dc water is life®

Approved FY 2021 Budgets

Section V: CAPITAL PROGRAMS

Northeast Boundary
Tunnel Community Tour

($ in thousands)

FY 2019 Actual	FY 2020 - FY 2029 Disbursement Plan											Lifetime Budget
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	
$399,366	$452,223	$507,590	$611,008	$531,323	$438,195	$461,193	$580,092	$589,978	$628,404	$650,006	$5,450,013	$12,390,598

DC Water Headquarters

Bryant Street Pump Station

Blue Plains

Overview

DC Water's Capital Improvement Program (CIP) supports the continuation of major capital asset investment in programs and projects that will upgrade the water distribution and sewer system as well as maintain compliance with federal mandates, and improve the efficiency of operations. The CIP includes all mandated projects, rehabilitation of assets required to meet permit and other regulatory requirements, and projects to meet the immediate needs necessary to maintain existing service levels.

The CIP is presented on two different basis; the ten-year disbursement plan and lifetime budget.

- ***Ten-Year Disbursement Plan*** – This category represents the actual cash disbursements "cash out of the door" for each project, excluding contingencies. It provides a more realistic approach and basis for forecasting the anticipated level of rate increases, as well as, timing for pursuing capital financing. In addition, the ten-year disbursement plan includes projected completion dates, program management, and in-house labor costs.
- ***Lifetime Budget –*** The "lifetime" budget, reflects historical spending prior to, during, and beyond the current ten-year period, including in-house labor. Lifetime budgets represent projects active during the ten-year period, and are the primary area of focus in budget development and day-to-day monitoring. In addition to "active" projects, the lifetime budget includes projects for which all activities have been completed during the previous fiscal year and are listed as "closed" in the CIP. Closed projects are dropped from the CIP in the next fiscal year, and new projects are continuously added, as needed, each 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. The Department of Engineering & Technical Services conducts a review of major accomplishments, priorities, status of major projects, and emerging regulatory and related issues impacting the capital program. The review process is a collaborative effort, and involves departments with responsibility for managing the operations of DC Water services and capital projects; staff from the department of Finance; and members of the Executive Team. The CIP is integrated into DC Water's ten-year financial plan; and is the primary driver of DC Water's projected rate increases over the ten-year planning period.

This review process spans over several months and culminates with the presentation of the 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. The operating budgets, capital improvement program, and ten-year financial plan were adopted by the full Board on March 5, 2020.

After adoption by the Board of Directors, DC Water is required to submit its annual operating and ten-year capital budgets 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 service areas may vary up or down for a particular year. However, they are "not to exceed the total" FY 2020 – FY 2029 capital authority request in the amount of $5.0 billion.

It should be noted that the execution of contracts require the approval of the CEO and 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 its projected useful life and the policy determines how projects will be financed.

DEFINITION:

- Capital Project – an average life of 30 years and is financed with long-term debt
- Capital Equipment – has a life of at least three years, is financed with short-term debt or cash, an individual component cost of $5,000 or more. The cost of capital equipment purchases that are part of a clearly identified capital program can be aggregated. In which case, capitalize all cost relating to the capital program at the project level regardless of the individual component amount.

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

Expenditure Type	Financial Treatment	Definition
Rehabilitation		
Enhancement	Capitalize	Addition/replacement of a sub-component of an asset, to improve the "attributes" of the asset. This will include all such work as valve replacement or replacement of a section of a pipe.
Refurbishment	Capitalize	Expenditure on an asset that creates a material extension to the Estimated Operating Life (EOL) of the asset. 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. An example of refurbishment would be pipe lining and pipe grouting.
Rebuild	Capitalize	Expenditures to reconstruct, renovate, remodel, remake or reassemble an asset or infrastructure after it has been damaged or destroyed. An example of a rebuild is a valve rehabilitation, reconstruction of the valve elements
Replacement	Capitalize	Expenditure to replace substantially all of an asset. An example is replacement and installation of a new pipe including the ensuing disinfection applications and all associated activities relating to the replacement
Repair	Expense	Expenditure on an asset that maintains or restores the design functionality or attributes of an asset, enabling the asset to perform its intended function during its EOL. Examples of these will include service line repairs such as clamp application on service pipes, bolt application/replacement/adjustment, small scale chemical applications such as use of dechlorinating tablets, meter shut off valve, curb stop, small service line repairs that does not involve replacement nor meter housing, high pressure jet vacuum or any other obstruction removal methodology
Maintenance	Expense	Scheduled and recurring costs for the continued performance of an asset

