt from the registration or other requirements of the Securities Act of 1933, as amended and as then in effect (the "1933 Securities Act"), or that the Indenture is not exempt from the qualification or other requirements of the Trust Indenture Act of 1939, as amended and

as then in effect (the “Trust Indenture Act”), or (c) a stop order, ruling or regulation by the SEC has been issued or made, the effect of which is that the issuance, offering or sale of the Bonds as contemplated hereby or by the Official Statement is or would be in violation of any provision of the 1933 Securities Act, or of the 1934 Exchange Act, or of the Trust Indenture Act, or (d) there exists any event which in the reasonable judgment of the Underwriters either (i) makes untrue or incorrect any statement or information of a material fact contained in the Official Statement or (ii) is not reflected in the Official Statement but should be reflected therein in order to make the statements and information contained therein, in light of the circumstances under which they were made, not misleading, and, in either such event the Authority refuses to permit the Official Statement to be supplemented to correct or supply such statement or information, or the statement or information as supplemented is such as in the reasonable judgment of the Underwriters would materially adversely affect the market for the Bonds or the sale, at the contemplated offering price, by the Underwriters of the Bonds, or (e) there has occurred any new outbreak of hostilities (including, without limitation, an act of terrorism) or escalation of hostilities existing prior to the date hereof or any other extraordinary event, material national or international calamity or crisis, including a financial crisis, not existing on the date hereof, or (f) any new restriction on transactions in securities materially affecting the market for securities (including the imposition of any limitation on interest rates or the establishment of minimum or maximum prices) or any material increase of restrictions now in force (including the extension of credit by, or a charge to the net capital requirements of, Underwriters) shall have been established by the New York Stock Exchange, the SEC, any other federal agency, the Congress of the United States, or by Executive Order, or (g) there is in force a general suspension of trading in securities on the New York Stock Exchange or any other national securities exchange or (h) a general banking moratorium has been declared by Federal, District or New York authorities, or (i) there has occurred since the date hereof any material adverse change in the affairs of the Authority from that reflected in the financial information and data of the Authority included in or as an appendix to the Official Statement, other than as previously disclosed to the Underwriters, or (j) a material disruption in securities settlement, payment or clearance services shall have occurred, or (k) there shall have occurred any downgrading or published negative credit watch or similar published information from a rating agency that on the date hereof has published a rating (or has been asked to furnish a rating on the Bonds) on any of the Authority’s debt obligations, which action reflects a change or possible change in the ratings accorded any such obligations of the Authority (including any rating to be accorded to the Bonds) or (l) there shall have occurred any downgrading or published negative credit watch or similar published information from a rating agency that at the date of this Agreement has published a rating (or has been asked to furnish a rating on the Bonds) on any of the Authority’s debt obligations, which action reflects a change or possible change, in the ratings accorded any such obligations of the Authority (including any rating to be accorded the Bonds).

9. **Rights to Cancellation by the Authority.** The Authority will have the right to cancel its obligation to issue, sell and deliver the Bonds if between the date hereof and the Closing Date, the market price or marketability of the Bonds shall be materially adversely affected, in the reasonable judgment of the Authority, by the occurrence of any of the following: (a) legislation has been enacted by or introduced in Congress or a decision by a federal court of the United States or the United States Tax Court has been rendered, or a ruling, regulation or official statement by or on behalf of the Treasury Department of the United States, the Internal Revenue Service or other governmental agency has been made or proposed to be made with



respect to federal taxation on revenues or other income to be derived from the operation of the Authority, or other actions or events have occurred which have the purpose or effect, directly or indirectly, of materially adversely affecting the federal income tax consequences of any of the transactions contemplated in connection herewith, or (b) legislation has been enacted, or actively considered for enactment with an effective date being prior to the date of the issuance of the Bonds, or a decision by a court of the United States has been rendered, or a ruling or regulation by the SEC or another governmental agency having jurisdiction of the subject matter has been made, the effect of which is that the Bonds are not exempt from the registration or other requirements of the 1933 Securities Act, or that the Indenture is not exempt from the qualification or other requirements of the Trust Indenture Act, or (c) a stop order, ruling or regulation by the SEC has been issued or made, the effect of which is that the issuance, offering or sale of the Bonds as contemplated hereby or by the Official Statement is or would be in violation of any provision of the 1933 Securities Act, or of the 1934 Exchange Act, or of the Trust Indenture Act, or (d) there has occurred any new outbreak of hostilities (including, without limitation, an act of terrorism) or escalation of hostilities existing prior to the date hereof or any other extraordinary event, material national or international calamity or crisis, including a financial crisis, not existing on the date hereof, or (e) any new restriction on transactions in securities materially affecting the market for securities (including the imposition of any limitation on interest rates or the establishment of minimum or maximum prices) or any material increase of restrictions now in force (including the extension of credit by, or a charge to the net capital requirements of, Underwriters) shall have been established by the New York Stock Exchange, the SEC, any other federal agency, the Congress of the United States, or by Executive Order, or (f) there is in force a general suspension of trading in securities on the New York Stock Exchange or any other national securities exchange or (g) a general banking moratorium has been declared by Federal, District or New York authorities, or (h) a material disruption in securities settlement, payment or clearance services shall have occurred.

10. **Conditions to Obligations of Underwriters at Closing.** The Underwriters have entered into this Agreement in reliance on the representations, warranties, covenants and agreements of the Authority contained herein, and in reliance on the representations, warranties, covenants and agreements to be contained in the documents and instruments to be delivered at the Closing and on the performance by the Authority of its obligations hereunder, as of the Closing Date. Accordingly, the Underwriters' obligations under this Agreement to purchase, to accept delivery of and to pay for the Bonds, are conditioned on the performance by the Authority of its obligations to be performed hereunder and the delivery of such documents and instruments enumerated herein in form and substance reasonably satisfactory to the Underwriters and Orrick, Herrington & Sutcliffe LLP, and McKenzie & Associates, co-counsel to the Underwriters, at or before the Closing, and are also subject to the following additional conditions:

a. The representations, warranties, covenants and agreements of the Authority contained herein are true, complete and correct on the date hereof and on and as of the Closing Date, as if made on the Closing Date;

b. The provisions of the Act and the Federal Act, as in effect on the date of this Agreement, shall be in full force and effect and shall not have been amended, except as to amendments which, in the reasonable opinion of the Underwriters, are not adverse to the interest of the Underwriters or the Bondholders;

