APPROVED BUDGETS

dc water is life®

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Section V
CAPITAL PROGRAMS

Saint Elizabeth Water Tower

FY 2018 – FY 2027

DC Water Blue Plains

Blue Plains Advanced Wastewater Treatment Plant

Enhanced Nitrification

OVERVIEW

DC Water's Capital Improvement Program (CIP) supports the continuation of major capital asset investment in programs and projects that will upgrade the District's water distribution system, improve the condition of our local waterways and create clean energy. The CIP includes all mandated projects as well as rehabilitation of assets required to meet permit and other regulatory requirements, and also immediate needs necessary to maintain existing service levels.

The CIP is presented on two different bases; 10-year disbursement plan and lifetime budget. Actual cash disbursements are critical to forecasting the anticipated level of rate increases, and the amount and timing of capital financing. The 10-year disbursement plan provides a more realistic projection of actual "cash out the door" excluding contingencies. It includes projected completion rates, program management and in-house labor costs. The CIP review process also includes an extensive review of the total project, or "lifetime" budget, which represents active projects prior to, during, and beyond the current 10-year period. Lifetime budgets are the primary area of focus in budget development and day-to-day monitoring. In addition to 'active' projects, projects for which all activities have been completed during the previous fiscal year are listed as 'closed' and is included in the CIP. Closed projects are dropped from the CIP in the next fiscal year.

Detailed information on the projects can be found online at www.dcwater.com

CIP DEVELOPMENT AND APPROVAL PROCESS

DC Water's capital budget review process begins each year in the spring. This process includes a review of major accomplishments, priorities, status of major projects, and emerging regulatory and related issues impacting the capital program by the Department of Engineering & Technical Services. Projections of changes in project lifetime budgets are also included. The review process involves the DC Water departments with responsibility for managing the operations, as well as staff from Finance, Accounting and Budget, and Executive Management. The CIP is integrated into DC Water's 10-year financial plan; and is the primary driver of projected rate increases over the 10-year planning period.

This review process spans over several months and culminates with the presentation of the updated CIP to DC Water's Board of Directors' Environmental Quality and Operations, Finance and Budget, and DC Retail Water and Sewer Rates Committees in January and February 2018. The operating budgets, CIP, and 10-year financial plan were adopted by the full Board in March 2018.

After adoption by the Board of Directors, DC Water is required to submit its annual operating and capital budget to the Mayor and the District of Columbia Council for review and comment. However, neither has the power to change DC Water's annual budgets. The District of Columbia includes DC Water's budgets in their submission to Congress.

CAPITAL AUTHORITY REQUEST

Capital authority represents the amount of Congressionally-authorized funding that DC Water can use to administer its capital program. Sufficient authority is required to be in place prior to contracts being executed. Actual commitments within the eight service areas may vary up or down for a particular year. However, they are "not to exceed the total" FY 2019 capital authority request in the amount of $3.61billion.

It should be noted that the execution of contracts require the approval of General Manager, as Contracting Officer, or his delegee. Major projects and contracts valued at $1 million or more require DC Water Board approval.

CAPITALIZATION POLICY

DC Water's capitalization policy determines how expenditures will be recognized and accounted. DC Water matches the financing of an asset to the projected useful life of an item, and the policy determines how projects will be financed.

Definition:

- Capital Project – has an average life of 30 years and is financed with long term debt
- Capital Equipment – has a life of at least 3 years, individual component cost of $5,000 or more, and is financed with short-term debt or cash

The following guidelines are used to categorize items as either capital equipment or an operating expense:

Expenditure Activity	Description	Accounting Treatment
Enhancement	Replacement of an asset, or addition/replacement of a sub-component of an asset, to improve the "attributes" of the asset.	Capitalize
Refurbishment	Expenditure on an asset that creates a material extension to the Estimated Operating Life (EOL) of the asset. It does not improve its attributes. This is distinct from maintenance work, which is carried out to ensure that an asset is able to perform its designated function for its normal EOL.	Capitalize
Replacement	Expenditure to replace substantially all of an asset.	Capitalize
Repair/Maintenance	Routine expense that neither extends the life of the asset nor increase its functionality.	Expense

Capital Improvement Program

10-Year Disbursement Plan - projected annual cash disbursements; lifetime budget - total lifetime budget for projects active during 10-Year period, $ in thousands

	FY 2018 - FY 2027 Disbursement Plan											Lifetime
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
NON PROCESS FACILITIES												
Facility Land Use	$32,194	$33,107	$18,907	$7,860	$1,551	$25	$6,615	$7,773	$0	$0	$108,032	$169,147
Subtotal	32,194	33,107	18,907	7,860	1,551	25	6,615	7,773	0	0	108,032	169,147
WASTEWATER TREATMENT												
Liquid Processing	18,554	30,869	37,604	38,228	44,507	35,458	29,607	31,846	74,033	109,131	449,838	1,224,582
Plantwide	12,099	15,060	19,331	32,895	35,204	30,100	18,795	17,671	20,384	10,534	212,072	488,216
Solids Processing	11,229	13,942	18,154	15,302	8,770	1,953	1,288	723	533	555	72,448	802,911
Enhanced Nitrogen Removal Facilities	53,603	14,746	2,763	1,535	1,339	2,049	1,918	11,932	22,673	9,032	121,590	1,036,089
Subtotal	95,485	74,617	77,853	87,960	89,820	69,560	51,607	62,172	117,623	129,252	855,948	3,551,799
COMBINED SEWER OVERFLOW												
DC Clean Rivers	168,314	189,392	148,042	138,289	192,859	151,111	59,569	50,018	128,404	87,197	1,313,196	2,764,255
Program Management	1,934	1,969	2,518	3,495	4,373	4,339	3,012	1,821	0	0	23,460	64,663
Combined Sewer	11,568	8,982	9,993	6,337	5,853	9,058	17,112	13,772	7,393	5,622	95,691	323,002
Subtotal	181,816	200,343	160,554	148,121	203,086	164,508	79,692	65,611	135,797	92,819	1,432,348	3,151,920
STORMWATER												
Local Drainage	92	75	354	69	629	267	861	1,050	219	0	3,617	14,230
On-Going	375	1,074	668	617	744	722	760	464	752	736	6,912	11,315
Pumping Facilities	69	3,410	375	1,134	4,065	19	0	0	305	1,397	10,774	25,232
DDOT	0	0	0	0	0	0	0	0	0	0	0	3,237
Research and Program Management	314	156	36	115	402	204	163	128	0	0	1,517	12,013
Trunk/Force Sewers	95	194	966	377	0	0	0	0	0	0	1,632	15,365
Subtotal	945	4,909	2,400	2,312	5,839	1,212	1,784	1,642	1,276	2,133	24,452	81,392
SANITARY SEWER												
Collection Sewers	4,488	1,244	1,088	7,929	19,594	9,139	11,139	25,253	31,888	18,343	130,105	407,999
On-Going	10,001	9,618	9,475	10,399	9,982	10,535	11,079	11,402	11,589	12,023	106,103	206,045
Pumping Facilities	1,294	428	842	2,332	1,005	1,559	214	0	0	0	7,674	36,151
Program Management	2,999	3,075	7,205	5,032	6,410	6,977	6,128	5,151	1,624	115	44,716	124,972
Interceptor/Trunk Force Sewers	11,019	18,583	15,436	27,358	37,501	45,706	47,353	17,076	15,667	8,191	243,890	754,870
Subtotal	29,802	32,947	34,046	53,050	74,492	73,917	75,912	58,882	60,769	38,672	532,490	1,530,036
WATER												
Distribution Systems	28,353	22,924	56,015	35,946	23,051	29,648	52,339	79,039	81,503	69,487	478,306	1,235,949
Lead Program	3,422	1,487	1,252	1,422	1,528	1,658	1,718	903	235	75	13,700	209,245
On-Going	11,079	11,044	7,569	9,982	9,930	10,183	10,793	11,157	12,429	12,636	106,802	143,288
Pumping Facilities	3,286	1,857	4,561	4,248	4,193	1,840	8,023	1,668	211	0	29,887	118,394
DDOT	904	486	208	2	2	0	0	0	0	0	1,604	33,933
Storage Facilities	7,560	4,967	8,088	3,488	2,099	5,106	9,371	2,343	0	0	43,021	107,520
Program Management	3,441	2,982	6,563	7,252	7,438	5,035	5,812	4,551	6,966	7,312	57,352	90,944
Subtotal	58,044	45,747	84,256	62,341	48,241	53,471	88,055	99,661	101,344	89,510	730,672	1,939,272
CAPITAL PROJECTS	**398,285**	**391,670**	**378,015**	**361,644**	**423,029**	**362,694**	**303,666**	**295,742**	**416,809**	**352,386**	**3,683,941**	**10,423,566**
CAPITAL EQUIPMENT	39,898	34,518	29,383	27,998	9,579	10,306	10,850	11,177	12,122	12,303	198,133	198,133
WASHINGTON AQUEDUCT	11,768	12,930	12,944	13,039	13,039	12,312	11,768	11,441	10,496	10,315	120,052	120,052
ADDITIONAL CAPITAL PROGRAMS	**51,665**	**47,448**	**42,327**	**41,037**	**22,618**	**22,618**	**22,618**	**22,618**	**22,618**	**22,618**	**318,185**	**318,185**
LABOR												390,145
TOTAL CAPITAL BUDGETS	**$449,950**	**$439,118**	**$420,342**	**$402,681**	**$445,647**	**$385,312**	**$326,284**	**$318,360**	**$439,427**	**$375,004**	**$4,002,125**	**$11,131,895**

Prioritization Schedule

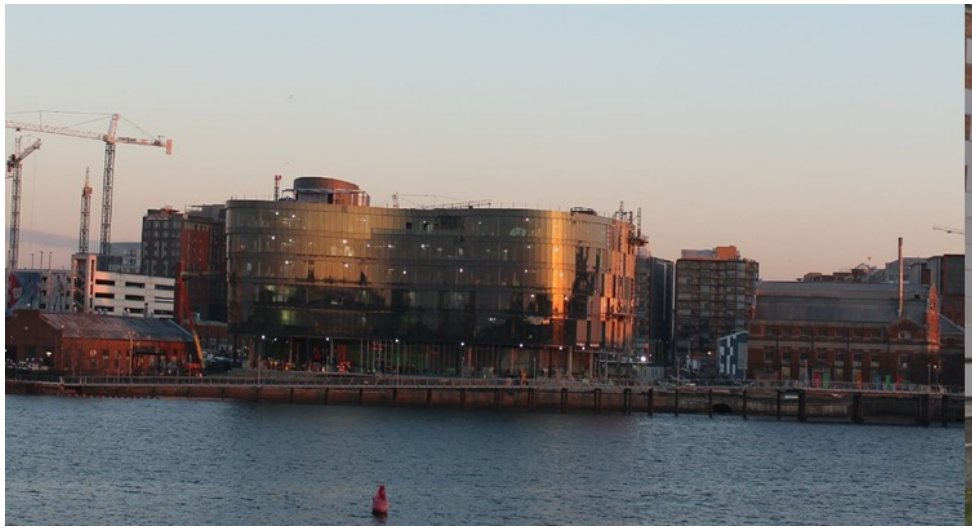
$ in thousands

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 the following table and described below.

Approximately 35 percent of the ten-year disbursements CIP is for large regulatory mandates which includes the Clean Rivers Project.

	Mandates Agreements, Regulatory standards, Court orders, Issues and Permits requirements, Stipulated Agreements, Etc.		**Health & Safety** Required to address Public Safety	**Board Policy** Undertaken as a result of the Board's commitment to outside agencies	**Potential Failure** Related to Facilities in danger of failing, or critical to meeting permit requirements	**High Profile Good Neighbor** Address Public concerns	**Good Engineering High Payback** Need to fulfill Mission and upgrade Facilities		**Good Engineering Lower Payback** Lower priority Projects	**Total**
FY 2018	$220,594	49%	$10,328	$32,116	$36,138	$5,812	$92,413	21%	$52,549	**$449,950**
FY 2019	206,711	47%	7,019	43,217	47,806	3,663	76,930	18%	53,771	**439,118**
FY 2020	152,280	36%	7,041	63,657	57,981	4,152	87,635	21%	47,595	**420,342**
FY 2021	142,424	35%	11,344	37,695	37,540	1,122	119,039	30%	53,517	**402,681**
FY 2022	197,784	44%	9,496	10,087	38,155	165	133,632	30%	56,328	**445,647**
FY 2023	154,862	40%	4,883	19,363	39,348	303	122,177	32%	44,377	**385,312**
FY 2024	63,987	20%	7,251	38,615	30,456	2,206	129,966	40%	53,803	**326,284**
FY 2025	54,461	17%	1,296	60,417	33,961	389	121,212	38%	46,624	**318,360**
FY 2026	132,361	30%	1,503	61,314	34,272	-	116,760	27%	93,218	**439,427**
FY 2027	89,417	24%	1,021	47,707	15,336	-	85,510	23%	136,013	**375,004**
Total	**$1,414,882**	35%	**$61,181**	**$414,188**	**$370,993**	**$17,812**	**$1,085,274**	27%	**$637,796**	$4,002,125

FY 2018 – FY 2027



New Headquarters Building (HQO)

Main Pumping Station

FY 2018 - FY 2027 Disbursement Plan											Lifetime
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
$32,194	$33,107	$18,907	$7,860	$1,551	$25	$6,615	$7,773	$0	$0	$108,032	$169,147

($ in thousands)

OVERVIEW

The Non-Process Facilities Service Area accommodates projects approved under the Non-Process Facilities Master Plan (NPFMP) and related improvements necessary to support DC Water activities and critical operations. The goals of this CIP are the same as those in the NPFMP, which are designed to:

- Optimize efficient use of existing DC Water land and facilities
- Implement Green Strategies and Sustainable Design within DC Water infrastructure and facility planning
- Maximize flexibility throughout DC Water facilities for future treatment needs, distribution system operations, and innovative opportunities

PROGRAM AREA

Facility Land Use – The primary objective of this service area is to implement the NPFMP and related improvements necessary to support DC Water's activities and critical operations. The projects are designed to optimize efficient use of the Authority's existing land and facilities; and maximize flexibility for future treatment needs, innovative opportunities, green strategies and sustainable designs throughout DC Water's facilities. The major projects included in this program are:

- ***New Headquarters Building (HQO)*** – The new Administrative Headquarters Building, located above the historic Main Pumping Station, will be DC Water's most sustainable construction project. The HQO will anchor DC Water's new publicly-accessible campus along the Anacostia River. Currently, DC Water's administrative offices are spread across the District of Columbia in multiple facilities, including leased space. By relocating nonessential personnel off of the Blue Plains industrial campus, DC Water will preserve remaining space – an irreplaceable commodity – for future process improvements if required by permit or desired for innovation.
- ***Floatable Debris Dock Replacement*** – This project was reallocated from the Combined Sewer Overflow Service Area due to an opportunity to blend the dock work with related facility and security improvements needed for staff and equipment. The existing docks are more than 25 years old and need to be replaced. The replacement slips (at least five) and associated new piles will provide flexibility and maneuverability of the boats, overcome the existing draft challenges of the river bottom, and most importantly, create safe conditions for the staff and their operations. Future improvements include the installation of a new boat ramp, updated fencing and lighting to further improve the efficiencies of skimmer boat operations.
- ***Main & O Redevelopment Efforts*** – This project relocates sewer and fleet operations from the Main & O Campus in order to accommodate the redevelopment plans for the District of Columbia in and around the Navy Yard. Some of the costs associated with the acquisition of new land and construction of new facilities will be reimbursed to DC Water by the District of Columbia.