($ in thousands)

	FY 2019	FY 2020 - FY 2029 Disbursement Plan										Lifetime
	Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Budget
NON PROCESS FACILITIES													
Facility Land Use	$8,529	$42,066	$31,849	$20,665	$6,831	$11,058	$10,396	$3,901	$3,553	$3,560	$3,600	$137,479	$221,841
Subtotal	**$8,529**	**$42,066**	**$31,849**	**$20,665**	**$6,831**	**$11,058**	**$10,396**	**$3,901**	**$3,553**	**$3,560**	**$3,600**	$137,479	**$221,841**
WASTEWATER TREATMENT													
Liquid Processing	$18,101	$24,516	$42,496	$43,069	$48,748	$44,909	$31,792	$66,989	$68,544	$99,413	$103,740	$574,216	$1,266,857
Plantwide	$10,357	$17,387	$32,784	$42,213	$30,735	$37,879	$23,127	$18,231	$25,062	$20,506	$9,902	$257,826	$525,997
Solids Processing	$5,493	$19,847	$27,314	$27,424	$25,852	$22,754	$15,761	$12,658	$6,027	$10,476	$12,858	$180,971	$924,507
Enhanced Nitrogen Removal Facilities	$19,176	$15,786	$382	$672	$1,897	$1,770	$0	$0	$2,206	$1,861	$11,665	$36,239	$980,940
Subtotal	**$53,127**	**$77,536**	**$102,976**	**$113,378**	**$107,232**	**$107,312**	**$70,680**	**$97,878**	**$101,839**	**$132,256**	**$138,165**	$1,049,252	**$3,698,301**
COMBINED SEWER OVERFLOW													
DC Clean Rivers Program	$215,335	$162,197	$147,565	$179,833	$129,272	$67,536	$59,909	$148,771	$103,265	$88,890	$115,049	$1,202,288	$2,764,255
Combined Sewer Program Management	$2,062	$1,287	$1,792	$2,237	$2,972	$3,028	$2,050	$2,629	$2,515	$3,125	$2,519	$24,154	$77,756
Combined Sewer Overflow Program	$4,355	$7,952	$7,701	$10,579	$13,581	$13,703	$6,518	$4,070	$5,057	$5,847	$9,916	$84,924	$199,729
Subtotal	**$221,752**	**$171,436**	**$157,058**	**$192,649**	**$145,824**	**$84,267**	**$68,476**	**$155,470**	**$110,837**	**$97,863**	**$127,484**	$1,311,366	**$3,041,740**
STORMWATER													
Storm Local Drainage Program	$0	$12	$22	$688	$594	$1,267	$1,948	$1,164	$1,792	$1,970	$1,709	$11,166	$18,025
Storm On-Going Program	$893	$1,011	$631	$1,109	$837	$866	$526	$875	$843	$1,084	$1,287	$9,069	$11,540
Storm Pumping Facilities	$1,283	$5,310	$8,392	$4,923	$2,259	$2,854	$1,865	$1,698	$1,353	$3,430	$1,755	$33,839	$61,204
Storm DDOT Projects	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,237
Stormwater Program Managemet	$0	$410	$445	$582	$367	$405	$321	$464	$318	$385	$306	$4,003	$12,889
Stormwater Trunk/Force Sewers	$33	$126	$141	$233	$113	$0	$0	$0	$0	$0	$0	$613	$15,510
Subtotal	**$2,210**	**$6,869**	**$9,631**	**$7,535**	**$4,170**	**$5,392**	**$4,660**	**$4,201**	**$4,306**	**$6,869**	**$5,057**	$58,690	**$122,404**
SANITARY SEWER													
Sanitary Collection System	$4,584	$4,613	$8,134	$33,564	$18,009	$24,312	$33,040	$52,923	$68,745	$65,771	$61,043	$370,154	$569,040
Sanitary On-Going Projectss	$11,385	$12,099	$12,327	$13,711	$13,667	$14,185	$15,019	$15,253	$15,111	$15,312	$14,842	$141,529	$217,969
Sanitary Pumping Facilities	$926	$2,570	$5,995	$6,924	$8,240	$5,068	$10,468	$11,639	$11,933	$27,732	$33,628	$124,196	$270,778
Sanitary Program Management	$2,614	$4,150	$5,464	$7,014	$5,132	$3,913	$3,103	$3,174	$3,900	$4,064	$4,335	$44,250	$119,050
Interceptor/Trunk Force Sewers	$16,715	$21,501	$32,006	$54,327	$43,062	$44,084	$76,710	$76,826	$77,100	$62,993	$60,184	$548,794	$918,096
Subtotal	**$36,224**	**$44,933**	**$63,926**	**$115,541**	**$88,110**	**$91,562**	**$138,341**	**$159,814**	**$176,789**	**$175,873**	**$174,032**	$1,228,922	**$2,094,934**
WATER													
Water Distribution Systems	$22,378	$33,872	$60,464	$62,606	$65,093	$58,654	$64,372	$65,350	$99,075	$117,595	$121,131	$748,211	$1,446,953
Water Lead Program	$4,099	$4,711	$5,408	$5,387	$5,456	$5,627	$5,719	$5,496	$5,744	$5,877	$5,692	$55,117	$243,504
Water On-Going Projects	$8,293	$10,532	$11,075	$12,297	$13,351	$15,199	$16,789	$18,583	$20,447	$22,981	$23,506	$164,761	$217,972
Water Pumping Facilities	$473	$1,525	$2,650	$12,169	$6,284	$2,567	$4,218	$7,446	$4,163	$2,328	$0	$43,350	$85,344
DDOT Water Projects	$324	$1,721	$10	$8	$0	$0	$0	$0	$0	$0	$0	$1,739	$33,933
Water Storage Facilities	$5,298	$6,216	$4,318	$10,399	$13,963	$5,610	$4,783	$11,334	$8,985	$694	$1,360	$67,662	$155,164
Water Service Program Management	$4,445	$3,587	$4,752	$6,012	$4,854	$5,248	$5,884	$8,110	$8,376	$5,441	$3,008	$55,272	$90,944
Subtotal	**$45,310**	**$62,163**	**$88,677**	**$108,878**	**$109,000**	**$92,905**	**$101,765**	**$116,319**	**$146,791**	**$154,916**	**$154,697**	$1,136,112	**$2,273,813**
CAPITAL PROJECTS	$367,152	$405,004	$454,118	$558,645	$461,168	$392,496	$394,318	$537,584	$544,115	$571,337	$603,035	$4,921,821	$11,453,035
CAPITAL EQUIPMENT	$21,367	$31,703	$37,207	$33,790	$32,315	$33,000	$33,000	$33,000	$33,000	$33,000	$33,000	$333,015	**$333,015**
WASHINGTON AQUEDUCT	$10,847	$15,515	$16,266	$18,572	$37,841	$12,699	$33,875	$9,508	$12,863	$24,068	$13,971	$195,178	**$195,178**
ADDITIONAL CAPITAL PROGRAMS	$32,215	$47,218	$53,473	$52,362	$70,156	$45,699	$66,875	$42,508	$45,863	$57,068	$46,971	$528,193	$528,193
LABOR													**$409,370**
TOTAL CAPITAL BUDGETS	$399,366	$452,223	$507,590	$611,008	$531,323	$438,195	$461,193	$580,092	$589,978	$628,404	$650,006	$5,450,013	$12,390,598