c. At the time of the Closing, the Resolution is in full force and effect in accordance with its terms and has not been amended, modified or supplemented, and the Official Statement has not been supplemented or amended, except in any such case as may have been agreed to by the Underwriters;

d. At the time of the Closing, all official action of the Authority relating to the Bonds, the Bond Documents and the System Documents are in full force and effect in accordance with their respective terms and have not been amended, modified or supplemented, except in each case as may have been agreed to by the Underwriters;

e. At the time of the Closing the Authority will perform or will have performed all of its obligations required under or specified in this Agreement, the Resolution and the Indenture, or contemplated by the Resolution, the Indenture or the Official Statement, to be performed prior to the Closing; and

f. At or before the Closing, the Underwriters will have received true and correct copies of each of the following documents:

i. A certified copy of the Resolution;

ii. The Official Statement and each supplement or amendment, if any, thereto, executed by the Authority;

iii. Counterparts of each of the fully executed Bond Documents and the System Agreements;

iv. The approving opinion of Co-Bond Counsel in substantially the form attached to Preliminary Official Statement and the Official Statement as Appendix F and a supplemental opinion, dated the Closing Date, in form and substance satisfactory to the Underwriters, and reliance letters with respect to such opinions addressed to Wells Fargo Bank, N.A., as Trustee;

v. An opinion, dated the Closing Date, of the General Counsel to the Authority, substantially in the form of Exhibit B hereto;

vi. An opinion, dated the Closing Date, of Orrick, Herrington & Sutcliffe LLP and McKenzie & Associates, co-counsel to the Underwriters, substantially in the form of Exhibit C hereto;

vii. An opinion, dated the Closing Date, of Squire Patton Boggs (US) LLP and Leftwich LLC, in their capacity as co-disclosure counsel to the Authority, in form and substance satisfactory to the Underwriters and their co-counsel;

viii. An opinion, dated the Closing Date, of counsel to the Trustee, in a form approved by the Underwriters and their co-counsel;

ix. A manually signed Financial Feasibility Opinion Letter dated \_\_\_\_\_, 2018, of Amawalk Consulting Group LLC (the "Financial Feasibility

Consultant”), regarding the financial feasibility of the issuance of the Bonds in substantially the form attached to the Preliminary Official Statement and the final Official Statement as Appendix A and a certificate of the Financial Feasibility Consultant with respect to the issuance and sale of the Bonds, permitting the use of such letter and references to said firm in the Preliminary Official Statement and the Official Statement in form and substance satisfactory to the Underwriters;

x. One or more certificates of the Authority, dated the Closing Date, (A) to the effect that the representations, warranties, covenants and agreements of the Authority herein are true and correct on and as of the Closing Date as if made on the Closing Date, and that the Authority has performed all obligations to be performed hereunder as of the Closing Date; (B) to the effect that the Bond Documents, the Bonds and the System Agreements have not been modified, amended or repealed after the date hereof without the written consent of the Underwriters; (C) to the effect that no material change has occurred with respect to the System from the period from the date of this Agreement through the Closing Date;

xi. Evidence of the completion of Internal Revenue Service Form 8038-G with respect to the issuance of the Bonds;

xii. Evidence that Moody’s Investors Service, Inc. (“Moody’s”) and S&P Global Ratings Services (“S&P”) have issued ratings on the Bonds of “\_\_\_” and “\_\_\_” respectively;

xiii. Such additional legal opinions, certificates, instruments and other documents as the Underwriters may reasonably request to evidence the truth and accuracy, as of the Closing Date, of the Authority’s representations, warranties, covenants and agreements contained herein and of the statements and information contained in the Official Statement and the due performance or satisfaction by the Authority on or prior to the Closing Date of all the agreements then to be performed and conditions then to be satisfied by it.

All the opinions, letters, certificates, instruments and other documents mentioned above or elsewhere in this Agreement will be deemed to be in compliance with the provisions hereof if, but only if, they are in form and substance satisfactory to the Underwriters.

11. **Obligations Upon Cancellation.** If the Authority is unable to satisfy the conditions to the obligations of the Underwriters to purchase, to accept the delivery of and to pay for the Bonds contained in this Agreement, or if the obligations of the Underwriters to purchase, to accept delivery of and to pay for the Bonds is terminated for any reason permitted by this Agreement, this Agreement will terminate and neither the Underwriters nor the Authority will be under any further obligation hereunder, except that the Authority and the Underwriters shall pay their respective expenses as set forth in Section 14.

12. **Certain Information Provided by Underwriters.** The Underwriters confirm and the Authority acknowledges that the statements with respect to the public offering of the Bonds by the Underwriters set forth on the cover page of the Official Statement, the legend

concerning over-allotments in the Official Statement and the text under the caption "UNDERWRITING" in the Official Statement constitute the only information concerning the Underwriters furnished in writing to the Authority by or on behalf of the Underwriters for inclusion in the Official Statement.

13. **Establishment of Issue Price.**

a. The Underwriters agree to assist the Authority in establishing the issue price of the Bonds and shall execute and deliver to the Authority at Closing an "issue price" or similar certificate, together with the supporting pricing wires or equivalent communications, substantially in the form attached hereto as **Exhibit D**, with such modifications as may be appropriate or necessary, in the reasonable judgment of the Underwriters, the Authority and Bond Counsel, to accurately reflect, as applicable, the sales price or prices or the initial offering price or prices to the public of the Bonds. All actions to be taken by the Authority under this Section to establish the issue price of the Bonds may be taken on behalf of the Authority by the Municipal Advisor [need to define, maybe up front?] and any notice or report to be provided to the Authority may be provided to the Municipal Advisor.

b. [Except as otherwise set forth in Schedule [I] attached hereto,] [t][T]he Authority will treat the first price at which 10% of each maturity of the Bonds (the "10% test") is sold to the public as the issue price of that maturity (if different interest rates apply within a maturity, each separate CUSIP number within that maturity will be subject to the 10% test). At or promptly after the execution of this Bond Purchase Agreement, the Underwriters shall report to the Authority the price or prices at which it has sold to the public each maturity of Bonds. If at that time the 10% test has not been satisfied as to any maturity of the Bonds, the Underwriters agree to promptly report to the Authority the prices at which it sells the unsold Bonds of that maturity to the public. That reporting obligation shall continue, whether or not the Closing Date has occurred, until the 10% test has been satisfied as to the Bonds of that maturity or until all Bonds of that maturity have been sold to the public.