ACCOMPLISHMENTS

- DC Water successfully negotiated the Guaranteed Maximum Price (GMP) for the New Headquarters Building.

OPERATIONAL IMPACT OF MAJOR CAPITAL INVESTMENTS

- ***New Headquarters Building (HQO)*** – This new building will be LEED ® Platinum Class A certified, and incorporate environmentally sustainable features that will be used to capture rainfall onsite for irrigation and non-potable water needs inside the facility. Additionally, alternative energy will be supplied by an innovative sewer heat recovery system that will lower operating cost. This project is anticipated to avoid renovation and expansion, including construction of a parking garage, at Blue Plains Advanced Waste Water Treatment Plant (AWWTP).

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

	FACILITY LAND USE	Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
DS	New Headquarters Building	FY 2009	Active	$28,961	$777	$9	$0	$0	$0	$0	$0	$0	$0	$29,746	$76,100	FY 2021
DU	Water System Laboratory Facilities	FY 2007	Active	52	113	0	0	0	0	0	0	0	0	165	647	FY 2020
HE	Bryant Street Pump Station Building Mod.	FY 2018	Active	733	1,367	7,880	1,047	0	0	0	0	0	0	11,027	14,370	FY 2021
HF	Fort Reno Pump Station	FY 2020	Active	0	0	187	570	1,551	25	0	0	0	0	2,333	3,150	FY 2023
HH	Main & O Redevelopment Efforts	FY 2015	Active	1,644	23,281	8,923	6,243	0	0	0	0	0	0	40,090	41,031	FY 2021
HJ	Central Operations Facility Renovation	FY 2018	Active	659	6,111	922	0	0	0	0	0	0	0	7,691	12,904	FY 2020
HK	CMF Renovations And Consolidation	FY 2019	Active	0	903	540	0	0	0	0	0	0	0	1,442	1,750	FY 2020
NZ	Floatable Debris Dock Replacement	FY 2018	Active	145	555	447	0	0	0	0	0	0	0	1,147	995	FY 2021
T4	District Energy Buzzard Point	FY 2024	New	0	0	0	0	0	0	6,615	7,773	0	0	14,388	18,200	FY 2025
TOTAL FACILITY LAND USE BUDGETS				**$32,194**	**$33,107**	**$18,907**	**$7,860**	**$1,551**	**$25**	**$6,615**	**$7,773**	**$0**	**$0**	$108,032	**$169,147**	
TOTAL NON PROCESS FACILITIES BUDGETS				**$32,194**	**$33,107**	**$18,907**	**$7,860**	**$1,551**	**$25**	**$6,615**	**$7,773**	**$0**	**$0**	$108,032	**$169,147**	

Land Application of BLOOM

Plant Monitoring

Enhanced Nitrification

FY 2018 - FY 2027 Disbursement Plan											Lifetime
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
$95,485	$74,617	$77,853	$87,960	$89,820	$69,560	$51,607	$62,172	$117,623	$129,252	$855,948	$3,551,799

($ in thousands)

OVERVIEW

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 National Pollutant Discharge Elimination System (NPDES) permit requirements and produce a consistent, high-quality dewatered solids product. This permit requires wastewater treatment to a level that meets one of the most stringent NPDES discharge permits in the United States. The Blue Plains Enhanced Nitrogen Removal Facilities Program provides for projects necessary to meet the stringent total nitrogen discharge limit in the NPDES permit.

Blue Plains Advanced Wastewater Treatment Plant treats an annual average of 290 million gallons per day (MGD) and has a design capacity of 384 MGD, with a peak wet weather design capacity to treat one billion gallons per day. Wastewater flows in from the District of Columbia, and Montgomery and Prince George's Counties in Maryland, and Fairfax and Loudoun counties in Virginia.

PROGRAM AREA

Liquid Processing – Projects in this program area encompass upgrading and rehabilitating facilities involved in handling flows from the sanitary and combined sewer systems. These flows progress sequentially through the plant processes and ultimately discharge the treated effluents into the Potomac River.

Plantwide – This program provides for upgrading, rehabilitating, or installing support systems and facilities that are required for both the liquid processing and solids processing programs.

PROGRAM AREA CONT.

Solids Processing – Biosolids processing involves reductions in volume along with treatment to meet applicable federal, state and local requirements for the ultimate disposal method. Treatment is provided by a system of processing facilities that include gravity thickening of primary sludge, flotation thickening of the biological waste sludge produced by the secondary and nitrification/denitrification processes, pre-dewatering of blended thickened solids by centrifuge, pre-treatment of solids by thermal hydrolysis, anaerobic digestion, and finally post-dewatering of Class A biosoilds by belt filter press.

Enhanced Nitrogen Removal Facilities – Provides for new facilities and upgrades to existing facilities needed at Blue Plains to meet the total nitrogen discharge limit assigned to DC Water. The necessary facilities have been completed and are in operation. DC Water is fully compliant in meeting the reduced total nitrogen discharge limit, effective January 1, 2015. The facilities include more than 40 million gallons of additional capacity for nitrogen removal, new post-aeration facilities, an 890 mgd lift station, new channels and conveyance structures and new facilities to store and feed multiple carbon sources.

ACCOMPLISHMENTS

- Enhanced Nitrogen Removal Facility North – This project improved the performance of the secondary treatment facilities by providing limited nitrogen removal and more consistent quality for the downstream denitrification processes. The facilities are in operation and construction was 97 percent complete as of September 2017.
- Filtrate Treatment Facility – This side-stream treatment project will utilize anammox bacteria to remove nitrogen from the filtrate, from the belt filter press facility resulting in lower use of methanol, which are otherwise necessary when the filtrate is processed through the plant. Facilities are in the commissioning process and construction was 92 percent complete as of September 2017.
- Gravity Thickener Upgrades Phase II – The project upgrades the aging mechanical/electrical equipment associated with the 10 gravity thickeners and primary sludge screening and degritting. Detailed design is 98% complete as of September 2017 and the project bid for construction in FY 2018. Construction is scheduled for completion in FY 2022.
- Tunnel Dewatering Pump Station (TDPS) – The project was designed and is being built in conjunction with the Enhanced Clarification Facility (ECF) to pump out the Blue Plains Tunnel for processing through the ECF or the Blue Plains plant mainstream as required by permit. The TDPS is scheduled to be operational by March 23, 2018.
- Enhanced Clarification Facility – The project provides facilities to treat up to 225 MGD of flow from the TDPS in excess of the capacity of the Blue Plains mainstream flow. The ECF portion of the design-build contract is 79 percent complete as of September 2017, and is scheduled to be operational by March 23, 2018.
- Raw Wastewater Pumping Station 2 – The pumping station delivers wastewater from the wastewater collection system to the east preliminary treatment processes at Blue Plains. This project updates aging electrical equipment, replacing equipment that is beyond its useful life and relocating sensitive electronic equipment to a less corrosive environment to reduce the rate of deterioration on the equipment. The construction contract was issued in September 2016 and is scheduled to be completed in 2019.
- Final Dewatering Facility (FDF) – The FDF provides dewatering of stabilized Class A biosolids by the belt filter press prior to hauling for beneficial reuse.
- Solar Power Purchase Agreement (PPA) – The project will provide several megawatts of green energy from a solar photovoltaic system installed by a Provider at no capital cost to DC Water, under a Solar Power Purchase Agreement (PPA). The Request for Quotes (RFQ) and Request for Information (RFI) were issued and responses evaluated. The RFP and PPA are undergoing review and the system is anticipated to be operational in 2020.

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Biosolids Management Program – The Walter F. Bailey Bioenergy Facility, which is now operational, significantly reduces DC Water's carbon footprint. The innovative CAMBI® thermal hydrolysis process uses intense heat and pressure to pre-treat wastewater solids prior to anaerobic digestion, and producing a much cleaner Class A biosolid and digester gas, that allows onsite generation of up to one third of Blue Plains' electricity needs. This process has resulted in operational efficiencies in electricity, biosolids hauling and chemicals costs.

Tunnel De-watering Pump Station/Enhanced Clarification Facility – These projects start where the DC Clean Rivers Project tunnels end at Blue Plains. When the Blue Plains tunnel is brought online, the TDPS will pump millions of gallons of combined sewer overflows and the ECF will treat the captured wet-weather flows that previously flowed into the District's waterways during heavy rain storms.

Filtrate Treatment Facility (FTF) – Also known as Centrate Treatment Facility, FTF is part of the Total Nitrogen Removal Wet Weather plan. The project assists in nitrogen removal from the water processed. This new facility uses six sequencing batch reactors to treat a nitrogen-rich stream from the Final Dewatering Facility's belt filter presses. The de-ammonification process represents a major breakthrough in nitrogen removal, which lowers the use of methanol. It also has approximately 60 percent lower energy demand than the mainstream treatment and lowers greenhouse gas (GHG) emissions.

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

LIQUID PROCESSING		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
A2	Liquid Processing Program Management	FY 2001	Active	$1,226	$1,320	$1,217	$1,948	$2,166	$1,667	$1,378	$4,666	$6,694	$4,532	$26,813	$48,462	FY 2031
B6	Primary Sedimentation Tank Covers	FY 2021	Active	0	0	0	557	898	132	3,596	3,205	19,293	7,603	35,284	43,598	FY 2028
B7	Primary Sedimentation Tank Odor Scrubblers	FY 2024	Active	0	0	0	0	0	0	687	105	1,775	2,107	4,674	45,870	FY 2032
BC	Headworks Influent Structures	FY 2019	Active	0	425	522	2,753	4,158	1,802	0	0	0	0	9,659	12,190	FY 2023
BG	Dual Purpose Rehabilitation	FY 2009	Active	685	1,836	1,141	4	0	0	0	0	0	0	3,666	34,416	FY 2021
BP	Grit Chamber Facilities Phase II	FY 2018	Active	71	128	69	29	0	0	0	0	0	0	298	528	FY 2021
BQ	Grit and Screenings and Primary	FY 2018	Active	163	1,916	2,077	8,997	7,737	2,595	569	0	0	0	24,054	38,958	FY 2024
BR	Nitrification/Denitrification Facility	FY 2006	Active	1,508	1,486	1,250	1,022	670	243	0	0	0	0	6,179	51,986	FY 2023
BT	Filtration/Disinfection Facility Phase II	FY 2008	Active	257	580	1,106	1,603	330	0	0	0	0	0	3,877	24,885	FY 2027
BV	Raw Wastewater Pump Station No. 2 Upgrades	FY 2013	Active	10,038	4,995	235	0	0	0	0	0	0	0	15,268	43,799	FY 2019
DA	WWT Research/Pilot Projects	FY 2006	Active	0	0	0	0	0	0	0	0	0	0	0	4,121	FY 2017
I4	Grit Removal Facilities - 20 Year Rebuild	FY 2026	Active	0	0	0	0	0	0	0	0	1,976	8,110	10,086	52,500	FY 2032
I5	Raw Water Pump Stations 1 & 2 - 20 Year Rebuild	FY 2021	Active	0	0	0	592	7,135	7,228	7,380	3,711	0	0	26,046	29,000	FY 2025
I7	Primary Treatement - 20 Year Rebuild	FY 2024	Deferred	0	0	0	0	0	0	589	7,586	17,113	13,459	38,747	54,600	FY 2028
IX	Headworks HVAC Rehabilitation	FY 2013	Active	0	0	0	0	0	0	0	0	0	0	0	786	FY 2021
IY	Effluent Filter Upgrade	FY 2017	Active	1,149	5,589	4,081	9,295	7,223	9,444	9,730	8,281	10,408	40,043	105,243	164,753	FY 2030
IZ	Replace/Upgrade Influent Screens	FY 2016	Active	1,075	4,024	5,735	1,227	0	0	0	265	2,671	3,812	18,810	81,270	FY 2032
J2	Replace/Upgrade Primary Treatment Mechanisms	FY 2018	Active	72	408	1,323	3,094	4,420	2,853	1,523	0	0	1	13,694	22,704	FY 2031
J6	Deammonification Project	FY 2013	Active	0	18	212	429	1,333	835	34	0	0	0	2,859	3,503	FY 2024
JC	Secondary East and West - 20 Year Rebuild	FY 2025	Active	0	0	0	0	0	0	0	512	5,528	14,315	20,355	96,000	FY 2032
LC	Effluent Disinfection Upgrades	FY 2023	Active	0	0	0	0	0	1	700	5	263	441	1,411	8,011	FY 2030
LF	Nitrification Reactor/Sedimentation - 20 Year Rebuild	FY 2024	Active	0	0	0	0	0	0	9	3,509	8,313	14,708	26,540	138,000	FY 2033
OZ	Grit Chambers 1 & 2 Upgrades	FY 2017	Active	708	958	509	1,423	3,675	3,595	1,980	0	0	0	12,849	15,178	FY 2024
PD	Secondary East & West Upgrades	FY 2016	Active	258	0	0	2	1,992	4,180	1,430	0	0	0	7,862	9,639	FY 2024
PE	Nitrification Reactor/Sedimentation Upgrades	FY 2017	Active	54	943	1,176	2,151	2,770	884	0	0	0	0	7,977	10,400	FY 2023
TF	Grit Chamber Building 1 & 2	FY 1996	Active	0	0	0	0	0	0	0	0	0	0	0	71,170	FY 2017
UC	Filtration/Disinfection Facility	FY 2004	Active	1,291	6,243	16,952	3,101	0	0	0	0	0	0	27,587	102,419	FY 2022
UD	Raw Water Pump Stations 1 & 2	FY 1999	Active	0	0	0	0	0	0	0	0	0	0	0	15,838	FY 2017
TOTAL LIQUID PROCESSING BUDGETS				**$18,554**	**$30,869**	**$37,604**	**$38,228**	**$44,507**	**$35,458**	**$29,607**	**$31,846**	**$74,033**	**$109,131**	$449,838	**$1,224,582**	