($ in thousands)

Prioritization Schedule

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

Approximately 22 percent of the current CIP ten-year disbursements are for large regulatory mandates which includes the Clean Rivers Project. As we progress closer to the completion of the mandated projects, DC Water is able to increase investments in upgrading its aging water and sewer infrastructure, starting FY 2022 and beyond.

	MEASURE OF PRIORITY									
	1A		2A	2B	2C	2D	3A		3B	
	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	
FY 2020	$174,384	39%	$4,332	$63,844	$46,024	$2,280	$93,140	21%	$68,219	$452,223
FY 2021	$147,209	29%	$5,490	$72,762	$36,214	$821	$142,529	28%	$102,565	$507,590
FY 2022	$179,572	29%	$12,019	$59,755	$51,167	$5,403	$190,052	31%	$113,041	$611,008
FY 2023	$129,073	24%	$9,469	$53,835	$62,807	$2,504	$149,979	28%	$123,655	$531,323
FY 2024	$67,830	15%	$18,917	$41,514	$26,156	$603	$147,226	34%	$135,949	$438,195
FY 2025	$60,177	13%	$19,230	$46,213	$29,409	$1,509	$197,153	43%	$107,503	$461,193
FY 2026	$148,771	26%	$13,180	$49,037	$28,074	$3,131	$194,990	34%	$142,909	$580,092
FY 2027	$103,265	18%	$6,062	$83,507	$28,766	$105	$215,227	36%	$153,045	$589,978
FY 2028	$88,890	14%	$717	$99,437	$37,312	$0	$214,960	34%	$187,088	$628,405
FY 2029	$115,049	18%	$1,803	$104,227	$24,027	$0	$214,327	33%	$190,574	$650,007
Total	**$1,214,221**		**$91,219**	**$674,131**	**$369,956**	**$16,356**	**$1,759,583**		**$1,324,547**	**$5,450,013**
% of Total	**22.3%**		**1.7%**	**12.4%**	**6.8%**	**0.3%**	**32.3%**		**24.3%**	