**Schedule [I] and subsection (c) shall apply only if the Underwriter agrees to apply the hold-the-offering-price rule, as described below.**

c. The Underwriter confirms that it has offered the Bonds to the public on or before the date of this Bond Purchase Agreement at the offering price or prices (the "initial offering price"), or at the corresponding yield or yields, set forth in Schedule [I] attached hereto, except as otherwise set forth therein. Schedule [I] also sets forth, as of the date of this Bond Purchase Agreement, the maturities, if any, of the Bonds for which the 10% test has not been satisfied and for which the Authority and the Underwriters agree that the restrictions set forth in the next sentence shall apply, which will allow the Authority to treat the initial offering price to the public of each such maturity as of the sale date as the issue price of that maturity (the "hold-the-offering-price rule"). So long as the hold-the-offering-price rule remains applicable to any maturity of the Bonds, the Underwriters will neither offer nor sell unsold Bonds of that maturity to any person at a price that is higher than the initial offering price to the public during the period starting on the sale date and ending on the earlier of the following:

- i. the close of the fifth (5th) business day after the sale date; or

i. the date on which the Underwriters have sold at least 10% of that maturity of the Bonds to the public at a price that is no higher than the initial offering price to the public.

The Underwriters shall promptly advise the Authority when it has sold 10% of that maturity of the Bonds to the public at a price that is no higher than the initial offering price to the public, if that occurs prior to the close of the fifth (5th) business day after the sale date.

d. The Underwriters confirm that any selling group agreement and any retail distribution agreement relating to the initial sale of the Bonds to the public, together with the related pricing wires, contains or will contain language obligating each dealer who is a member of the selling group and each broker-dealer that is a party to such retail distribution agreement, as applicable, to (A) report the prices at which it sells to the public the unsold Bonds of each maturity allotted to it until it is notified by the Underwriters that either the 10% test has been satisfied as to the Bonds of that maturity or all Bonds of that maturity have been sold to the public and (B) comply with the hold-the-offering-price rule, if applicable, in each case if and for so long as directed by the Underwriter. The Authority acknowledges that, in making the representation set forth in this subsection, the Underwriters will rely on (i) in the event a selling group has been created in connection with the initial sale of the Bonds to the public, the agreement of each dealer who is a member of the selling group to comply with the hold-the-offering-price rule, if applicable, as set forth in a selling group agreement and the related pricing wires, and (ii) in the event that a retail distribution agreement was employed in connection with the initial sale of the Bonds to the public, the agreement of each broker-dealer that is a party to such agreement to comply with the hold-the-offering-price rule, if applicable, as set forth in the retail distribution agreement and the related pricing wires. The Authority further acknowledges that the Underwriters shall not be liable for the failure of any dealer who is a member of a selling group, or of any broker-dealer that is a party to a retail distribution agreement, to comply with its corresponding agreement regarding the hold-the-offering-price rule as applicable to the Bonds.

e. The Underwriters acknowledge that sales of any Bonds to any person that is a related party to the Underwriters shall not constitute sales to the public for purposes of this section. Further, for purposes of this section:

i. "public" means any person other than an underwriter or a related party,

ii. "underwriter" means (A) any person that agrees pursuant to a written contract with the Authority (or with the lead underwriter to form an underwriting syndicate) to participate in the initial sale of the Bonds to the public and (B) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (A) to participate in the initial sale of the Bonds to the public (including a member of a selling group or a party to a retail distribution agreement participating in the initial sale of the Bonds to the public),

iii. a purchaser of any of the Bonds is a "related party" to an underwriter if the underwriter and the purchaser are subject, directly or indirectly, to (A) at least 50% common ownership of the voting power or the total value of their stock, if both entities are corporations (including direct ownership by one corporation of another), (B) more than 50% common ownership of their capital interests or profits interests, if both entities are

partnerships (including direct ownership by one partnership of another), or (C) more than 50% common ownership of the value of the outstanding stock of the corporation or the capital interests or profit interests of the partnership, as applicable, if one entity is a corporation and the other entity is a partnership (including direct ownership of the applicable stock or interests by one entity of the other), and

iv. "sale date" means the date of execution of this Bond Purchase Agreement by all parties.

14. **No Advisory or Fiduciary Role.** The Authority acknowledges and agrees that: (i) the transactions contemplated by this Agreement are arm's-length, commercial transactions between the Authority and the Underwriters in which the Underwriters are acting solely as principals, and are not acting as an agent, a municipal advisor, financial advisor or fiduciary to the Authority; (ii) the Underwriters have not assumed any advisory or fiduciary responsibility to the Authority with respect to the transactions contemplated hereby and the discussions, conferences, negotiations, undertakings and procedures leading thereto (irrespective of whether the Underwriters or their affiliates have provided other services or are currently providing other services to the Authority on other matters); (iii) the only obligations the Underwriters have to the Authority with respect to the transaction contemplated hereby expressly are set forth in this Agreement; (iv) the Authority has consulted its own financial and/or municipal, legal, accounting, tax, and other advisors, as applicable, to the extent it has deemed appropriate; and (v) this Agreement expresses the entire relationship between the parties hereto.

15. **Expenses.** The Authority will pay all costs of issuance of the Bonds including, but not limited to (a) the cost of preparation and posting of the Preliminary Official Statement and the cost of preparation, posting, printing and delivery of the Official Statement, including the number of copies the Underwriters and the Authority deem reasonable; (b) any cost of preparation of the Bonds; (c) the fees and disbursements of Co-Bond Counsel; (d) the fees and disbursements of any accountants, consultants, financial advisors or additional legal counsel retained in connection with the issuance of the Bonds, including the Independent Engineer and the Financial Feasibility Consultant; (e) fees for Bond ratings and CUSIP numbers; (f) the expenses of travel, lodging and meals for Authority representatives in connection with the negotiation, marketing, issuance and delivery of the Bonds; (g) all advertising expenses in connection with the public offering of the Bonds, including investor meetings; (h) the costs of filing fees required by any of the Blue Sky laws; and (i) all reasonable and necessary out-of-pocket associated with the issuance of the Bonds. The Authority shall reimburse the Underwriters for the fees and expenses of Underwriters' counsel, any expense advanced or incurred by the Underwriters for which the Authority is responsible hereunder including (f) above and other reasonable expenses incurred in connection with the performance of Underwriters' obligations hereunder (reimbursement may be included in the expense component of the Underwriters' discount, which the Underwriters acknowledge includes their expenses as set forth in Section 1).