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

PLANTWIDE		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AL	Plantwide Project Program Management	FY 2001	Active	$2,306	$1,280	$1,432	$2,742	$3,599	$3,073	$3,073	$2,204	$1,997	$1,367	$23,073	$40,761	FY 2028
AZ	Central Operations Facility Renovation	FY 2002	Active	115	123	138	48	0	0	0	0	0	0	424	17,377	FY 2021
BY	Additional Chemical Systems Phase III	FY 2018	Active	0	0	0	0	0	0	109	406	751	815	2,081	3,822	FY 2029
CH	Miscellaneous Facility Projects	FY 2004	Active	64	55	54	18	0	0	0	0	0	0	192	7,965	FY 2021
CV	Laboratory Upgrades	FY 2006	Active	29	283	181	224	0	0	0	0	0	0	718	9,260	FY 2021
CW	Security at Blue Plains	FY 2005	Active	428	524	600	351	200	30	0	0	0	0	2,131	6,148	FY 2023
DQ	Non-OEM PLC Interfaces/Replacements	FY 2009	Active	0	0	0	0	0	0	0	0	0	0	0	2,185	FY 2017
EI	Plantwide Painting of Steel Pipes	FY 2012	Active	0	0	0	227	1,430	1,448	1,249	0	0	0	4,354	4,960	FY 2024
EN	Wastewater Treatment Plant - Central Fire Alarm System	FY 2008	Active	0	0	0	0	0	0	0	0	0	0	0	3,104	FY 2017
GP	Instrumentation & Control & Electric Program Management	FY 2011	Active	1,468	513	0	0	0	0	0	0	0	0	1,981	5,075	FY 2019
GW	Control Systems Replacement	FY 2021	Active	0	0	0	352	437	1,382	1,177	6,843	10,684	5,987	26,862	37,000	FY 2028
HL	DWT - Process and Operations Jobs	FY 2011	Active	385	376	604	1,090	0	0	0	0	0	0	2,455	6,869	FY 2021
HU	Blue Plains Logisitics	FY 2011	Active	0	0	0	0	0	0	0	0	0	0	0	6,919	FY 2021
IC	Electrical Monitoring Systems	FY 2015	Active	0	321	486	2,648	1,540	0	0	0	0	0	4,995	7,250	FY 2022
IT	Hauled Waste Receiving Facility	FY 2023	New	0	0	0	0	0	4	1,519	1,524	1,429	0	4,478	5,000	FY 2026
IU	Solar Photovoltaic System	FY 2018	Active	0	236	981	626	131	0	0	0	0	0	1,974	2,500	FY 2022
IV	Blue Plains IT Backbone Fibre-Optic Cables Tubes	FY 2016	Active	14	697	1,569	0	0	0	0	0	0	0	2,280	5,542	FY 2020
JF	Construction of Flood Seawall	FY 2018	Active	18	236	3,161	2,607	3,463	1,410	10	0	0	0	10,905	13,668	FY 2024
JY	Information Technology - Data Center	FY 2010	Active	0	0	0	0	0	0	0	0	0	0	0	2,367	FY 2021
LP	Wastewater Asset Management Technical Support	FY 2013	Active	257	271	358	0	0	0	0	0	0	0	885	10,000	FY 2020
LS	Miscellaneous Facility Projects FY 2013	FY 2013	Active	1,187	1,225	1,708	1,357	265	268	616	412	387	393	7,818	15,303	FY 2030
LX	Process Control System Upgrade	FY 2021	Active	0	0	0	1,545	1,569	2	0	0	0	0	3,116	4,000	FY 2023
OD	Plantwide Paving	FY 2015	Active	145	171	1,362	862	840	851	869	871	206	0	6,176	7,950	FY 2026
OE	Plantwide Drainage & Runoff	FY 2016	Active	135	3,288	277	651	672	681	1,486	2,284	1,538	0	11,012	15,433	FY 2026
OG	City Water & Sewer Upgrades at Wastewater Treatment Plant	FY 2020	Active	0	0	1	535	539	0	0	0	0	0	1,074	1,250	FY 2022
OH	Plantwide Demolition	FY 2021	Active	0	0	0	2,414	4,716	1,985	598	0	0	0	9,714	11,100	FY 2024
OI	Plantwide Painting & Signage	FY 2018	Active	0	0	0	0	102	254	46	0	0	0	402	450	FY 2024
OK	Plantwide H2S Mitigation	FY 2021	Active	0	0	0	0	0	0	0	0	0	0	0	10,000	FY 2029
OM	Plantwide Hot Water System/ Loop Rehabilitation	FY 2017	Active	849	1,590	922	391	0	0	0	0	0	0	3,752	6,066	FY 2025
ON	Plantwide Grounding Upgrades	FY 2022	Active	0	0	0	0	87	317	899	989	1,538	863	4,693	5,500	FY 2028
OP	Plantwide Sump Pump Rehabilitation	FY 2023	Active	0	0	0	0	0	0	105	315	296	169	886	1,000	FY 2028
OQ	Plantwide Roofing Upgrades	FY 2022	Active	0	0	0	0	406	1,773	2,779	1,482	1,558	939	8,937	10,000	FY 2027
OS	Plantwide Lighting Upgrades	FY 2017	Active	375	917	571	228	0	0	0	0	0	0	2,092	3,000	FY 2023
PF	Chemical System/Building Upgrades	FY 2015	Active	2,589	1,197	1,998	3,716	2,749	2,104	1,161	11	0	0	15,525	21,593	FY 2025
TA	Process Computer Control System	FY 1997	Active	650	0	0	0	0	0	0	0	0	0	650	65,474	FY 2018
TZ	Electric Power System - Power Gear	FY 2001	Active	775	1,483	1,730	8,427	11,280	13,671	2,427	0	0	0	39,793	61,590	FY 2024
YD	Miscellaneous Projects	FY 1999	Active	310	274	1,200	1,835	1,181	846	670	329	0	0	6,646	50,735	FY 2026
TOTAL PLANTWIDE BUDGETS				**$12,099**	**$15,060**	**$19,331**	**$32,895**	**$35,204**	**$30,100**	**$18,795**	**$17,671**	**$20,384**	**$10,534**	$212,072	**$488,216**	

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

SOLIDS PROCESSING		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AM	Solids Processing Program Management	FY 2001	Active	$706	$44	$450	$465	$673	$802	$842	$723	$533	$555	$5,792	$13,042	FY 2028
BX	Gravity Thickener Upgrades Phase II	FY 2010	Active	1,740	6,355	14,099	8,586	340	0	0	0	0	0	31,119	50,696	FY 2022
EV	Area Substation No. 6	FY 2008	Active	165	12	0	0	0	0	0	0	0	0	177	22,103	FY 2019
I3	Biosolids Blending Development Center	FY 2015	Active	272	1,049	58	19	0	0	0	0	0	0	1,398	2,101	FY 2021
LD	Pre-Dewatering Additional Centrifuges	FY 2019	Active	0	177	426	3,457	2,859	0	0	0	0	0	6,919	10,156	FY 2022
LE	High Strength Waste Receiving Facility (Includes Fats, Oils & Grease)	FY 2020	Active	0	0	194	500	2,854	426	0	0	0	0	3,973	6,008	FY 2023
XA	New Digestion Facilities	FY 1999	Active	8,023	576	321	0	0	0	0	0	0	0	8,920	551,451	FY 2020
XB	Centrifuge Thickener Facility	FY 1999	Active	59	0	0	0	0	0	0	0	0	0	59	48,703	FY 2018
XZ	Solids Processing Building / Dewatered Sludge Loading Facility	FY 1999	Active	264	5,730	2,605	2,275	2,044	726	446	0	0	0	14,091	96,382	FY 2037
YZ	Digestion Facilities Site Preparation	FY 1999	Active	0	0	0	0	0	0	0	0	0	0	0	2,271	FY 2017
TOTAL SOLIDS PROCESSING BUDGETS				**$11,229**	**$13,942**	**$18,154**	**$15,302**	**$8,770**	**$1,953**	**$1,288**	**$723**	**$533**	**$555**	$72,448	**$802,911**	

ENHANCED NITROGEN REMOVAL		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BI	Enhanced Nitrogen Removal (ENR) North	FY 2008	Active	$3,424	$184	$32	$0	$0	$0	$0	$0	$0	$0	$3,640	$76,634	FY 2020
E8	Enhanced Clarification Facilities	FY 2009	Active	23,533	2,891	397	21	0	0	0	0	0	0	26,842	218,171	FY 2021
E9	Nitrogen Removal Facilities	FY 2008	Active	1,458	344	75	0	0	0	0	0	0	0	1,877	272,794	FY 2020
EE	Filtrate Treatment Facilities	FY 2009	Active	5,011	1,902	411	0	0	0	0	0	0	0	7,324	108,480	FY 2020
EG	Blue Plains Tunnel	FY 2008	Active	67	27	8	0	0	0	0	0	0	0	102	177,524	FY 2020
FG	Secondary Treatment Upgrades for Total Nitrogen	FY 2013	Active	0	441	0	0	7	1,280	914	11,049	22,203	8,555	44,449	57,160	FY 2029
FR	Blue Plains Tunnel Dewatering Pumping Station	FY 2010	Active	2,746	739	329	0	0	0	0	0	0	0	3,814	34,534	FY 2020
FS	Bolling Overflow & Diversion	FY 2010	Active	9,615	0	0	0	0	0	0	0	0	0	9,615	54,013	FY 2018
LM	Enhanced Nitrogen Removal Program Management	FY 2013	Active	7,750	8,217	1,512	1,514	1,332	768	1,004	883	470	478	23,926	36,780	FY 2031
TOTAL ENHANCED NITROGEN REMOVAL BUDGETS				**$53,603**	**$14,746**	**$2,763**	**$1,535**	**$1,339**	**$2,049**	**$1,918**	**$11,932**	**$22,673**	**$9,032**	$121,590	**$1,036,089**	

TOTAL WASTEWATER TREATMENT BUDGETS	$95,485	$74,617	$77,853	$87,960	$89,820	$69,560	$51,607	$62,172	$117,623	$129,252	$855,948	$3,551,799

Fort Reno Green Roof

Tunnel Boring Machine

Combined Sewer Overflow

FY 2018 - FY 2027 Disbursement Plan											Lifetime
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
$181,816	$200,343	$160,554	$148,121	$203,086	$164,508	$79,692	$65,611	$135,797	$92,819	$1,432,348	$3,151,920

($ in thousands)

OVERVIEW

Similar to more than 700 older communities in the Mid-Atlantic, Northeast, and Midwest portions of the country, a portion of the District of Columbia is served by a combined sewer system. Approximately one-third of the system is combined, mostly in the downtown and older parts of the city. In dry weather, the system delivers wastewater to the Blue Plains Advanced Wastewater Treatment Plant. In wet weather, rain water also enters the system and, if the conveyance capacity of the system is exceeded, the excess flow spills into the waterways of the District of Columbia. This discharge is called combined sewer overflow (CSO). There are 47 active CSO outfalls in the District.

DC Water has continued to implement its CSO Long Term Control Plan (LTCP), called the DC Clean Rivers Project, to reduce CSO's that discharge to the Anacostia and Potomac Rivers, as well as Rock Creek. DC Water obtained an amendment to the CSO Consent Decree in January of 2016, which will allow DC Water to include Green Infrastructure and extend the completion milestone to 2030. When fully implemented, CSO's will be reduced by a projected 96 percent during an average year (98 percent on the Anacostia River) resulting in improved water quality, and significantly reduce debris on our national capital's waterways.