($ in thousands)

FY 2019 Actual	FY 2020 - FY 2029 Disbursement Plan											Lifetime Budget
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	
$8,529	$42,066	$31,849	$20,665	$6,831	$11,058	$10,396	$3,901	$3,553	$3,560	$3,600	$137,479	$221,841

DC Water Headquarters

Main Pumping Station

Fleet Maintenance Facility

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
- Introduce state-of-the-art material management technologies that will enhance inventory security, storage, distribution, and transportation
- 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 AREAS

Facility Land Use – The primary objective of this service area is to implement the NPFMP, and to ensure that we are meeting the health & hygiene needs of our workforce while efficiently maintaining facilities for our operations. Projects that generally improve DC Water's facilities do not represent a core process area within DC Water's mission, but they directly contribute to the health and well-being of our employees and visitors. Some of the projects included in this program are:

- ***Headquarters Building*** – The DC Water Administrative Headquarters Building, located next to the historic Main Pumping Station, is DC Water's most sustainable construction project ever. The Headquarters anchor DC Water's new publicly-accessible campus along the Anacostia River. By relocating non-operational departments to the new headquarters in FY 2019 from the Blue Plains industrial campus, DC Water preserved what little remaining space exists – an irreplaceable commodity – for future process improvements if required by permit or desired for innovation.
- ***Floatable Debris Dock Replacement*** – 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 allow 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 and 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. Costs associated with the acquisition of new land and construction of new facilities will be paid by the District of Columbia, with a completion target of 2022 for both facilities.
- ***Renovations to Blue Plains Central Operations Facility*** – The 2013 NPFMP called for utilizing the Central Operations Facility as the operations center for Blue Plains as originally intended, consolidating all Engineering staff except Clean Rivers. In addition to efficiently organizing the space vacated by Administrative personnel now located at Headquarters Building, this project consists of identifying a range of potential tasks, such as structural/building envelope analysis, energy efficiency and resiliency upgrades, and improved space planning and document storage that will modernize and improve operations at the facility.
- ***Renovations to Bryant Street Campus*** – The 2013 NPFMP required the development of improved spaces for our Water Operations and expanding critical functions through the development of a proper Emergency Operations Center (EOC), while maintaining the Bryant Street Pump Station's historic character. In addition to efficiently organizing the space vacated by personnel now located at HQO, this project consists of identifying a range of potential tasks, such as structural/building envelope analysis, energy efficiency and resiliency upgrades, and improved space planning and document storage that will modernize and improve operations at the Bryant Street campus.

- ***Non-Process Heating, Ventilation, and Air Conditioning (HVAC) and Roofing Projects*** – This project is meant to holistically address some of the HVAC and roofing/building envelope challenges that exist throughout DC Water facilities. This will include undertaking proper analysis of our needs given the characterization of the space (occupied versus non-occupied for example) and then developing remediation and renovation plans as identified by the assessment. The initial analysis is coming from the BluePrint Health & Hygiene initiative, and then we will look to implement a proactive plan moving forward taking into account the proper lifecycle costs of these assets to ensure that our facilities meet the needs of our operations and workforce.

ACCOMPLISHMENTS

- The Headquarters Building is now complete and occupied, and it has received the following awards:
  - American Institute of Architects (AIA) – Northern Virginia Chapter – Juror's Citation in Conceptual/Unbuilt Architecture
  - American Institute of Architects (AIA) – Maryland Chapter – Jury Citation Award
  - Fast Company Innovation by Design – Spaces, Places and Cities – Honorable Mention
- The design stage for the new Fleet Service Facility and Sewer Services Field Operations Center has been completed and is undergoing permitting reviews
- DC Water is in the schematic design / program development phase for the renovations of Central Operations Facility and Bryant Street
- Facilities is working in coordination with Procurement on a new A/E basic ordering agreement contract for program management, design and construction management services to support land use and non-process capital projects.