16. **Notices.** Any notice or other communication to be given to the Authority under this Agreement may be given by delivering the same in writing to the address shown on the first page of this Agreement to the attention of the Chief Financial Officer, and any notice or other communication to be given to the Representative under this Agreement may be given by

delivering the same in writing to Goldman Sachs & Co. LLC, 200 West Street, 30th floor, New York, NY 10282, Attention: Jeffrey M. Scruggs, Managing Director.

17. **Parties in Interest; Survival of Representations and Warranties.** This Agreement, when accepted in accordance with the provisions hereof, shall constitute the entire agreement between the Authority and the Underwriters and is made solely for the benefit of the Authority and the Underwriters (including the successors or assigns of the Authority or the Underwriters) and no other person will acquire or have any right hereunder or by virtue hereof. All of the Authority's and Underwriters' representations, warranties, covenants and agreements contained in this Agreement will remain operative and full force and effect regardless of (a) any investigations made by or on behalf of the Underwriters; or (b) delivery of and payment for the Bonds pursuant to this Agreement.

18. **Effective Date.** This Agreement will become effective upon its acceptance by the Authority, as evidenced by the execution hereof by the appropriate official of the Authority, and will be valid and enforceable at the time of such acceptance.

19. **Execution in Counterparts.** This Agreement may be executed in counterparts each of which shall be regarded as an original and all of which shall constitute one and the same document.

20. **Finder.** The Authority represents and warrants that no finder or other agent of a finder has been employed or consulted by it in connection with this transaction.

21. **Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the District of Columbia.

GOLDMAN SACHS & CO. LLC  
BARCLAYS CAPITAL INC.  
JP MORGAN CHASE & CO.  
LOOP CAPITAL MARKETS LLC  
MERRILL LYNCH, PIERCE, FENNER & SMITH INC.  
SAMUEL A. RAMIREZ & CO., INC.

By: GOLDMAN SACHS & CO. LLC,  
as Representative of the Underwriters

By: \_\_\_\_\_  
Jeffrey M. Scruggs  
Managing Director

[SIGNATURE PAGE TO SERIES 2018A/B BOND PURCHASE AGREEMENT]



Accepted: April \_\_, 2018

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

By \_\_\_\_\_

Name: Matthew Brown

Title: Chief Financial Officer

[SIGNATURE PAGE TO SERIES 2018A/B BOND PURCHASE AGREEMENT]

EXHIBIT A

\$000,000,000

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds  
Series 2018A (Green Bonds)

2018A Term Bonds

\$ \_\_\_ % Term Bonds, due October 1, 20\_\_\_, Yield \_\_\_%\*

\$ \_\_\_ % Term Bonds, due October 1, 20\_\_\_, Yield \_\_\_%\*

            
\*Priced to the par call date.

\$000,000,000  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds  
Series 2018B  
Serial Bonds

Year (Oct. 1)	Principal Amount	Interest Rate	Yield
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2018B Term Bonds  
\$ \_\_\_\_ % Term Bonds, due October 1, 20 \_\_, Yield \_\_\_\_%\*

\_\_\_\_\_  
\*Priced to the par call date.

## TERMS OF REDEMPTION

### Optional Redemption

The Series 2018A Bonds are subject to optional redemption prior to maturity on or after April 1, 202\_ 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.

The Series 2018B Bonds are subject to optional redemption prior to maturity on or after April 1, 202\_ 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 SINKING FUND REDEMPTION

The \$\_\_\_ Series 2018A Term Bonds maturing on October 1, 20\_\_ shall be subject to mandatory sinking fund redemption, on October 1 of that respective year, as follows:

<u>Year</u>	<u>Principal Amount</u>
-------------	-------------------------

\_\_\_\_\_  
\*Final maturity.

The \$\_\_\_ Series 2018A Term Bonds maturing on October 1, 20\_\_ shall be subject to mandatory sinking fund redemption, on October 1 of that respective year, as follows:

<u>Year</u>	<u>Principal Amount</u>
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\_\_\_\_\_  
\*Final maturity.

The \$\_\_\_ Series 2018B Term Bonds maturing on October 1, 20\_\_ shall be subject to mandatory sinking fund redemption, on October 1 of that respective year, as follows:

<u>Year</u>	<u>Principal Amount</u>
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\*Final maturity.

EXHIBIT B

FORM OF AUTHORITY'S GENERAL COUNSEL OPINION

May \_\_, 2018

District of Columbia Water and Sewer Authority  
5000 Overlook Avenue, S.W.  
Washington, DC 20032

\$000,000,000  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)

\$000,000,000  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018B

Ladies and Gentlemen:

I am the General Counsel to the District of Columbia Water and Sewer Authority (the "Authority") and in connection with the issuance by the Authority of its Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds), in the original principal amount of \$000,000,000 (the "Series 2018A Bonds") and its Public Utility Senior Lien Revenue Bonds, Series 2018B, in the original principal amount of \$000,000,000 (the "Series 2018B Bonds" and collectively with the Series 2018A Bonds, the "Bonds"). I have reviewed an executed copy of the Bond Purchase Agreement, dated April , 2018, between the Authority and Goldman Sachs & Co. LLC, as Representative on behalf of the Underwriters, with respect to the Bonds (the "Bond Purchase Agreement") and the Preliminary Official Statement, dated April , 2018 (the "Preliminary Official Statement") and the Official Statement, dated April , 2018, being distributed in connection with the issuance of the Bonds (collectively, the "Official Statement"). Capitalized terms used and not defined herein shall have the respective meanings given to such terms in the Bond Purchase Agreement.

I have also examined an act of the Council of the District of Columbia entitled the "Water and Sewer Authority Establishment and Department of Public Works Reorganization Act of 1996," codified, as amended, at District of Columbia Official Code Ann. Sections 34-2201.01 *et seq.*, and the acts amendatory thereof and supplemental thereto (the "Act"), and an act of the United States Congress entitled the "District of Columbia Water and Sewer Authority Act of 1996" (Public Law 104-184), as amended (the "Federal Act"), certified copies of proceedings of the Authority authorizing the issuance of the Bonds, including the Resolution and such other proceedings as I have considered necessary or advisable to render the following opinions.