PROGRAM AREAS

DC Clean Rivers – The plan includes a variety of improvements throughout the District. The backbone of the plan includes constructing the Anacostia River Tunnel System to control CSO's to the Anacostia River and to relieve surface flooding, a tunnel dewatering pumping station to increased excess flow treatment during wet weather events with system completion in 2025. In addition, the amended plan includes constructing green infrastructure in large scale and a tunnel system to control Potomac River overflows with project completion in 2030. Green infrastructure will also be constructed to control CSOs to Piney Branch/Rock Creek with the first project scheduled to be completed in 2019.

Program Management – The CSO Program Manager is responsible for evaluation of combined sewer systems, as well as management for sewer pumping station replacement and other sewer infrastructure projects.

Combined Sewer – Projects within the Combined Sewer Program Area include rehabilitation and/or relocation of combined sewers, control of wet weather related pollution, and upgrades to pumping stations. Most projects in this Program Area are related to the Nine Minimum Controls and include planned upgrades to facilities based on our long term facilities plan.

ACCOMPLISHMENTS

- Placed in operation the First Street Tunnel, which will reduce flooding in the Bloomingdale neighborhood of the District of Columbia
- Commissioned and placed in operation the Anacostia Tunnel System from Blue Plains to RFK Stadium including appurtenant structures south of RFK
- Placed in operation the new Poplar Point Pumping Station
- Issued Notice To Proceed (NTP) and began construction of the Northeast Boundary Tunnel. The final segment of the Anacostia River Tunnel System
- Continued construction of the first Rock Creek Green Infrastructure project
- Procured and awarded the first Potomac Green Infrastructure project
- Developing the Environmental Assessment (EA) and Facility Plan for Potomac River Tunnel
- Deployed all Clean Rivers Assets into the enterprise Asset Management System
- Completed emergency inspection and assessment of four miles of the Northeast Boundary Trunk Sewer
- Continued odor control upgrades at O Street Pumping Station
- Potomac Pumping Station Phase III upgrades nearing completion, including Pump No. 2 rehabilitation, new influent screens, and electrical replacement
- Modification to the 2005 LTCP Consent Decree in 2016 to include innovative green infrastructure practices to achieve the reduction of CSO volume by 96 percent system-wide for the Anacostia and Potomac Rivers and Rock Creek and offer additional community benefits.

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

DC Clean Rivers – This project aims to control CSO's to the Anacostia and Potomac Rivers and Rock Creek to meet the District's water quality standards, while improving the health of the Chesapeake Bay. This ongoing project includes green infrastructure initiatives that will divert stormwater runoff prior to entering the sewer system. The Anacostia River Tunnel System, between Blue Plains and CSO-019 is also complete. All structures south of RFK are ready to be put in operation by March 23, 2018. The tunnel system will improve operational flexibility by providing alternate means of transferring flow to Blue Plains, thereby allowing temporary diversion of flows to the tunnel to facilitate operation, maintenance and rehabilitation.

Potomac Pump Station Upgrades – Upgrades nearing completion address health & safety improvements and increase the reliability of the pumping station.

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

DC CLEAN RIVERS		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
CY	Anacostia Long Term Control Plan Projects	FY 2005	Active	$126,476	$156,776	$132,951	$121,241	$145,383	$83,989	$0	$0	$0	$0	$766,815	$1,943,834	FY 2023
CZ	Potomac Long Term Control Plan Projects	FY 2010	Active	20,418	24,790	14,510	16,484	29,739	42,178	53,825	36,900	104,145	75,496	418,486	562,323	FY 2029
DZ	Rock Creek CSS LTCP Project	FY 2010	Active	21,420	7,826	581	564	17,737	24,944	5,744	13,119	24,259	11,701	127,895	258,099	FY 2030
TOTAL DC CLEAN RIVERS BUDGETS				**$168,314**	**$189,392**	**$148,042**	**$138,289**	**$192,859**	**$151,111**	**$59,569**	**$50,018**	**$128,404**	**$87,197**	$1,313,196	**$2,764,255**	

PROGRAM MANAGEMENT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AV	Combined Sewer Overflow Program Management	FY 2001	Active	$1,934	$1,969	$2,518	$3,495	$4,373	$4,339	$3,012	$1,821	$0	$0	$23,460	$64,663	FY 2025
TOTAL PROGRAM MANAGEMENT BUDGETS				**$1,934**	**$1,969**	**$2,518**	**$3,495**	**$4,373**	**$4,339**	**$3,012**	**$1,821**	**$0**	**$0**	$23,460	**$64,663**	

COMBINED SEWER		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BA	DC Water Low Impact Development Projects	FY 2002	Active	$312	$74	$17	$0	$0	$0	$0	$0	$0	$0	$403	$2,870	FY 2020
BH	Rock Creek Combined Sewer Overflow Projects	FY 2004	Active	0	0	0	0	0	0	0	0	0	0	0	16,670	FY 2017
EJ	Potomac Pumping Station - Phase III Rehabilitation	FY 2010	Active	2,248	1,596	36	0	0	0	0	0	0	0	3,880	22,784	FY 2020
EK	Long Term Rehabiitation - Main & O Pump Station	FY 2021	Active	0	0	0	19	51	2,014	6,228	3,520	2,565	4,585	18,982	55,644	FY 2030
EL	Swirl Facility Rehabilitation	FY 2008	Active	26	67	2	0	0	0	0	0	0	0	96	4,450	FY 2020
EQ	Potomac Pumping Station-Phase IV Rehabilitation	FY 2019	Active	0	45	86	1,371	0	0	0	0	0	0	1,501	2,325	FY 2021
FQ	Main & O Street PS Intermediate Upgrade	FY 2010	Active	8,380	6,028	5,430	2,742	1,331	0	0	0	0	0	23,912	46,185	FY 2023
FX	Rehabilitation Northeast Boundary Sewer - Phase 1	FY 2015	Active	228	4	157	513	547	5,236	4,216	69	43	37	11,051	18,591	FY 2030
FZ	Tiber Creek Sewer Lining - Phase 1	FY 2018	Active	0	305	441	0	190	729	4,290	6,519	615	0	13,089	17,838	FY 2026
G7	Combined Sewers Under Buildings	FY 2010	Active	291	863	3,763	0	0	0	0	0	0	0	4,917	15,981	FY 2021
IH	Combined Sewer Rehabilitation 2	FY 2013	Active	82	0	61	1,692	3,626	652	0	0	0	0	6,113	24,833	FY 2023
IP	Tiber Creek Trunk Sewer Rehabilitation	FY 2022	Active	0	0	0	0	108	427	2,241	3,276	363	0	6,416	8,250	FY 2026
K1	Main & O Street Pump Stations	FY 2025	Closed	0	0	0	0	0	0	0	0	0	0	0	79,906	FY 2029
OB	FY 2024 - Inflatable Dams Replacement	FY 2024	Active	0	0	0	0	0	0	136	388	3,807	1,000	5,331	6,675	FY 2027
TOTAL COMBINED SEWER BUDGETS				**$11,568**	**$8,982**	**$9,993**	**$6,337**	**$5,853**	**$9,058**	**$17,112**	**$13,772**	**$7,393**	**$5,622**	$95,691	**$323,002**	

TOTAL COMBINED SEWER OVERFLOW BUDGETS	$181,816	$200,343	$160,554	$148,121	$203,086	$164,508	$79,692	$65,611	$135,797	$92,819	$1,432,348	$3,151,920

CSO 19 Overflow Facility

CSO 21 Diversion Facilities

CSO 07 Diversion

FY 2018 - FY 2027 Disbursement Plan											Lifetime
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
$945	$4,909	$2,400	$2,312	$5,839	$1,212	$1,784	$1,642	$1,276	$2,133	$24,452	$81,392

($ in thousands)

OVERVIEW

Stormwater is the water generated by rain or melted snow on "impervious surfaces" or surfaces that do not allow the water to soak into the ground (such as roads, driveways, sidewalks, parking lots, and buildings). Stormwater runoff occurs when rain or snowmelt flows over these impervious surfaces.

Stormwater can pick up trash, excess nutrients (such as nitrogen and phosphorus), sediment and other pollutants that flow into the storm sewer system or directly to a lake, stream, river, or wetland. Untreated stormwater runoff ends up in the waterbodies we use for swimming, fishing and drinking water. Polluted stormwater runoff can have many adverse effects on plants, fish, animals and people. For example, trash can clog waterbodies, nutrients can cause algae blooms, and sediment impacts aquatic life.

The District's Municipal Separate Storm Sewer System (MS4), has approximately storm sewer pipes, catch basins, inlets, special structures and related facilities. Some components of the existing storm sewer system are over 100 years old. DC Water is responsible for the maintenance and replacement of the publicly-owned collection and conveyance facilities that transport stormwater runoff to the Anacostia and Potomac Rivers, Rock Creek, and other receiving streams within the District of Columbia.

PROGRAM AREAS

Local Drainage – Includes projects for the investigation, design and rehabilitation of sewers to relieve local flooding and to address short term needs for improvements to storm sewers located in the separate and combines sewer areas.

On-Going – This category includes annual planned projects for rehabilitation, improvements, and replacements to restore integrity and reliability of the stormwater system.

Pumping Facilities – DC Water's 16 stormwater pumping stations serve critical areas of the District and are integral to the road network to maintain safe passage of vehicles through areas that do not drain without the assistance of mechanical means. DC Water has projects to rehabilitate 13 of the 16 stormwater pumping stations. The remaining three were recently upgraded by the District of Columbia Department of Transportation (DDOT).

DDOT – The annual program of stormwater infrastructure projects are coordinated with street rehabilitation or other construction work performed by DDOT. In an effort to ease public disruption and reduce paving costs, DC Water coordinates its activities with those of DDOT.

Research and Program Management – Provides engineering program management services for the stormwater service area capital projects, and required technical assessments, and hydraulic studies required to assess problems in the storm water system. It also provides engineering services for condition assessment to the storm sewer system.

Trunk/Force Sewers – Provides for the design and construction services for stormwater interceptors, trunk sewers and force mains that require upgrades. Sewers rehabilitated by this project are defined by the major planning and condition assessment program underway for the stormwater sewer system.

ACCOMPLISHMENTS

- Stormwater Pollution Prevention Plan
- Watts Branch Sewer System Evaluation Study
- Detailed Inflow/Inflitration Modeling for Watts Branch Sewershed
- Construction began for the rehabilitation and improvement of the Watts Branch Storm Sewer Phase 3
- Received partial funding from FEMA grant, and began design for the rehabilitation of the following stormwater pumping stations: 14th Street Bridge SW, 9th Street and D Streets SE, Portland Street SE, Dean Avenue NE, and Eastern Avenue NE
- Began design on the following Stormwater pump stations: Kenilworth Stormwater Pumping Station and Eye Street and D Street SE

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

LOCAL DRAINAGE		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
A6	Lining 22nd & P Street NW/NWBSO Repair	FY 2001	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,537	FY 2015
GY	Storm Sewer Rehabilitation at Various Location	FY 2013	Active	92	75	344	0	0	0	0	0	0	0	512	5,676	FY 2020
IE	Storm Sewer Rehabilitation 3	FY 2020	Active	0	0	10	69	629	267	861	1,050	219	0	3,105	7,017	FY 2026
TOTAL LOCAL DRAINAGE BUDGETS				**$92**	**$75**	**$354**	**$69**	**$629**	**$267**	**$861**	**$1,050**	**$219**	**$0**	**$3,617**	**$14,230**	

ON-GOING		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BD	FY2011 - DSS Stormwater Projects	FY 2011	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$581	FY 2014
CN	FY2013 - DSS Stormwater Projects	FY 2013	Closed	0	0	0	0	0	0	0	0	0	0	0	669	FY 2017
DX	FY2016 - DSS Stormwater Projects	FY 2016	Active	0	0	0	0	0	0	0	0	0	0	0	787	FY 2018
FN	FY2017 - DSS Stormwater Projects	FY 2017	Active	375	166	0	0	0	0	0	0	0	0	541	745	FY 2019
H5	FY2018 - DSS Stormwater Projects	FY 2019	Active	0	536	68	0	0	0	0	0	0	0	604	770	FY 2020
HM	FY2019 - DSS Stormwater Projects	FY 2019	Active	0	373	229	0	0	0	0	0	0	0	601	794	FY 2020
JH	FY2020 - DSS Stormwater Projects	FY 2020	Active	0	0	371	237	0	0	0	0	0	0	608	820	FY 2021
LO	FY2021 - DSS Stormwater Projects	FY 2021	Active	0	0	0	380	244	0	0	0	0	0	625	845	FY 2022
M8	FY2022 - DSS Stormwater Projects	FY 2022	Active	0	0	0	0	500	201	0	0	0	0	701	820	FY 2023
MG	FY2023 - DSS Stormwater Projects	FY 2023	Active	0	0	0	0	0	521	211	0	0	0	732	845	FY 2024
NV	FY2024 - DSS Stormwater Projects	FY 2024	Active	0	0	0	0	0	0	550	216	0	0	766	870	FY 2025
PI	FY2025 - DSS Stormwater Projects	FY 2025	Active	0	0	0	0	0	0	0	248	528	0	776	896	FY 2026
QA	FY2026 - DSS Stormwater Projects	FY 2026	New	0	0	0	0	0	0	0	0	223	498	722	923	FY 2027
T9	FY2027 - DSS Stormwater Projects	FY 2027	New	0	0	0	0	0	0	0	0	0	237	237	950	FY 2028
TOTAL ON-GOING BUDGETS				**$375**	**$1,074**	**$668**	**$617**	**$744**	**$722**	**$760**	**$464**	**$752**	**$736**	**$6,912**	**$11,315**	