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Headquarters Building – This new building is LEED® Platinum Class A certified, and incorporated environmentally sustainable features used to capture onsite rainfall 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.

Non Process Facilities

($ in thousands)

	FACILITY LAND USE	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
DS	New Headquarters Building	2008	Ongoing	$4,656	$3,255	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,255	$76,100	2022
DU	Water System Laboratory Facilities	2006	Ongoing	$19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$646	2022
HE	Bryant Street Pump Station Building Mod.	2018	Ongoing	$1	$2,477	$3,334	$7,527	$0	$0	$0	$0	$0	$0	$0	$13,338	$14,370	2022
HF	Fort Reno Pump Station	2020	Ongoing	$0	$0	$667	$1,679	$28	$0	$0	$0	$0	$0	$0	$2,374	$2,950	2022
HH	Main & O Redevelopment Efforts	2015	Ongoing	$3,842	$30,598	$12,195	$219	$0	$0	$0	$0	$0	$0	$0	$43,012	$50,040	2023
HJ	Central Operations Facility Renovation	2019	Ongoing	$11	$2,500	$3,295	$0	$0	$0	$0	$0	$0	$0	$0	$5,795	$12,904	2021
HK	CMF Renovations And Consolidation	2020	Ongoing	$0	$1,700	$1,002	$1,100	$0	$0	$0	$0	$0	$0	$0	$3,802	$2,500	2023
NZ	Floatable Debris Dock Replacement	2020	Ongoing	$0	$1,036	$1,850	$2,140	$0	$0	$0	$0	$0	$0	$0	$5,026	$1,332	2022
RV	Non-Process Area - HVAC And Roofing Projects	2020	Ongoing	$0	$500	$2,006	$2,000	$1,803	$2,058	$3,896	$3,401	$3,553	$3,560	$3,600	$26,377	$28,000	2027
SA	Anacostia Pump Station - Field Ops East	2025	New	$0	$0	$0	$0	$0	$0	$1,500	$500	$0	$0	$0	$2,000	$2,000	2028
SB	Bryant Street Parking Modifications	2024	New	$0	$0	$0	$0	$0	$1,000	$3,000	$0	$0	$0	$0	$4,000	$4,000	2027
SC	Main & O Seawall Restoration (Phase 2 HQO)	2020	New	$0	$0	$6,000	$3,000	$3,000	$0	$0	$0	$0	$0	$0	$12,000	$12,000	2023
SD	Main PS Building Modifications - Historic Restoration	2021	New	$0	$0	$1,500	$3,000	$2,000	$8,000	$2,000	$0	$0	$0	$0	$16,500	$15,000	2024
TOTAL FACILITY LAND USE BUDGETS				**$8,529**	**$42,066**	**$31,849**	**$20,665**	**$6,831**	**$11,058**	**$10,396**	**$3,901**	**$3,553**	**$3,560**	**$3,600**	**$137,479**	**$221,841**	
TOTAL NON PROCESS FACILITIES BUDGETS				**$8,529**	**$42,066**	**$31,849**	**$20,665**	**$6,831**	**$11,058**	**$10,396**	**$3,901**	**$3,553**	**$3,560**	**$3,600**	**$137,479**	**$221,841**	

($ in thousands)

FY 2019	FY 2020 - FY 2029 Disbursement Plan											Lifetime
Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Budget
$53,127	$77,536	$102,976	$113,378	$107,232	$107,312	$70,680	$97,878	$101,839	$132,256	$138,165	$1,049,252	$3,698,301

Blue Plains Advanced Wastewater Treatment Plant

Secondary Sedimentation

Nitrification Reactors

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 biosolids product. DC Water's current NPDES permit is effective from August 26, 2018 through August 25, 2023. This permit requires wastewater treatment to a level that meets one of the most stringent NPDES discharge permits in the United States.

Blue Plains Advanced Wastewater Treatment Plant treats an annual average flow of 320 million gallons per day (MGD) and has a design capacity of 384 MGD, with a peak wet weather design capacity to treat more than one billion gallons per day. Wastewater flows in from the District of Columbia, Montgomery and Prince George's Counties in Maryland, and Fairfax and Loudoun counties in Virginia.