In rendering the following opinions, I have relied on representations of the Authority as to matters of fact without independent investigation or verification and, as to matters of law, the

representations of Co-Bond Counsel without independent research or verification and have assumed the genuineness of all signatures, the authenticity of all documents tendered to me as originals and the conformity to original documents of all documents submitted to me as certified or photostatic copies.

Based upon review of the materials described above and subject to the recitals and qualifications herein contained, to the best of my knowledge, information and belief, it is my opinion that:

1. The Authority is a body corporate duly created, organized and validly existing as an independent authority of the District under the Act and under the Federal Act (the Act and the Federal Act being sometimes hereinafter referred to as, the “Acts”). The Authority has the full legal right, power and authority to (i) adopt the Resolution, (ii) issue the Bonds, (iii) execute, deliver and perform its obligations under the Bond Documents, and (iv) perform its obligations under the System Agreements.

2. The Federal Act was duly enacted by Congress and the Act was duly enacted by the Council of the District of Columbia. The Acts remain in full force and effect. The Act transferred all assets and liabilities of the Water and Sewer Utility Administration (“WASUA”) as indicated on the balance sheet prepared by WASUA, effective April 17, 1996, on an interim basis for the exclusive use and possession of the Authority for so long as any revenue bonds of the Authority, including the Bonds, remain outstanding.

3. The Resolution was adopted by the Authority and has not been amended since the date of the adoption thereof and remains in full force and effect as of the date hereof.

4. (i) The adoption of the Resolution, the issuance of the Bonds, the execution and delivery of the Bond Documents and the performance of the Authority’s obligations thereunder, and (ii) the performance of the Authority’s obligations under the System Agreements, under the circumstances contemplated thereby, do not and will not in any material respect conflict with or constitute on the part of the Authority, a breach of or default under any agreement or other instrument to which the Authority is a party, or any existing law, administrative regulation, court order, settlement order or consent decree to which the Authority is subject.

5. Except as otherwise described in the Preliminary Official Statement and the Official Statement, there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or, to the best of my knowledge, threatened against the Authority (i) seeking to prohibit, restrain or enjoin the issuance, sale or delivery of the Bonds, the use of the Official Statement or the collection of the revenues pledged to the payment of the principal of and interest on the Bonds, (ii) in any way contesting or affecting any authority for the issuance of the Bonds or the validity, enforceability, due authorization, execution or delivery of the Bonds, including the Bond Purchase Agreement or the other Bond Documents, or the validity or enforceability of the System Agreements, (iii) questioning the tax-exempt status of the Bonds under the laws of the District or the United States, (iv) in any way contesting the corporate existence or powers of the Authority or the titles of the officers of the Authority to their respective offices, (v) which may result in any material

adverse change in the business or the financial condition or the financial prospects of the Authority or (vi) asserting that the Preliminary Official Statement or the Official Statement contains any untrue statement of a material fact or omits any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

6. The statements and information contained in the Preliminary Official Statement and the Official Statement under the caption entitled "LITIGATION," are true, correct and complete in all material respects, and the information under such caption does not contain any untrue statement of a material fact and does not omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading in any material respect.

7. Pursuant to the Acts, the Authority has the full legal right, power and authority to operate the System and to collect and pledge the Revenues therefrom in accordance with the Indenture.

8. The Authority has approved the form of the Preliminary Official Statement and the Official Statement, the execution of the Official Statement and the delivery of the Official Statement to the purchasers of the Bonds.

9. The Authority has obtained the consents, approvals, authorizations or other orders required for the consummation of the transactions contemplated by the Bond Purchase Agreement, including the issuance of the Bonds.

This opinion and all documents which relate to this opinion are to be construed in accordance with the laws of the District and the United States of America. This opinion is rendered solely for the use of the Authority and may not be relied on by any other person.

Very truly yours,

General Counsel



EXHIBIT C

FORM OF OPINION OF UNDERWRITERS' COUNSEL

May \_\_, 2018

\$000,000,000

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)

\$000,000,000

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018B

Goldman Sachs & Co. LLC, as Representative  
200 West Street, 30<sup>th</sup> floor  
New York, NY 10282

Ladies and Gentlemen:

We have acted as counsel for you as the representative (the "Representative") acting on behalf of yourself and other underwriters (the "Underwriters") in connection with your purchase from the District of Columbia Water and Sewer Authority (the "Authority") of its Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds), in the original principal amount of \$000,000,000 (the "Series 2018A Bonds") and its Public Utility Senior Lien Revenue Bonds, Series 2018B, in the original principal amount of \$000,000,000 (the "Series 2018B Bonds" and collectively with the Series 2018A Bonds, the "Bonds"), pursuant to the Bond Purchase Agreement, dated April \_\_, 2018 (the "Purchase Agreement"), between you and the Authority. The Bonds are to be 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 Bonds (the "Indenture"), including by the Twenty-Third Supplemental Indenture of Trust, to be dated the date of issuance and delivery of the Bonds (the "Twenty-Third Supplemental Indenture"), each by and between the Authority and Wells Fargo Bank, N.A., as trustee (the "Trustee"). The proceeds of the Bonds will be used to pay (i) a portion of the costs of the Authority's DC Clean Rivers Project, (ii) a portion of the costs of certain other capital improvements to the System and (iii) pay costs of issuing the Bonds. Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Purchase Agreement.

In that connection, we have reviewed the Indenture, the Preliminary Official Statement of the Authority dated April \_\_, 2018 (the "Preliminary Official Statement") and the Official Statement of the Authority, dated April \_\_, 2018, with respect to the Bonds (the "Official Statement"), the Continuing Disclosure Agreement, dated May \_\_, 2018 (the "Continuing Disclosure Agreement"), the Purchase Agreement, certificates of the Authority, the Trustee and others, the opinions referred to in paragraph 10(f)(vi) of the Purchase Agreement, and such records and documents, and we have made such investigations of law, as we have deemed appropriate as a basis for the opinions and conclusions hereinafter expressed. We do not assume

any responsibility for any electronic version of the Official Statement and assume that any such version is identical in all material respects to the printed version.