PUMPING FACILITIES		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
NG	Stormwater Pumping Station Rehabilatation	FY 2017	Active	$69	$3,410	$375	$1,134	$4,065	$19	$0	$0	$305	$1,397	$10,774	$25,232	FY 2028
TOTAL PUMPING FACILITIES BUDGETS				**$69**	**$3,410**	**$375**	**$1,134**	**$4,065**	**$19**	**$0**	**$0**	**$305**	**$1,397**	**$10,774**	**$25,232**	

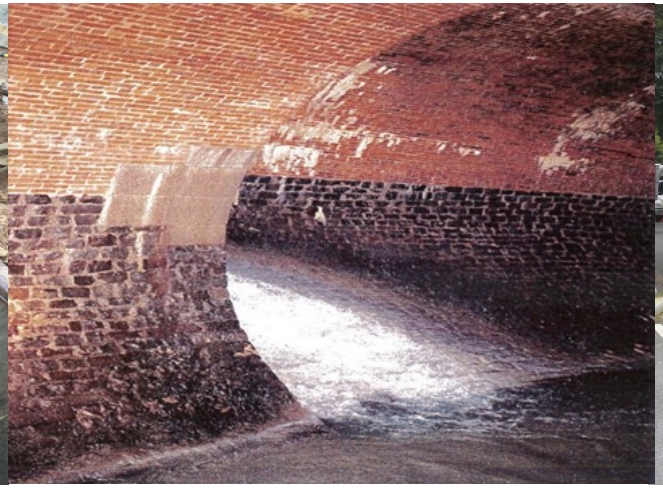
DDOT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
H4	FY 2018 - DDOT Stormwater Projects	FY 2018	Active	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,017	FY 2019
HP	FY 2019 - DDOT Stormwater Projects	FY 2015	Active	0	0	0	0	0	0	0	0	0	0	0	220	FY 2015
TOTAL DDOT BUDGETS				**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,237**	

RESEARCH & PROGRAM MANAGEMENT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AT	Stormwater Program Management	FY 2001	Active	$314	$156	$36	$115	$402	$204	$163	$128	$0	$0	$1,517	$12,013	FY 2025
TOTAL RESEARCH & PROGRAM MANAGEMENT BUDGETS				**$314**	**$156**	**$36**	**$115**	**$402**	**$204**	**$163**	**$128**	**$0**	**$0**	**$1,517**	**$12,013**	

TRUNK/FORCE SEWERS		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BO	Future Stormwater Projects	FY 2005	Active	$95	$194	$966	$377	$0	$0	$0	$0	$0	$0	$1,632	$15,365	FY 2021
TOTAL TRUNK/FORCE SEWERS BUDGETS				**$95**	**$194**	**$966**	**$377**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,632**	**$15,365**	

TOTAL STORMWATER BUDGETS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime
	$945	$4,909	$2,400	$2,312	$5,839	$1,212	$1,784	$1,642	$1,276	$2,133	$24,452	$81,392

Work on Sewer Laterals



Sewer

Sewer Rehabilitation - Cured In Place Pipe Lining (CIPP)

FY 2018 - FY 2027 Disbursement Plan											Lifetime
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
$29,802	$32,947	$34,046	$53,050	$74,492	$73,917	$75,912	$58,882	$60,769	$38,672	$532,490	$1,530,036

($ in thousands)

OVERVIEW

DC Water is responsible for wastewater collection and transmission in the District of Columbia including the operation and maintenance of the system. The sanitary sewer system includes over1,900 miles of sewer pipes, large interceptor sewers, smaller gravity collection sewers, sewer lateral connections and the 50-mile Potomac Interceptor System which carries wastewater from areas in Virginia and Maryland to Blue Plains AWWTP. DC Water is also responsible for sewer lateral connections from the sewer mains to the property lines of residential, government, and commercial properties. The existing sewer system in the District dates back to 1871, and includes a variety of materials such as brick and concrete, vitrified clay, reinforced concrete, ductile iron, plastic, steel, brick, cast iron, cast-in-place concrete and even fiberglass.

PROGRAM AREAS

Collection Sewers – Includes studies and projects to effectively eliminate stormwater, groundwater, and other infiltration and inflow to the sewer system; to separate stormwater flows; and to reduce other extraneous flows to Blue Plains. This category also includes projects to rehabilitate sanitary sewer pipes.

On-Going – This category is managed by the Department of Sewer Services (DSS) and includes annual planned projects for rehabilitation, improvements, and replacements to restore integrity and reliability of he sanitary system.

Pumping Facilities – Projects required for the upgrade of existing wastewater pumping stations, as well as projects for the engineering and construction of new wastewater pumping facilities to enhance reliability and integrity of DC Water's sanitary sewer system.

Program Management – Engineering program management services for the sewer system including assessing system needs, developing facilities plan, developing design scopes of work, preparing cost estimates, task orders or agreements, and reviewing design documents.

Interceptor/Trunk Force Sewers – Provides for the design and construction services for large diameter sewers and force mains that require upgrades. Sewers rehabilitated by this project are defined by the major planning and condition assessment program underway for the sewer system.

ACCOMPLISHMENTS

- Completed over 8 miles of Closed Circuit TV (CCTV) and sonar inspection of the Potomac Interceptor
- The temporary flow metering program was completed, including the compilation of flow data from more than 160 meters. This data is being used to develop an overarching coordination plan to link all monitoring efforts throughout the DC Water collection system, calibrate the system-wide sewer model, provide inflow/infiltration characterization, and assess rehabilitation effectiveness
- Design services began for portable generators to serve Main, O Street and Potomac pumping stations, with construction starting in 2018
- Construction of the sewer rehabilitation within the National Arboretum continued during FY 2017 for the Upper East Side Interceptor and local sewers within the property
- Began the calibration of a new sewer system hydraulic model which will greatly increase DC Water's predictive capabilities for system performance and will support a variety of planning and O&M activities
- Completed revisions to existing pumping station Standard Operating Procedures (SOPs) with new SOPs anticipated in the future to enhance the standardization of typical pumping station operations, as well as a variety of preventive and corrective maintenance activities
- Completed the design of rehabilitation to sewer structures 24 & 35 which will improve operability and flexibility to manage flows in major sewers
- Design of the rehabilitation of the Low Area Trunk Sewer was completed. Construction to commence in 2018
- Design for the rehabilitation and cleaning of B Street/NJ Avenue Trunk Sewer was completed. Construction to commence in 2018
- In house design for rehabilitation of prior local sewers began. This project includes 14 miles of sewers ranging from 8-inches to 27-inches

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Potomac Interceptor Odor Abatement Facilities – The Potomac Interceptor (PI) is a 50-mile long sanitary sewer that starts at the Washington-Dulles International Airport and serving Loudoun and Fairfax Counties in Virginia, Montgomery County in Maryland, and the District of Columbia. The PI was constructed in the 1960's and carries greater than 50 million gallons each day to the Blue Plains Advanced Wastewater Treatment Plant. DC Water maintains this asset through regular internal inspections to identify segments needing rehabilitation, and subsequently undertakes CIP projects to rehabilitate and maintain the integrity of the PI.

DC Water operates six odor abatement facilities, located strategically along the PI. Four of these facilities are adjacent to the Chesapeake and Ohio (C&O) Canal; one facility in northwest Washington, DC, and three in Maryland, with the other two facilities in Virginia. These facilities use a vacuum blower to pull odorous air from the PI and push it through a dual-bed carbon filter before discharging to the atmosphere. Combined with passive treatment units (carbon canisters) located in various vents along the PI, these facilities help reduce the odorous air that is emitted from the sewer in public areas. This activity contributes to better public relations.

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

COLLECTION SEWERS		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
G1	Small Local Sewer Rehabilatation 1	FY 2010	Active	$2,319	$16	$0	$0	$0	$0	$0	$0	$0	$0	$2,335	$28,452	FY 2019
G8	Small Local Sewer Rehabilatation 2	FY 2010	Active	14	0	0	0	0	0	0	0	0	0	14	2,869	FY 2018
G9	Small Local Sewer Rehabilatation 3	FY 2014	Active	3	0	0	0	0	0	0	0	0	0	3	368	FY 2018
GA	Small Local Sewer Rehabilatation 4	FY 2015	Active	220	0	0	0	0	0	0	0	0	0	220	8,557	FY 2018
J3	Sewer Upgrade - City Wide	FY 2001	Active	1,928	1,170	393	562	157	0	0	0	0	0	4,209	18,004	FY 2022
JS	Sanitary Sewer Rehabilitation 15	FY 2020	Active	0	0	55	499	3,999	1,330	0	0	0	0	5,883	13,830	FY 2023
JU	Sanitary Sewer Rehabilitation 13	FY 2019	Active	0	52	400	3,486	2,060	205	0	0	0	0	6,204	15,175	FY 2023
JX	Sanitary Sewer Rehabilitation 10	FY 2017	Active	3	6	6	2,185	2,528	106	0	0	0	0	4,834	13,600	FY 2023
LK	Sanitary Sewer Rehabilitation 17	FY 2020	Active	0	0	49	372	3,849	2,197	0	0	0	0	6,466	16,100	FY 2023
LL	Sanitary Sewer Rehabilitation 18	FY 2023	Active	0	0	0	0	0	453	942	6,633	133	0	8,162	16,582	FY 2026
MO	Sanitary Sewer Rehabilitation 20	FY 2024	Active	0	0	0	0	0	0	397	919	6,183	139	7,637	15,000	FY 2027
MP	Sanitary Sewer Rehabilitation 22	FY 2023	Active	0	0	0	0	0	381	1,229	7,113	30	0	8,753	17,600	FY 2026
MZ	Sanitary Sewer Rehabilitation 24	FY 2024	Active	0	0	0	0	0	0	377	1,092	7,478	107	9,054	18,100	FY 2027
N1	Sanitary Sewer Rehabilitation 21	FY 2024	Active	0	0	0	0	0	0	90	584	5,041	3,192	8,907	17,100	FY 2027
NC	Sanitary Sewer Rehabilitation 23	FY 2023	Active	0	0	0	0	0	104	681	5,003	3,073	0	8,861	17,600	FY 2026
NF	Sanitary Sewer Rehabilitation 19	FY 2021	Active	0	0	0	82	523	3,648	2,675	0	0	0	6,929	15,164	FY 2024
NX	Sanitary Sewer Rehabilitation 25	FY 2024	Active	0	0	0	0	0	0	123	759	6,986	1,488	9,356	18,664	FY 2027
NY	Sanitary Sewer Rehabilitation 26	FY 2025	Active	0	0	0	0	0	0	0	555	1,761	7,883	10,198	19,100	FY 2027
PY	Sanitary Sewer Rehabilitation 16	FY 2020	Active	0	0	186	743	5,741	69	0	0	0	0	6,739	16,100	FY 2023
QB	Sanitary Sewer Rehabilitation 27	FY 2026	Active	0	0	0	0	0	0	0	0	1,204	3,974	5,178	45,000	FY 2028
QC	Sanitary Sewer Rehabilitation 28	FY 2027	New	0	0	0	0	0	0	0	0	0	1,561	1,561	55,000	FY 2029
U3	B Street & New Jersey Avenue Trunk Sewer Rehab. - Phase 2	FY 2022	New	0	0	0	0	737	645	4,625	2,595	0	0	8,602	20,000	FY 2025
QE	Paving (Project Name TBD)	FY 2018	Active	0	0	0	0	0	0	0	0	0	0	0	34	FY 2028
TOTAL COLLECTION SEWERS BUDGETS				**$4,488**	**$1,244**	**$1,088**	**$7,929**	**$19,594**	**$9,139**	**$11,139**	**$25,253**	**$31,888**	**$18,343**	$130,105	**$407,999**	

ON-GOING		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BF	FY2011 - DSS Sanitary Sewer Projects	FY 2011	Active	$67	$0	$0	$0	$0	$0	$0	$0	$0	$0	$67	$8,175	FY 2018
D6	FY2014 - DSS Sanitary Sewer Projects	FY 2014	Active	1,250	0	0	0	0	0	0	0	0	0	1,250	10,575	FY 2019
DI	FY2015 - DSS Sanitary Sewer Projects	FY 2015	Active	591	0	0	0	0	0	0	0	0	0	591	11,188	FY 2018
DW	FY2016 - DSS Sanitary Sewer Projects	FY 2015	Active	601	257	0	0	0	0	0	0	0	0	858	14,601	FY 2019
FP	FY2017 - DSS Sanitary Sewer Projects	FY 2017	Active	4,362	555	0	0	0	0	0	0	0	0	4,917	11,500	FY 2019
H6	FY2018 - DSS Sanitary Sewer Projects	FY 2018	Active	2,971	2,880	0	0	0	0	0	0	0	0	5,851	11,845	FY 2019
HN	FY2019 - DSS Sanitary Sewer Projects	FY 2019	Active	$0	$5,925	$4,417	$0	$0	$0	$0	$0	$0	$0	$10,343	$12,200	FY 2020
JI	FY2020 - DSS Sanitary Sewer Projects	FY 2020	Active	0	0	5,058	5,754	0	0	0	0	0	0	10,812	12,568	FY 2021
LN	FY2021 - DSS Sanitary Sewer Projects	FY 2021	Active	0	0	0	4,645	5,358	0	0	0	0	0	10,003	12,945	FY 2022
M9	FY2022 - DSS Sanitary Sewer Projects	FY 2022	Active	0	0	0	0	4,624	5,658	0	0	0	0	10,283	13,335	FY 2023
MF	FY2023 - DSS Sanitary Sewer Projects	FY 2023	Active	0	0	0	0	0	4,877	5,886	0	0	0	10,763	13,735	FY 2024
NW	FY2024 - DSS Sanitary Sewer Projects	FY 2024	Active	0	0	0	0	0	0	5,192	6,074	0	0	11,266	14,225	FY 2025
OX	FY2025 - DSS Sanitary Sewer Projects	FY 2025	Active	0	0	0	0	0	0	0	5,328	6,143	0	11,470	14,650	FY 2026
PZ	FY2026 - DSS Sanitary Sewer Projects	FY 2026	New	0	0	0	0	0	0	0	0	5,447	6,317	11,764	15,090	FY 2027
Q3	FY2003 - DSS Sanitary Sewer Projects	FY 2003	Active	159	0	0	0	0	0	0	0	0	0	159	13,863	FY 2019
T8	FY2027 - DSS Sanitary Sewer Projects	FY 2027	New	0	0	0	0	0	0	0	0	0	5,706	5,706	15,550	FY 2028
TOTAL ON-GOING BUDGETS				**$10,001**	**$9,618**	**$9,475**	**$10,399**	**$9,982**	**$10,535**	**$11,079**	**$11,402**	**$11,589**	**$12,023**	$106,103	**$206,045**	