PROGRAM AREAS

Liquids 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.

Solids Processing – Biosolids processing involves reductions in volume along with treatment to meet applicable federal, state and local requirements for beneficial reuse of biosolids. Treatment is provided by a system of processing facilities that include gravity thickening of primary sludge, floatation thickening of the biological waste sludge produced by the secondary and nitrogen removal processes, pre-dewatering of blended thickened solids by centrifuge, pretreatment of solids by thermal hydrolysis, anaerobic digestion, and final dewatering of Class A biosolids 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. In addition to expansion of existing nitrification and denitrification processes, this program includes a new wet weather treatment facility that simultaneously treats combined stored sewage and reduces the peak flow through the biological treatment system. The necessary facilities to meet the current NPDES permit are in operation. However, close out activities continued into fiscal year 2020 and an expansion will be required in the future to treat future increases in influent load to the Plant.

ACCOMPLISHMENTS

- Completed construction of a hot water system for use in cleaning influent screens at East Screen Facility at Blue Plains. The existing system utilizes cold water, which is not as effective for cleaning scum off of the screens as hot water is.
- Ongoing construction of Raw Wastewater Pumping Station 2 – The pump station delivers wastewater from the wastewater collection system to the east preliminary treatment processes at Blue Plains. This project updates aging electrical equipment, both replacing equipment that is beyond its useful life and relocating sensitive electronic equipment to a less corrosive environment to reduce the rate of deterioration of the equipment. Several replaced pumps have been placed in service.
- Executed a design-build contract for Floodwall Segment C at Blue Plains. This is one of five segments that once completed, will protect the wastewater treatment plant from river levels up to the 500-year flood elevation with sufficient freeboard to protect against storm surge as well.
- Executed a construction contract for replacement of Filter Influent Pumps 1-10. These pumps deliver nitrified and denitrified effluent to the filtration process at Blue Plains, which removes solids and phosphorus to meet permit limits.
- Executed a construction contract for Gravity Thickener Upgrades. This project includes upgrading 10 gravity thickeners as well as the primary sludge de-gritting systems and associated electrical and instrumentation and control systems.
- Continued design of Final Reclaimed Effluent Pump Station Upgrade. The Reclaimed Final Effluent (RFE) pump system is the source of water for the Process Service Water system (PSW) at Blue Plains. The project upgrades equipment for reliability as well as increasing capacity to meet the demand of facilities that have been added to the wastewater treatment plant in recent years.

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Raw Wastewater Pumping Station 2 – This facility delivers sixty percent of the wastewater from the wastewater collection system into Blue Plains. The project will improve safety and reliability and reduce corrective maintenance effort at this facility. A reliable pump station 2 is critical to continuing to meet the NPDES permit requirements.

Plantwide Hot Water System – As part of this project, a hot water system was installed at the East Screening Facility that will improve the effectiveness of the influent screens, extend the useful life of the screens, and reduce demand for operator attention to the screens.

($ in thousands)