In arriving at the opinions and conclusions hereinafter expressed, we are not expressing any opinion or view on, and with your permission are assuming and relying on, the validity, accuracy and sufficiency of the records, documents, certificates and opinions referred to above, including the accuracy of all factual matters represented and legal conclusions contained therein, including (without limitation) any representations and legal conclusions regarding the due authorization, issuance, delivery, validity and enforceability of the Bonds, and any laws, documents and instruments that may be related to the issuance, payment or security of the Bonds. We have assumed that all records, documents, certificates and opinions that we have reviewed, and the signatures thereto, are genuine.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions or conclusions:

1. The Bonds are not subject to the registration requirements of the Securities Act of 1933, as amended, and the Indenture is exempt from qualification pursuant to the Trust Indenture Act of 1939, as amended.

2. We are not passing upon and do not assume any responsibility for the accuracy, completeness or fairness of any of the statements contained in the Preliminary Official Statement and the Official Statement and make no representation that we have independently verified the accuracy, completeness or fairness of any such statements. In our capacity as your counsel, to assist you with your responsibility with respect to the Preliminary Official Statement and the Official Statement, we participated in conferences with your representatives and representatives of the Authority, Squire Patton Boggs (US) LLP and Leftwich LLC, as co-bond counsel and as co-disclosure counsel, financial advisors, feasibility consultants and others, during which the contents of the Official Statement and related matters were discussed. Based on our participation in the above-mentioned conferences (which did not extend beyond the date of the Official Statement), and in reliance thereon, on oral and written statements and representations of the Authority and others and on the records, documents, certificates, opinions and matters herein mentioned (as set forth above), we advise you as a matter of fact and not opinion that, during the course of our representation of you on this matter, no facts came to the attention of the attorneys in our firm rendering legal services to you in connection with the Preliminary Official Statement and the Official Statement which caused us to believe that the Preliminary Official Statement and the Official Statement as of their dates and as of the date hereof (except for any CUSIP numbers, financial, accounting, statistical or economic, engineering or demographic data or forecasts, numbers, charts, tables, graphs, estimates, projections, assumptions or expressions of opinion, any information about litigation to which the Authority is a party, any management discussion and analysis, Appendices to the Preliminary Official Statement and the Official Statement, or any information about book-entry, DTC, ratings, rating agencies, and tax exemption of the Bonds, which we expressly exclude from the scope of this paragraph and as to which we express no opinion or view) contained or contains any untrue statement of a material fact or omitted or omits to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. No responsibility is undertaken or

view expressed with respect to any other disclosure document, materials or activity, or as to any information from another document or source referred to by or incorporated by reference in the Preliminary Official Statement and the Official Statement.

3. In our opinion, the Continuing Disclosure Agreement with respect to the Bonds for the benefit of the holders thereof, satisfies in all material respects the requirements for such an agreement in paragraph (b) (5) of the Rule 15c2-12; provided that, for purposes of this opinion, we are not expressing any view regarding the content of the Official Statement that is not expressly stated in numbered paragraph 2 of this letter.

We are furnishing this letter to you pursuant to paragraph 10(f)(vi) of the Purchase Agreement solely for your benefit as the Representative. We disclaim any obligation to update this letter. This letter is not to be used, circulated, quoted or otherwise referred to or relied upon for any other purpose or by any other person. This letter is not intended to, and may not, be relied upon by owners of Bonds or by any other party to whom it is not specifically addressed.

Very truly yours,

EXHIBIT D

FORM OF UNDERWRITER'S CERTIFICATE

\$000,000,000

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018A (Green Bonds)

\$000,000,000

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
Public Utility Senior Lien Revenue Bonds, Series 2018B

Goldman Sachs & Co. LLC (the "Underwriter"), for itself and as representative of the other underwriters for the bonds identified above (the "Issue"), issued by the District of Columbia Water and Sewer Authority (the "Issuer"), based on its knowledge regarding the sale of the Issue, certifies as of this date as follows:

**1. Issue Price.**

**[If the issue price is determined using only the general rule (actual sales of at least 10%) in Regulations § 1.148-1(f)(2)(i) and at least 10% of each maturity has been sold as of the Closing Date:**

1.1 As of the date of this certificate, for each Maturity of the Issue, the first price at which at least 10% of such Maturity of the Issue was sold to the Public is the respective price listed in the final Official Statement, dated \_\_\_\_\_, 2017 for the Issue (the "Sale Price" as applicable to respective Maturities). The aggregate of the Sale Prices of each Maturity is \$\_\_\_\_\_ (the "Issue Price").]

**[If the issue price is determined using only the general rule (actual sales of at least 10%) in Regulations § 1.148-1(f)(2)(i) and at least 10% of each maturity has not been sold as of the Closing Date:**

1.1 As of the date of this Certificate, for each [Maturity] [of the \_\_\_\_\_ Maturities] of the Issue, the first price at which at least 10% of [each] such Maturity of the Issue was sold to the Public (the "10% Test") are the respective prices listed in **Schedule A** attached hereto.

1.2 With respect to each of the \_\_\_\_\_ Maturities of the Issue:

(i) As of the date of this Certificate, the Underwriter has not sold at least 10% of these Maturities of the Issue at any single price.

(ii) As of the date of this Certificate, the Underwriter reasonably expects that the price at which at least 10% of each of these Maturities of the

Issue will be sold to the Public will be the respective price or prices listed on the attached **Schedule A** as the "Reasonably Expected Sale Prices for Undersold Maturities."

(iii) The Underwriter will provide actual sales information (substantially similar to the information contained on **Schedule B**) as to the price at which at least 10% of each such Maturity (i.e., the Undersold Maturity or Maturities) of the Issue is sold to the Public.

(iv) On the date the 10% Test is satisfied with respect to all Maturities of the Issue, the Underwriter will execute a supplemental certificate substantially in the form attached hereto as **Schedule C** with respect to any Maturities for which the 10% Test has not been satisfied as of the Closing Date.\*\*]

**[If the issue price is determined using a combination of actual sales (Regulations § 1.148-1(f)(2)(i)) and hold-the-offering-price (Regulations § 1.148-1(f)(2)(ii)):**

1.1 As of the date of this certificate, for each Maturity of the Issue listed on Schedule A as the "General Rule Maturities," the first price at which at least 10% of such Maturity was sold to the Public is the respective price listed in Schedule A (the "Sale Price" as applicable to each Maturity of the General Rule Maturities).