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

PUMPING FACILITIES		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
CX	Sewer Facilities Security Upgrades	FY 2010	Active	$102	$0	$14	$0	$0	$0	$0	$0	$0	$0	$116	$1,334	FY 2020
GZ	Sewer Instrumentation & Control	FY 2012	Active	609	212	0	0	0	0	0	0	0	0	821	8,785	FY 2019
HB	DSS Sewer Pumping Project	FY 2010	Active	0	0	0	0	0	0	0	0	0	0	0	3,953	FY 2020
LY	Sewer Facilities Security Upgrades	FY 2020	Active	0	0	14	46	48	29	0	0	0	0	137	2,000	FY 2023
MB	3rd Street & Constitution Ave NW - Pumping Station	FY 2014	Active	36	11	11	10	662	1,326	214	0	0	0	2,271	7,374	FY 2024
MC	Additional Sewer SCADA System Sites	FY 2016	Active	548	139	626	953	157	0	0	0	0	0	2,422	8,000	FY 2022
PM	East Side Pumping Station	FY 2019	Active	0	66	170	1,308	55	0	0	0	0	0	1,599	4,000	FY 2022
PT	Existing Sewer Facilities Building Optimization	FY 2020	Active	0	0	6	15	83	205	0	0	0	0	308	705	FY 2023
TOTAL PUMPING FACILITIES BUDGETS				**$1,294**	**$428**	**$842**	**$2,332**	**$1,005**	**$1,559**	**$214**	**$0**	**$0**	**$0**	$7,674	**$36,151**	

PROGRAM MANAGEMENT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AU	Sanitary Sewer Program Management	FY 2001	Active	$1,506	$998	$1,311	$3,071	$4,052	$4,437	$3,386	$2,566	$0	$0	$21,327	$75,901	FY 2025
DN	Sewer Inspection Program	FY 2010	Active	1,294	1,875	5,894	1,961	2,358	2,540	2,742	2,585	1,624	115	22,989	44,071	FY 2027
LR	Sanitary Sewer Asset Management	FY 2014	Active	199	201	0	0	0	0	0	0	0	0	400	5,000	FY 2019
TOTAL PROGRAM MANAGEMENT BUDGETS				**$2,999**	**$3,075**	**$7,205**	**$5,032**	**$6,410**	**$6,977**	**$6,128**	**$5,151**	**$1,624**	**$115**	$44,716	**$124,972**	

INTERCEPTOR/TRUNK FORCE		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
A4	Future Sewer System Upgrades	FY 2004	Active	$2,000	$1,676	$1,009	$0	$0	$0	$0	$0	$0	$0	$4,684	$43,669	FY 2021
DM	Upper Anacostia Main Interceptor Relief Sewer	FY 2010	Active	0	231	318	47	3,186	3,976	11	0	0	0	7,769	17,126	FY 2024
DR	Low Area Trunk Sewer Rehabilitation	FY 2009	Active	547	4,172	2,593	0	0	0	0	0	0	0	7,313	22,674	FY 2020
FW	Rehab Piney Branch Trunk Sewer	FY 2011	Active	0	34	470	1,712	9,405	4,930	907	0	0	0	17,458	40,456	FY 2024
FY	Rehab Upstream Rock Creek Main Interceptor	FY 2013	Active	63	57	0	36	538	1,145	7,020	2,869	0	0	11,727	29,553	FY 2025
G2	Sewer Structure Rehabilitation 1	FY 2010	Active	8	723	81	129	1,245	0	0	0	0	0	2,186	9,224	FY 2022
G4	Upper Potomac Intercept Sewer Rehabilitation	FY 2001	Active	287	27	0	77	791	2,247	1,388	0	0	0	4,817	13,520	FY 2024
G5	Sewer Rehab Near Creek Beds	FY 2010	Active	1,011	454	3,216	5,707	6,870	2,602	1,249	168	0	0	21,277	60,133	FY 2025
G6	Sanitary Sewers Under Buildings 1	FY 2010	Active	17	270	1,209	0	0	0	0	0	0	0	1,496	6,749	FY 2020
GG	Large Sewer Rehabilitation 2	FY 2013	Active	4	0	0	0	0	0	0	0	0	0	4	452	FY 2018
GH	Large Sewer Rehabilitation 3	FY 2012	Active	47	0	0	0	0	53	7,800	1,680	0	0	9,581	20,195	FY 2025
HS	Rehabilitation of Influent Sewers	FY 2019	Active	0	787	717	471	2,358	6,701	5,409	2,094	1,188	5,287	25,013	97,430	FY 2030
HT	Rehabilitation of Anacostia Force Main	FY 2012	Active	25	0	54	321	190	846	1,640	258	0	0	3,333	11,290	FY 2025
IF	Sanitary Sewer Rehabilitation 2	FY 2015	Active	122	0	0	0	0	0	0	0	0	0	122	1,540	FY 2018
IK	Potomac Force Main Rehabilitation	FY 2013	Active	63	262	104	81	914	1,076	23	0	0	0	2,522	6,074	FY 2024
IL	Creekbed Sewer Rehabilitation 2	FY 2013	Active	4,437	4,292	1,273	3,221	74	31	2,195	0	0	0	15,523	56,600	FY 2028
IM	Creekbed Sewer Rehabilitation 3	FY 2013	Active	0	0	88	399	1,006	191	2,646	1,117	1,139	4	6,591	15,462	FY 2028
IN	Upper East Side Trunk Sewer Rehabilitation	FY 2013	Active	0	0	583	918	183	1,597	5,600	0	0	0	8,881	19,002	FY 2024
IQ	Slash Run Sewer Rehabilitation	FY 2021	Active	0	0	0	231	466	3,999	326	0	0	0	5,021	10,000	FY 2024
IR	Anacostia Main Interceptor Rehabilitation	FY 2021	Active	0	0	0	109	1,148	3,403	2,105	0	0	0	6,764	14,250	FY 2024
J0	B Street New Jersey Avenue Trunk Sewer Rehab	FY 2004	Active	755	4,108	1,270	0	0	0	0	0	0	0	6,133	16,200	FY 2020
J1	Oxon Run Sewer Rehabilitation	FY 2004	Active	185	0	0	0	0	162	976	546	364	756	2,988	30,051	FY 2031
JK	Little Falls Rehabilitation Project	FY 2026	Active	0	0	0	0	0	0	0	0	72	190	263	4,000	FY 2029
JM	Northwest Major Sewer Rehabilitation	FY 2024	Active	0	0	0	0	0	0	242	502	3,143	70	3,957	7,000	FY 2027
LZ	Potomac Interceptor Projects - Rehab. Phase 2	FY 2015	Active	772	1,255	1,598	5,453	8,164	7,350	5,562	5,910	3,032	1,025	40,121	99,190	FY 2029

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

	INTERCEPTOR/TRUNK FORCE, CONT.	Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
N7	Potomac Sewer System Rehabilitation	FY 2000	Active	452	100	101	0	0	0	0	0	0	0	654	48,089	FY 2020
O4	Southwest Interceptor Rehabilitation	FY 2024	Active	0	0	0	0	0	0	153	182	1,316	744	2,396	4,530	FY 2027
O7	East Rock Creek Diversion Rehabilitation	FY 2021	Active	0	0	0	145	412	2,676	67	0	0	0	3,300	6,600	FY 2024
OA	West Rock Creek Diversion Rehabilitation	FY 2022	Active	0	0	0	0	13	141	1,205	705	0	0	2,065	3,810	FY 2025
PJ	Re-Activation of Anacostia Force Main/Gravity Main as Relief to Anacostia Force Main	FY 2018	Active	225	135	751	7,952	60	0	0	0	0	0	9,122	20,000	FY 2022
PU	Easby Point Trunk Sewer	FY 2021	Active	0	0	0	348	476	2,582	73	0	0	0	3,479	7,000	FY 2024
PV	Broad Branch Trunk Sewer	FY 2024	Active	0	0	0	0	0	0	758	1,045	5,413	114	7,330	13,000	FY 2027
TOTAL INTERCEPTOR/TRUNK FORCE SEWER BUDGETS				**$11,019**	**$18,583**	**$15,436**	**$27,358**	**$37,501**	**$45,706**	**$47,353**	**$17,076**	**$15,667**	**$8,191**	**$243,890**	**$754,870**	
TOTAL SANITARY SEWER BUDGETS				**$29,802**	**$32,947**	**$34,046**	**$53,050**	**$74,492**	**$73,917**	**$75,912**	**$58,882**	**$60,769**	**$38,672**	**$532,490**	**$1,530,036**	

Small Diameter Water Main Replacement

Bryant Street Pumping Station

Large Valve Replacement

FY 2018 - FY 2027 Disbursement Plan											Lifetime
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
$58,044	$45,747	$84,256	$62,341	$48,241	$53,471	$88,055	$99,661	$101,344	$89,510	$730,672	$1,939,272

($ in thousands)

OVERVIEW

Delivery of safe, clean, high-quality drinking water is one of DC Water's highest priorities. Drinking water in the District of Columbia comes from the Potomac River. The U.S. Army Corps of Engineers, Washington Aqueduct (Aqueduct), is a federally owned agency that is responsible for treating the drinking water. DC Water purchases treated water from the Aqueduct and is responsible for maintaining the distribution system that delivers drinking water to customers. DC Water maintains approximately 1,310 miles of interconnected pipe, four pumping stations, five reservoirs, three water tanks, over 43,000 valves of various sizes, and 9510 fire hydrants in public space. The authority distributes drinking water to more than 681,000 residents and businesses in the District of Columbia.

The DC Water distribution system begins at the water treatment plant and ends at private service lines. Customer service lines connect to the water mains in the streets and deliver water to residents and commercial buildings, eventually reaching taps. Water is continuously moving through our distribution system, typically at a high water flow rate that keeps the water fresh. However, once the water leaves the main and enters a customer's service line, the flow of water is dependent on individual water usage.

OVERVIEW, CONT.

DC Water is committed to providing customers with the highest quality drinking water and continuously works to deliver water that goes beyond federal standards. We accomplish this goal by aiming to meet target levels that are stricter than water quality standards required by the United States Environmental Protection Agency (USEPA). We have a dedicated Drinking Water division that collects and analyzes water samples throughout the District of Columbia. These monitoring programs include sampling and analyses that are required by EPA and additional sampling programs conducted voluntarily by DC Water.

DC Water conducts compliance monitoring on a daily basis to ensure that water quality meets EPA standards. Water quality technicians collect and analyze samples for lead and copper, total coliform (bacteria) and disinfection byproduct levels. Compliance monitoring ensures that drinking water treatment effectively prevents pipe corrosion, removes bacteria and other contaminants, and minimizes potentially harmful treatment byproducts.

DC Water operates voluntary sampling programs to support our commitment to providing high-quality drinking water to our customers. Water quality technicians collect and analyze hundreds of water samples throughout the District of Columbia. The Drinking Water division responds quickly to customer complaints and conducts water quality monitoring among the District's most vulnerable populations. DC Water operates two mobile laboratories that allow technicians to conduct on-site water quality tests and respond to emergencies. The Drinking Water division also distributes over a thousand lead test kits each year to residents and assists residents with identifying lead sources.

PROGRAM AREAS

Distribution Systems – Provides for the rehabilitation, replacement or extension of the water distribution system through several projects. The distribution systems program area is the largest for drinking water and includes three primary elements: small diameter water main renewal; large diameter water main rehabilitation; and valve replacements.

Lead Program – The replacement of approximately 20,960 lead water service lines with copper piping has been completed. Additional replacement continues throughout the water distribution system as part of water main renewals projects and for customers that request full replacement.

On-Going – Includes small projects for repairing water main breaks, replacing valves and fire hydrants, replacing water service connections, and other minor water main rehabilitation work.

Pumping Facilities – Rehabilitate or upgrade water-pumping stations in the system.

DDOT – Projects for the relocation, rehabilitation, replacement and extension of water mains, for which the work is completed under the District of Columbia's District Department of Transportation (DDOT) construction contracts for street paving or reconstruction. This program is being closed and combined with distribution projects.

Storage Facilities – Rehabilitation or upgrade of elevated tanks and reservoirs. Studies to the system have identified needs that support changing development patterns, regulatory compliance, additional water pressure to certain areas of the District, aand provide emergency backup service.

Program Management – Provides engineering program management services, including asset management. Developing facilities plans, conceptual designs, design scopes of work, cost estimates , task orders or agreements, and design document review.