1.2 The Underwriter offered the Maturities listed on Schedule A as the "Hold-the-Offering-Price Maturities" to the Public for purchase at the respective initial offering prices listed in Schedule A (the "Initial Offering Prices" as applicable to each Maturity of the Hold-the-Offering-Price Maturities) on or before the Sale Date. A copy of the pricing wire or equivalent communication for the Issue is attached to this certificate as Schedule B.

1.3 As set forth in the Bond Purchase Agreement dated \_\_\_\_\_, 20\_\_, between the Authority and Underwriter, Underwriter agreed in writing that, (i) for each Maturity of the Hold-the-Offering-Price Maturities, it would neither offer nor sell any of the Issue of such Maturity to any person at a price that is higher than the Initial Offering Price for such Maturity during the Holding Period for such Maturity (the "hold-the-offering-price rule"), and (ii) any selling group agreement contains the agreement of each dealer who is a member of the selling group, and any retail distribution agreement contains the agreement of each broker-dealer who is a party to the retail distribution agreement, to comply with the hold-the-offering-price rule. The Underwriter (as defined below) has not offered or sold any Maturity of the Hold-the-Offering-Price Maturities at a price that is higher than the respective Initial Offering Price for that Maturity of the Issue during the Holding Period.

The aggregate of the Sale Prices of the General Rule Maturities and the Initial Offering Prices of the Hold-the-Offering-Price Maturities is \$[\_\_\_\_\_] (the "Issue Price").]

**[If the issue price is determined using only the hold-the-offering-price rule in Regulations § 1.148-1(f)(2)(ii):**

1.1 As set forth in the Bond Purchase Agreement dated \_\_\_\_\_, 2017, between the Authority and the Underwriter, the Underwriter agreed in writing that, (i) for each Maturity of the Issue, it would neither offer nor sell any of such Maturity of the Issue to any person at a price that is higher than the Initial Offering Price for such Maturity during the Holding Period for such Maturity (the "hold-the-offering-price rule"), and (ii) any selling group agreement contains the agreement of each dealer who is a member of the selling group, and any retail distribution agreement contains the agreement of each broker-dealer who is a party to the retail distribution agreement, to comply with the hold-the-offering-price rule. The Underwriter (as defined below) has not offered or sold any Maturity of the Issue at a price that is higher than the respective Initial Offering Price for that Maturity of the Issue during the Holding Period.]

[1.2, 1.3, 1.4, 1.2] Definitions. [NOTE: If issue price is determined using only the general rule (actual sales of 10%), delete the definitions of "Holding Period" and "Sale Date."]

["Holding Period" means, for each Hold-the-Offering-Price Maturity of the Issue, the period starting on the Sale Date and ending on the earlier of (i) the close of the fifth business day after the Sale Date (\_\_\_\_\_, 2017), or (ii) the date on which the Underwriter sold at least 10% of such Maturity of the Issue to the Public at prices that are no higher than the Initial Offering Price for such Maturity.]

"Maturity" means bonds of the Issue with the same credit and payment terms. Bonds of the Issue with different maturity dates, or bonds of the Issue with the same maturity date but different stated interest rates, are treated as separate Maturities.

"Public" means any person (including an individual, trust, estate, partnership, association, company, or corporation) other than an Underwriter or a related party to an Underwriter. The term "related party" for purposes of this certificate generally means any two or more persons who have greater than 50 percent common ownership, directly or indirectly.

["Sale Date" means the first day on which there is a binding contract in writing for the sale of a Maturity of the Issue. The Sale Date of the Issue is \_\_\_\_\_, 2017.]

"Underwriter" means (i) any person that agrees pursuant to a written contract with the Authority (or with the lead underwriter to form an underwriting syndicate) to participate in the initial sale of the Issue to the Public, and (ii) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (i) of this paragraph to participate in the initial sale of the Issue to the Public (including a member of a selling group or a party to a retail distribution agreement participating in the initial sale of the Issue to the Public).

All capitalized terms not defined in this Certificate have the meaning set forth in the Authority's Tax Compliance Certificate or in Attachment A to it.

## **2. Reserve Fund.**

The funding of the Reserve Fund as provided in the Trust Agreement securing the Issue is reasonably required, was a vital factor in marketing the Bonds, facilitated the marketing of the Issue at an interest rate comparable to that of bonds and other obligations of a similar type and is not in excess of the amount necessary for such purpose.

### 3. Yield.

**3.1** The Yield on the Issue is \_\_\_\_\_%, being the discount rate that, when used in computing the present worth of all payments of principal and interest to be paid on the Issue, computed on the basis of a 360-day year and semi-annual compounding, produces an amount equal to the Issue Price of the Issue as stated in paragraph 1.1 [and computed with the adjustments stated in paragraphs 3.2 and 4.3].

**3.2 Discount Bonds Subject to Mandatory Early Redemption.** [No bond of the Issue that is subject to mandatory early redemption has a stated redemption price that exceeds the Initial Offering Price of such bond by more than one-fourth of 1% multiplied by the product of its stated redemption price at maturity and the number of years to its weighted average maturity date.] [Or] [The stated redemption price at maturity of the bonds of the Issue maturing in the year[s] 20\_\_, which are the only bonds of the Issue that are subject to mandatory early redemption, exceeds the Initial Offering Price of such bonds by more than one-fourth of 1% multiplied by the product of the stated redemption price at maturity and the number of years to the weighted average maturity date of such bonds. Accordingly, in computing the Yield on the Issue stated in paragraph 3.1, those bonds were treated as redeemed on each mandatory early redemption date at their present value rather than at their stated principal amount.]

**3.3 Premium Bonds Subject to Optional Redemption.** No bond of the Issue:

- Is subject to optional redemption within five years of the Issuance Date of the Issue.
- That is subject to optional redemption has an Initial Offering Price that exceeds its stated redemption price at maturity by more than one-fourth of 1% multiplied by the product of its stated redemption price at maturity and the number of complete years to its first optional redemption date.]

### 4. Weighted Average Maturity.

The weighted average maturity (defined below) of the Issue is \_\_\_\_\_ years [**For refunding issues:** and the remaining weighted average maturity of the Advance Refunded Bonds is \_\_\_\_ years. The weighted average maturity of an issue is equal to the sum of the products of the Initial Offering Price of each maturity of the issue and the number of years to the maturity date of the respective maturity (taking into account mandatory but not optional redemptions), divided by the Initial Offering Price of the entire Issue.

**5. Underwriter's Discount.** The Underwriter's discount is \$\_\_\_\_\_, being the amount by which the aggregate Issue Price (as set forth in paragraph 1.1) exceeds the price paid by the Underwriter to the Authority for the Issue.

The signer is an officer of the Underwriter and duly authorized to execute and deliver this Certificate of the Underwriter for itself and as representative of the other underwriters. The Underwriter understands that the certifications contained in this Certificate will be relied on by the Issuer in making certain of its representations in its Tax Compliance Certificate and in completing and filing the Information Return for the Issue, and by Squire Patton Boggs (US) LLP and Leftwich LLC, as co-bond counsel, in rendering certain of their legal opinions in connection with the issuance of the Issue.

Dated: May \_\_, 2018

**Goldman Sachs & Co. LLC**, for itself and as  
representative of  
**Barclays Capital Inc.**  
**JP Morgan Chase & Co.**  
**Loop Capital Markets LLC**  
**Merrill Lynch, Pierce, Fenner & Smith Inc., and**  
**Samuel A. Ramirez & Co., Inc.**



**[NOTE: If the general rule is used for each Maturity** (i.e., actual sales of at least 10% of each Maturity) and at least 10% of each Maturity has been sold as of the Closing, there is no schedule to attach if the initial offering prices set forth in the Official Statement for the Issue are the first prices at which at least 10% of each Maturity is sold. Otherwise, attach a schedule that shows the first price at which at least 10% of each Maturity was sold.]

**[OR]**

**[If the issue price is determined using a combination of the general rule (actual sales) and hold-the-offering-price rule:**

**SCHEDULE A**  
**SALE PRICES OF THE GENERAL RULE MATURITIES AND**  
**INITIAL OFFERING PRICES OF THE HOLD-THE-OFFERING-PRICE MATURITIES**  
*(Attached)*

**[NOTE:** With respect to each Maturity of the Issue, Schedule A should include each Maturity's (i) maturity date, (ii) principal amount, (iii) coupon, (iv) yield, and (v) the sale prices/initial offering prices (as applicable).]

**SCHEDULE B**  
**PRICING WIRE OR EQUIVALENT COMMUNICATION**  
*(Attached)*

**[OR]**

**[If the issue price is determined using only the hold-the-offering-price rule in Regulations § 1.148-1(f)(2)(ii):**

**SCHEDULE A**  
**INITIAL OFFERING PRICES OF THE ISSUE**  
*(Attached)*

**SCHEDULE B**  
**PRICING WIRE OR EQUIVALENT COMMUNICATION**  
*(Attached)*

**[OR]**

**If the issue price is determined using only the general rule (actual sales of at least 10%) in Regulations § 1.148-1(f)(2)(i) and at least 10% of each maturity has not been sold as of the Closing Date:**

SCHEDULE A  
TO  
ISSUE PRICE CERTIFICATE

**Actual Sales Information as of Closing Date**

<b><u>Maturity/CUSIP</u></b>	<b><u>Coupon</u></b>	<b><u>Date Sold</u></b>	<b><u>Time Sold</u></b>	<b><u>Par Amount</u></b>	<b><u>Sale Price</u></b>
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**]\*\*Reasonably Expected Sales Prices for Undersold Maturities as of Closing Date**

<b><u>Maturity/CUSIP</u></b>	<b><u>Coupon</u></b>	<b><u>Par Amount</u></b>	<b><u>Offering Prices</u></b>
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[\*\*SCHEDULE B  
TO  
ISSUE PRICE CERTIFICATE

**Actual Sales for Undersold Maturities as of the Closing Date**

<b><u>Maturity/CUSIP</u></b>	<b><u>Date Sold</u></b>	<b><u>Time Sold</u></b>	<b><u>Par Amount</u></b>	<b><u>Sale Price</u></b>
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**ATTACHMENT 5**

**FINANCE & BUDGET COMMITTEE  
REVISED FINANCIAL POLICIES**

**ACTION ITEM B: OPERATING CASH RESERVE, RENEWAL AND  
REPLACEMENT RESERVE AND RATE STABILIZATION FUND**

The Board will be asked to approve a resolution to revise the current Statement of Financial Policies to:

- Revise the current operating reserve policy (120 days of Operating and Maintenance expenses or \$125.5 million, the bond indenture requires 60 days of operating expenses) to the higher of \$140.0 million or 140 days of Operating and Maintenance expenses. This Reserve Fund is intended to provide contingency funds that enable DC Water to respond to unanticipated events or emergencies which result in an extraordinary increase in expenses.
- Maintain the current Board adopted Renewal and Replacement Reserve requirement (bond indenture requires an amount equal to 2% of the original cost value of plant in service or such other amount as determined by a Qualified Independent Consultant, which such amount shall be subject to approval by the Board of Directors) of \$35 million. This Reserve Fund is intended to fund emergency capital improvements or repairs upon authorization of the Board.
- Maintain current Rate Stabilization Fund (RSF) policy of allowing management discretion on deposits and withdraws; consider adding to the RSF in future years from year-end operation balances to support one or more Board objectives.
- Review the reserves and RSF policies every five years by DC Water's independent rate consultant in conjunction with the indenture required system assessment (or sooner in event of changes in the underlying factors, assumptions, or market conditions).



**D.C. WATER AND SEWER AUTHORITY  
BOARD OF DIRECTORS  
FINANCE & BUDGET  
APRIL COMMITTEE MEETING**

**Thursday, April 26, 2018; 11:00 a.m.  
Blue Plains Wastewater Treatment Plant  
5000 Overlook Avenue, SW, DC  
AGENDA**

<b>Call to Order</b>	Chairman
<b>March 2018 Financial Report</b>	Chief Financial Officer
<b>Agenda for May Committee Meeting</b>	Chairman
<b>Adjournment</b>	Chairman

\*Detailed agenda can be found on DC Water’s website at [www.dcwater.com/about/board\\_agendas.cfm](http://www.dcwater.com/about/board_agendas.cfm)