ACCOMPLISHMENTS

- Continued installation of small diameter water mains to meet the DC Water Board goal of renewing one (1%) percent of the system annually. This renewal includes a combination of replacement with new water mains and rehabilitation of existing water mains using cleaning and cement mortar lining.
- DC Water continued its Pipe Condition Assessment (PCA) of large diameter water mains. The assessments include detailed field inspection and leak detection of five miles of high-risk water transmission mains annually. Recommendations for rehabilitation result in targeted capital projects to address the identified pipe sections in need of repairs.
- The construction of emergency repairs to the 78-inch North Clear Well water main was completed. This project addressed pipe defects and leaks identified as part of the large diameter water main PCA program and required close coordination with the Washington Aqueduct so that repairs could be completed while the McMillan North Clear Well was out of service.
- A pressure increase project for the 4th High zone in Wards 3 and 4 was completed by finishing upgrades to the Fort Reno pumping station. This project satisfies agreements with DC Fire and Emergency Medical Services (DC FEMS) to increase fire flows in the same area. Customers with lower than average pressure now have improved service, and residential customers that had high pressures were provided with interior Pressure Relief Valves (PRVs) to maintain compliance with the plumbing code.
- There was significant progress towards creating the new Anacostia 2nd High pressure zone in Ward 8, centered on the Saint Elizabeth's campus. The new 2 million gallon elevated storage facility and associated transmission mains are beyond 70% constructed, and continued coordination with the District led development of the campus, will result in an on-time opening of the new facilities in 2018.
- Remote pressure sensors, transient sensors, leak detection, and water quality monitoring equipment has been installed throughout selected areas of the District in early implementation of the water and sewer sensor program (WaSSP). Real time monitoring capabilities of the equipment have already resulted in adjustments in operational activities.
- There was significant progress towards recalibration of the water system hydraulic model. When completed a calibrated model will more accurately represent customer demands in the system for extended period simulations and provide a stronger interface with the Enterprise GIS database.
- DC Water conducted water age tracer studies in two pressure zones, to provide detailed analysis of water movement and age issues in those zones.

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Water Mains – The primary goal of both small diameter water main renewal and rehabilitation of large water mains is to reduce operating expenses to maintain the distribution system. The capital expenditures to fix and replace water mains yields reduced reactive maintenance due to breaks and other unscheduled repairs, which is more costly than planned maintenance. Reducing the amount of unlined water main through this program also reduces the need for distribution system flushing, which is costly both in crew time and in drinking water dumped to waste. Replacing valves that are in-operable reduces the number of customers out of service during both planned and unplanned shutdowns of the system.

Water Pumping and Storage – Reservoir upgrade projects are continuing, which accomplishes both regulatory upgrades as well as operational improvements. Maintenance costs are expected to be reduced due to improved access for water sampling equipment as well as Supervisory Control and Data Acquisition
(SCADA) improvements that monitor reservoir water quality remotely. Increased pressure in new areas will reduce the frequency of low pressure complaints and crew time responding to investigate and remedy issues found. The installation of remote monitoring sensors is intended to reduce the number of times that crews will need to mobilize to investigate water pressure, quality, leaks, and other related operational monitoring requirements.

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

	DISTRIBUTION SYSTEMS	Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BZ	Large Valve Replacement (Contracts 8 - 9 & 10)	FY 2009	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,010	FY 2017
C9	Large Diameter Water Mains 1	FY 2014	Active	803	5,223	1,891	2,629	0	0	0	0	0	0	10,546	19,667	FY 2021
DE	Small Diameter Water Main Rehabilitation 12	FY 2014	Active	8,211	9,073	4,405	109	0	0	0	0	0	0	21,797	42,812	FY 2021
F1	Small Diameter Water Main Rehabilitation 13	FY 2014	Active	186	2,757	13,077	3,821	0	0	0	0	0	0	19,842	35,126	FY 2021
F2	Small Diameter Water Main Rehabilitation 14	FY 2018	Active	102	380	11,888	12,266	0	0	0	0	0	0	24,635	43,489	FY 2022
F6	Steel Water Main Rehabilitation - Rehabilitation 1	FY 2009	Active	0	0	93	205	3,360	838	0	0	0	0	4,496	12,121	FY 2023
FE	20 Low Service Main & Pressure Reducing Valve	FY 2012	Active	529	0	0	0	0	0	0	0	0	0	529	8,393	FY 2018
FT	Water Mains Rehabilitation Phase II	FY 2014	Active	1,309	1,242	1,806	2,420	7,872	4,246	722	153	0	0	19,770	35,478	FY 2025
GQ	Fire Hydrant Replacement Program - Phase II	FY 2010	Active	345	51	51	30	21	0	0	0	0	0	498	28,302	FY 2022
GR	Small Diameter Water Main Rehabilitation 15	FY 2018	Active	766	1,116	16,905	8,088	1,028	0	0	0	0	0	27,903	52,000	FY 2022
HX	Small Diameter Water Main Rehabilitation 16	FY 2019	Active	0	813	207	0	37	1,158	4,842	18,442	9,028	0	34,528	52,000	FY 2026
I8	Large Valve Replacement (Contract 11-13)	FY 2012	Active	1,382	0	0	0	0	0	0	0	0	0	1,382	19,138	FY 2019
J7	Small Diameter Water Main Rehabilitation 17	FY 2020	Active	0	0	4,157	1,043	0	45	1,428	4,253	14,367	7,398	32,691	46,650	FY 2027
JZ	Large Diameter Water Main Replacement 3 - 4 & 5	FY 2021	Active	0	0	0	1,008	3,448	7,000	14,251	17,436	11,709	2,563	57,414	81,320	FY 2027
K7	Large Diameter Water Main Replacement 6 - 7 & 8	FY 2024	Active	0	0	0	0	0	0	469	1,937	8,714	18,862	29,981	89,140	FY 2030
K8	Large Diameter Water Main Replacement 9 - 10 & 11	FY 2027	New	0	0	0	0	0	0	0	0	0	431	431	76,400	FY 2033
KE	Small Diameter Water Main Rehabilitation 18	FY 2021	Active	0	0	0	4,327	2,623	8,292	12,778	3,483	0	0	31,504	46,340	FY 2025
KF	Small Diameter Water Main Rehabilitation 19	FY 2022	Active	0	0	0	0	4,663	2,846	8,982	13,543	3,582	0	33,616	47,730	FY 2026
KG	Small Diameter Water Main Rehabilitation 20	FY 2023	Active	0	0	0	0	0	5,221	3,098	9,632	13,864	3,812	35,628	49,160	FY 2027
KH	Small Diameter Water Main Rehabilitation 21	FY 2024	Active	0	0	0	0	0	0	5,769	3,297	9,588	14,393	33,047	50,640	FY 2028
KI	Small Diameter Water Main Rehabilitation 22	FY 2025	Active	0	0	0	0	0	0	0	6,862	3,595	10,592	21,049	52,160	FY 2029
KJ	Small Diameter Water Main Rehabilitation 23	FY 2026	Active	0	0	0	0	0	0	0	0	7,056	3,867	10,923	53,720	FY 2030
KK	Small Diameter Water Main Rehabilitation 24	FY 2027	New	0	0	0	0	0	0	0	0	0	7,571	7,571	55,330	FY 2031
MU	Small Diameter Water Main Rehabilitation 2	FY 2002	Active	0	0	0	0	0	0	0	0	0	0	0	12,667	FY 2017
MV	Small Diameter Water Main Rehabilitation 3	FY 2006	Active	38	31	1,534	0	0	0	0	0	0	0	1,603	15,676	FY 2021
NA	Clean & Line 20 4th High Water Main	FY 2002	Active	81	22	0	0	0	0	0	0	0	0	103	4,607	FY 2018
O0	Small Diameter Water Main Rehabilitation 8	FY 2011	Active	0	0	0	0	0	0	0	0	0	0	0	21,038	FY 2018
O1	Small Diameter Water Main Rehabilitation 9	FY 2012	Active	2,155	0	0	0	0	0	0	0	0	0	2,155	26,087	FY 2018
O2	Small Diameter Water Main Rehabilitation 10	FY 2013	Active	2,198	869	0	0	0	0	0	0	0	0	3,066	38,223	FY 2019
O3	Small Diameter Water Main Rehabilitation 11	FY 2014	Active	10,240	1,348	0	0	0	0	0	0	0	0	11,588	39,989	FY 2019
PK	Large Meter Vault and Piping Improvements	FY 2016	Active	11	0	0	0	0	0	0	0	0	0	11	980	FY 2018
S3	Large Valve Replacement (Contract 3-7)	FY 1999	Active	0	0	0	0	0	0	0	0	0	0	0	23,167	FY 2018
S5	Large Diameter Water Main Installation	FY 2001	Active	0	0	0	0	0	0	0	0	0	0	0	17,299	FY 2018
GX	Large Diameter Water Main Replacement II	FY 2023	Closed	0	0	0	0	0	0	0	0	0	0	0	30,090	FY 2029
TOTAL DISTRIBUTION SYSTEMS BUDGETS				**$28,353**	**$22,924**	**$56,015**	**$35,946**	**$23,051**	**$29,648**	**$52,339**	**$79,039**	**$81,503**	**$69,487**	**$478,306**	**$1,235,949**	

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

LEAD PROGRAM		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BW	Lead Service Replacement Program	FY 2003	Active	$3,422	$1,487	$1,252	$1,422	$1,528	$1,658	$1,718	$903	$235	$75	$13,700	$209,245	FY 2030
TOTAL LEAD PROGRAM BUDGETS				**$3,422**	**$1,487**	**$1,252**	**$1,422**	**$1,528**	**$1,658**	**$1,718**	**$903**	**$235**	**$75**	**$13,700**	**$209,245**	

ON-GOING		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
D5	FY 2014 - DWS Water Projects	FY 2014	Active	$491	$0	$87	$0	$0	$0	$0	$0	$0	$0	$578	$10,229	FY 2020
DG	FY 2015 - DWS Water Projects	FY 2015	Active	2	0	0	0	0	0	0	0	0	0	2	9,876	FY 2018
DY	FY 2016 - DWS Water Projects	FY 2016	Active	623	307	0	0	0	0	0	0	0	0	930	9,846	FY 2019
FK	FY2017 - DWS Water Projects	FY 2016	Active	3,097	1,302	0	0	0	0	0	0	0	0	4,399	9,630	FY 2019
GS	FY 2018 - DWS Water Projects	FY 2018	Active	4,766	781	0	0	0	0	0	0	0	0	5,546	9,630	FY 2019
HY	FY 2019 - DWS Water Projects	FY 2019	Active	0	6,088	108	0	0	0	0	0	0	0	6,197	9,630	FY 2020
JA	FY 2020 - DWS Water Projects	FY 2020	Active	0	0	4,654	839	0	0	0	0	0	0	5,492	9,630	FY 2021
KW	FY 2021 - DWS Water Projects	FY 2021	Active	0	0	0	6,389	1,168	0	0	0	0	0	7,557	9,630	FY 2022
KX	FY 2022 - DWS Water Projects	FY 2022	Active	0	0	0	0	5,950	1,124	0	0	0	0	7,073	9,664	FY 2023
KY	FY 2023 - DWS Water Projects	FY 2023	Active	0	0	0	0	0	6,126	1,144	0	0	0	7,270	10,150	FY 2024
KZ	FY 2024 - DWS Water Projects	FY 2024	Active	0	0	0	0	0	0	6,571	1,197	0	0	7,768	10,452	FY 2025
L1	FY 2025 - DWS Water Projects	FY 2025	Active	0	0	0	0	0	0	0	6,772	1,194	0	7,966	10,780	FY 2026
L2	FY 2026 - DWS Water Projects	FY 2026	Active	0	0	0	0	0	0	0	0	8,041	872	8,913	11,890	FY 2027
L6	FY 2027 - DWS Water Projects	FY 2027	New	0	0	0	0	0	0	0	0	0	8,419	8,419	12,250	FY 2028
QE	Paving/Surface Restoration	FY 2018	Active	2,101	2,565	2,720	2,754	2,812	2,934	3,078	3,188	3,194	3,344	28,691	0	FY 2027
TOTAL ON-GOING BUDGETS				**$11,079**	**$11,044**	**$7,569**	**$9,982**	**$9,930**	**$10,183**	**$10,793**	**$11,157**	**$12,429**	**$12,636**	**$106,802**	**$143,288**	

PUMPING FACILITIES		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AY	Upgrades to Fort Reno Pumping Station	FY 2002	Active	$487	$226	$68	$0	$0	$0	$0	$0	$0	$0	$781	$13,978	FY 2020
F8	16th & Alaska Avenue Pumping Station Upgrades	FY 2010	Active	101	3	0	0	0	0	0	0	0	0	104	4,990	FY 2019
FD	Water Facility Security System Upgrades	FY 2010	Active	53	62	38	25	0	0	0	0	0	0	177	2,100	FY 2021
FH	Discharge Piping Bryant Street Pumping Station	FY 2009	Active	0	0	0	0	0	0	0	0	0	0	0	14,482	FY 2018
HA	DWS Water Pumping Projects	FY 2010	Closed	0	0	0	0	0	0	0	0	0	0	0	1,463	FY 2017
HI	Bryant Street Pump Station Phase III	FY 2020	Active	$0	$0	$42	$86	$215	$987	$2,533	$0	$0	$0	$3,864	$5,920	FY 2024
HR	Anacostia Pump Station Improvements Phase II	FY 2021	Active	0	0	0	42	165	303	2,206	389	0	0	3,106	4,700	FY 2025
HV	Bryant Street Pump Station - Spill Header Flow Control	FY 2013	Active	25	838	2,081	371	0	0	0	0	0	0	3,315	6,641	FY 2021
JB	Bryant Street PS Improvements - Phase II	FY 2012	Active	2,223	475	254	1,295	2,905	0	0	0	0	0	7,152	12,298	FY 2022
LT	Water System SCADA	FY 2014	Active	356	179	1,690	1,951	595	0	0	0	0	0	4,771	8,296	FY 2022
LU	Water Facilities Security System Upgrades 2	FY 2016	Active	0	0	0	0	88	287	465	309	211	0	1,359	2,000	FY 2026
M7	Replacement of Anacostia Pump Station	FY 2002	Active	40	7	0	0	0	0	0	0	0	0	47	33,461	FY 2019
OR	Fort Reno Pump Station Improvements Phase II	FY 2021	Active	0	0	0	49	181	263	2,820	969	0	0	4,283	6,430	FY 2025
PS	Existing Water Facilities Building Optimization	FY 2020	Active	0	0	145	217	44	0	0	0	0	0	407	695	FY 2022
S6	West Venturi Meter - Bryant Street Pumping Station	FY 2019	Active	0	67	242	212	0	0	0	0	0	0	520	940	FY 2021
TOTAL PUMPING FACILITIES BUDGETS				**$3,286**	**$1,857**	**$4,561**	**$4,248**	**$4,193**	**$1,840**	**$8,023**	**$1,668**	**$211**	**$0**	**$29,887**	**$118,394**	

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

DDOT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
B0	B0 FY 2010 - DDOT Water Projects	FY 2010	Active	$27	$5	$0	$0	$0	$0	$0	$0	$0	$0	$32	$17,171	FY 2020
BN	FY 2011 - DDOT Water Projects	FY 2011	Active	551	343	113	0	0	0	0	0	0	0	1,007	8,738	FY 2020
CJ	FY 2012 - DDOT Water Projects	FY 2011	Active	127	90	83	2	2	0	0	0	0	0	305	6,474	FY 2022
CM	FY 2013 - DDOT Water Projects	FY 2013	Active	199	48	12	0	0	0	0	0	0	0	260	1,549	FY 2020
TOTAL DDOT BUDGETS				**$904**	**$486**	**$208**	**$2**	**$2**	**$0**	**$0**	**$0**	**$0**	**$0**	$1,604	**$33,933**	

STORAGE FACILITIES		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
FA	Water Storage Facility Upgrades	FY 2009	Active	$1,992	$1,971	$3,527	$1,328	$450	$0	$0	$0	$0	$0	$9,268	$36,481	FY 2022
HW	Rehabilitation of Elevated Water Tanks	FY 2020	Active	0	0	105	304	741	2,070	1,289	538	0	0	5,048	7,000	FY 2025
MA	Saint Elizabeth Water Tank	FY 2002	Active	5,377	2,826	3,617	1,079	0	0	0	0	0	0	12,899	37,291	FY 2021
MQ	2MG 4th High Storage Tank	FY 2004	Active	191	55	322	418	491	1,637	1,925	0	0	0	5,040	9,716	FY 2024
MR	2nd High Water Storage	FY 2009	Active	0	115	517	358	416	1,399	6,157	1,805	0	0	10,767	17,031	FY 2025
TOTAL STORAGE FACILITIES BUDGETS				**$7,560**	**$4,967**	**$8,088**	**$3,488**	**$2,099**	**$5,106**	**$9,371**	**$2,343**	**$0**	**$0**	$43,021	**$107,520**	

PROGRAM MANAGEMENT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
KV	Water Program Management Services 2F	FY 2020	Active	$0	$0	$3,809	$5,013	$6,150	$5,035	$3,915	$0	$0	$0	$23,921	$30,610	FY 2024
LB	Water Program Management Services 2G	FY 2024	Active	0	0	0	0	0	0	1,897	4,551	6,966	7,312	20,727	35,480	FY 2029
LQ	Water Service Area Asset Management	FY 2013	Active	408	56	0	0	0	0	0	0	0	0	465	5,000	FY 2019
ME	Water System Program Management Services	FY 1999	Active	3,032	2,925	2,755	2,238	1,289	0	0	0	0	0	12,239	19,854	FY 2022
TOTAL PROGRAM MANAGEMENT BUDGETS				**$3,441**	**$2,982**	**$6,563**	**$7,252**	**$7,438**	**$5,035**	**$5,812**	**$4,551**	**$6,966**	**$7,312**	$57,352	**$90,944**	

TOTAL WATER BUDGETS	$58,044	$45,747	$84,256	$62,341	$48,241	$53,471	$88,055	$99,661	$101,344	$89,510	$730,672	$1,939,272

Maintenance Services

DC Water Skimmer Boat

Washington Aqueduct

	FY 2018 - FY 2027 Disbursement Plan											Lifetime
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	Budget
CAPITAL EQUIPMENT	$39,898	$34,518	$29,383	$27,998	$9,579	$10,306	$10,850	$11,177	$12,122	$12,303	$198,133	$198,133
WASHINGTON AQUEDUCT	11,768	12,930	12,944	13,039	13,039	12,312	11,768	11,441	10,496	10,315	120,052	120,052
ADDITIONAL CAPITAL PROGRAMS	51,665	47,448	42,327	41,037	22,618	22,618	22,618	22,618	22,618	22,618	318,185	318,185

OVERVIEW

Additional Capital Programs is a subset of the CIP, and is comprised of Capital Equipment and the Washington Aqueduct.

Capital Equipment – This category includes capital purchases that have a life of at least three years and an individual component cost of $5,000 or more. The current capital equipment disbursement budget includes the following cluster groups:

- ***Blue Plains –*** This cluster is comprised of the Departments of Wastewater Operations, Process Engineering, and Maintenance Services. These departments' activities are within the Blue Plains AWWTP. Activities/purchases include: major pump rebuild/replacements, large electric motors, high priority rehabilitation program, centrifuge rebuild/replacements, membrane diffuser/mechanical replacements, electrical replacements, lab equipment, process computer control systems, actuators, flow meters, and programmable logic controllers.
- ***Finance, Accounting and Budget*** – The Projects are primarily for the enhancements to DC Water's existing financial and payroll software solutions. This group also manages reserve funds to support additional capital equipment needs throughout DC Water.
- ***Customer Care and Operations*** – This cluster is comprised of the Departments of Customer Service, Distribution and Conveyance Systems, Water Quality and Technology, Water Services, and Sewer Services. Work within this group is for rehabilitating and replacing equipment outside of Blue Plains in the distribution and collection systems. Activities/purchases include: pipes/fittings, manhole covers/frames, pumps, flow meters, catch basins, sewer cameras, cured-in-place pipe, locators, emergency generators, water mains, service lines, valves, water sample lab equipment, backflow preventers, SCADA hardware, and fire hydrant custodial locks. In addition to these items, this cluster supports replacement of residential and commercial water meters through the Automated Meter Reading (AMR) and On-going Replacement Programs.

OVERVIEW, CONT.

- ***Independent Offices*** – Capital equipment projects within this cluster are primarily infrastructure projects for the Department of Information Technology (IT). Activities/purchases include: computer replacements, cabling, radios, uninterruptible power system, server hardware, SCADA core switches, and telephony upgrades. In addition, IT also manages enterprise technology projects as approved by the IT Steering Committees.
- ***Support Services*** – This cluster is comprised of capital equipment activities for the Departments of Facilities, Security and Fleet Management. Activities/purchases include: cameras, card readers, door/window/hatch sensors, fence-line detection systems, vehicles, buses, vac-trucks, boats, backhoes, cranes, trailers, forklifts, HVAC systems, fire suppression systems, elevators, plumbing, rollup doors, photocopiers, appliances, furniture, fixtures, signage, roofing, and general facility improvements.

Washington Aqueduct – The Washington Aqueduct, managed by the U.S. Army Corps of Engineers (USACE), provides wholesale water treatment services to DC Water and two wholesale customers in Northern Virginia, Arlington County and Fairfax Water. DC Water purchases approximately 73 percent of the water produced by the Aqueduct's two treatment facilities, the Dalecarlia and McMillan Treatment Plants, and thus is responsible for approximately 73 percent of the Aqueduct's operating and capital costs. Under federal legislation and a memorandum of understanding enacted in 1997 and updated in 2013 when Fairfax Water replaced the City of Falls Church, DC Water and the Aqueduct's wholesale customers in Northern Virginia have a much greater role in oversight of the Aqueduct's operations and its Capital Improvement Program than prior to 1997. The Aqueduct's CIP is divided into six primary areas, with specific projects under each area.

- Dalecarlia Plant
- Aqueduct Wide
- McMillan Plant
- Appurtenant Transmission and Storage Facilities
- Advanced Treatment
- Emerging Projects Fund

The USACE, in accordance with Federal procurement regulations, requires DC Water to remit cash in an amount equal to the total project cost in advance of advertising contracts, and these funds are transferred immediately to a USACE/U.S. Treasury account to be drawn down during the execution of the project, through completion, with no interest going to DC Water. Over the years, extensive discussions with the U.S. Office of Management and Budget (OMB) and the USACE resulted in a proposal in the President's FY 2006 and FY 2007 budgets that would allow Aqueduct customers to deposit funds for any projects required by their National Pollutant Discharge Elimination System (NPDES) permit (including the residuals project) to a separate escrow account, allowing the Aqueduct customers to retain interest on these funds. The proposal was submitted in May 2006 to the Senate and House. During FY 2006, the USACE briefed the Senate Environment and Public Works Committee staff and in conjunction with DC Water briefed the Senate Homeland Security and Government Affairs committee staff. Additionally, DC Water and Washington Aqueduct staff provided DC Delegate Norton's office with the Administration's proposal. Neither committees acted on the proposal.

We continue to pursue other options that would be more favorable to DC Water, including transferring dollars on a phased basis, utilizing taxable bonds, or taxable commercial paper. In the past, some of these options have not been viewed favorably by the U.S. Treasury, but we will continue our outreach efforts to Congressional staff, federal agencies and the Corps on this critical issue. We expect to develop a more efficient financing system in the near future.

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Automated Meter Reading (AMR) Replacement Program - This program aims to replace approximately 90,000 small water meters throughout the city. The program started in FY 2016 and is expected to be completed within the next two years. Data received from the water meters will better serve DC Water customers by providing timely and accurate meter reads for billing information.

Additional Capital Programs

10-Year Disbursement Plan & Lifetime Budget by project, $ in thousands

CAPITAL EQUIPMENT		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total
BLUE PLAINS												
EQP4710	Wastewater Operations	$100	$100	$100	$100	$0	$0	$0	$0	$0	$0	$399
EQP4730	Wastewater Process Engineering	850	550	350	350	0	0	0	0	0	0	2,100
EQP4830	Maintenance Services	3,600	3,600	3,770	3,770	0	0	0	0	0	0	14,740
	Subtotal	4,550	4,250	4,220	4,220	0	0	0	0	0	0	17,239
FINANCE, ACCOUNTING & BUDGET												
EQP2410	Finance, Accounting & Budget	300	800	100	0	0	0	0	0	0	0	1,200
EQP2411	Reserve Fund	8,550	7,000	5,500	5,500	6,961	7,688	8,232	8,559	9,504	9,685	77,179
	Subtotal	8,850	7,800	5,600	5,500	6,961	7,688	8,232	8,559	9,504	9,685	78,379
CUSTOMER CARE & OPERATIONS												
EQP2340	Customer Service	9,343	2,618	2,618	2,618	2,618	2,618	2,618	2,618	2,618	2,618	32,905
EQP4100	Water Quality and Technology	150	150	125	150	0	0	0	0	0	0	575
EQP4210	Distribution & Conveyance Systems	1,700	1,700	1,700	1,700	0	0	0	0	0	0	6,800
EQP4410	Water Services	590	590	610	610	0	0	0	0	0	0	2,400
EQP4610	Sewer Services	225	225	260	260	0	0	0	0	0	0	970
	Subtotal	12,008	5,283	5,313	5,338	2,618	2,618	2,618	2,618	2,618	2,618	43,650
INDEPENDENT OFFICES												
EQP2110	IT Infrastructure	2,400	3,050	2,600	2,600	0	0	0	0	0	0	10,650
EQP2115	IT Enterprise Technology	5,700	6,245	4,810	4,000	0	0	0	0	0	0	20,755
	Subtotal	8,100	9,295	7,410	6,600	0	0	0	0	0	0	31,405
SUPPORT SERVICES												
EQP3410	Facilities Management	1,855	2,855	2,305	1,805	0	0	0	0	0	0	8,820
EQP3610	Security	515	515	515	515	0	0	0	0	0	0	2,060
EQP5610	Fleet Management	4,000	4,500	4,000	4,000	0	0	0	0	0	0	16,500
	Subtotal	6,370	7,870	6,820	6,320	0	0	0	0	0	0	27,380
CHIEF ENGINEER												
EQP4310	Engineering & Technical Services	20	20	20	20	0	0	0	0	0	0	80
	Subtotal	20	20	20	20	0	0	0	0	0	0	80
TOTAL CAPITAL EQUIPMENT		**$39,898**	**$34,518**	**$29,383**	**$27,998**	**$9,579**	**$10,306**	**$10,850**	**$11,177**	**$12,122**	**$12,303**	**$198,133**
WASHINGTON AQUEDUCT		11,768	12,930	12,944	13,039	13,039	12,312	11,768	11,441	10,496	10,315	120,052
TOTAL ADDITIONAL CAPITAL PROGRAMS		**$51,665**	**$47,448**	**$42,327**	**$41,037**	**$22,618**	**$22,618**	**$22,618**	**$22,618**	**$22,618**	**$22,618**	**$318,185**

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