LIQUID PROCESSING		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
A2	Liquid Processing Program Management	2001	Ongoing	$1,094	$1,100	$2,346	$3,040	$3,829	$3,224	$5,122	$6,952	$6,928	$5,192	$1,797	$39,530	$54,828	2035
B6	Primary Sedimentation Tank Covers	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$646	$1,017	$150	$2,388	$4,201	$43,598	2032
B7	Primary Sedimentation Tank Odor Scrubblers	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$753	$116	$2,041	$1,006	$3,916	$45,870	2032
BC	Headworks Influent Structures	2017	Ongoing	$0	$980	$2,728	$3,165	$5,930	$3,028	$0	$0	$0	$0	$0	$15,831	$16,960	2024
BG	Dual Purpose Rehabilitation	2009	Ongoing	$1,552	$167	$0	$0	$0	$0	$0	$0	$0	$0	$0	$167	$32,250	2020
BP	Grit Chamber Facilities Phase II	2015	Closed	-$108	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$530	2021
BQ	Grit and Screenings and Primary	2018	Ongoing	$1,396	$515	$1,720	$2,010	$12,783	$21,702	$6,062	$0	$0	$0	$0	$44,792	$48,660	2025
BR	Nitrification/Denitrification Facility	2006	Ongoing	$1,388	$660	$892	$2,122	$152	$185	$93	$20	$0	$0	$0	$4,124	$54,568	2026
BT	Filtration/Disinfection Facility Phase II	2008	Ongoing	$564	$224	$0	$128	$88	$952	$1,295	$122	$0	$0	$0	$2,809	$24,018	2026
BV	Raw Wastewater Pump Station No. 2 Upgrades	2013	Ongoing	$7,759	$5,930	$752	$0	$0	$0	$0	$0	$0	$0	$0	$6,682	$46,870	2021
I4	Grit Removal Facilities - 20 Year Rebuild	2028	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,314	$7,450	$9,764	$52,500	2033
I5	Raw Water Pump Stations 1 & 2 - 20 Year Rebuild	2022	Ongoing	$0	$0	$0	$0	$26	$879	$768	$9,569	$10,766	$1,706	$0	$23,714	$29,000	2028
I7	Primary Treatement - 20 Year Rebuild	2024	Ongoing	$0	$0	$0	$0	$0	$647	$8,281	$19,923	$15,416	$7,733	$0	$52,000	$54,600	2028
IY	Effluent Filter Upgrade	2017	Ongoing	$2,475	$1,728	$7,228	$14,020	$15,993	$10,179	$4,159	$3,793	$3,288	$14,022	$37,380	$111,790	$167,099	2031
IZ	Replace/Upgrade Influent Screens	2016	Ongoing	$3	$4,765	$6,160	$4,043	$0	$0	$0	$0	$260	$2,723	$1,811	$19,762	$81,476	2033
J2	Replace/Upgrade Primary Treatment Mechanisms	2018	Ongoing	$5	$195	$2,243	$4,496	$4,288	$1,873	$620	$20	$35	$1,191	$2,282	$17,244	$22,752	2031
J6	Deammonification Project	2013	Ongoing	$0	$0	$0	$34	$404	$276	$1,618	$931	$0	$0	$0	$3,263	$3,503	2026
JC	Secondary East and West - 20 Year Rebuild	2027	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$559	$6,462	$13,138	$20,159	$96,000	2034
LC	Effluent Disinfection Upgrades	2023	Ongoing	$0	$0	$0	$0	$1	$769	$79	$481	$4,301	$1,538	$0	$7,169	$8,011	2028
LF	Nitrification Reactor/Sedimentation - 20 Year Rebuild	2025	Ongoing	$0	$0	$0	$0	$0	$0	$562	$1,422	$5,733	$11,815	$14,614	$34,146	$138,000	2035
OZ	Grit Chambers 1 & 2 Upgrades	2017	Ongoing	$1,508	$247	$51	$0	$1	$463	$620	$5,036	$3,913	$0	$0	$10,331	$15,129	2027
PD	Secondary East & West Upgrades	2016	Ongoing	$155	$58	$0	$0	$0	$0	$367	$507	$4,032	$3,222	$0	$8,186	$9,685	2028
PE	Nitrification Reactor/Sedimentation Upgrades	2017	Ongoing	$52	$821	$1,730	$1,954	$1,938	$605	$0	$0	$0	$0	$0	$7,048	$9,711	2024
RN	Liquids Processing Rehabiiltation	2020	Ongoing	$0	$0	$732	$268	$0	$127	$2,146	$13,908	$4,215	$346	$0	$21,742	$23,321	2028
RW	Long-term Concrete Rehabilitation Projects	2026	New	$0	$0	$0	$0	$0	$0	$0	$2,906	$7,965	$38,958	$21,874	$71,703	$82,820	2030
UC	Filtration/Disinfection Facility	2000	Ongoing	$257	$7,127	$15,914	$7,789	$3,315	$0	$0	$0	$0	$0	$0	$34,145	$105,100	2023
TOTAL LIQUID PROCESSING BUDGETS				**$18,101**	**$24,516**	**$42,496**	**$43,069**	**$48,748**	**$44,909**	**$31,792**	**$66,989**	**$68,544**	**$99,413**	**$103,740**	$574,216	**$1,266,857**	

($ in thousands)

	PLANTWIDE	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
AL	Plantwide Project Program Management	2001	Ongoing	$1,304	$1,540	$4,436	$3,745	$4,013	$3,626	$2,662	$1,693	$1,285	$4	$0	$23,004	$48,777	2030
AZ	Central Operations Facility Renovation	2002	Closed	$292	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,885	2019
BY	Additional Chemical Systems Phase III	2024	Ongoing	$0	$0	$0	$0	$0	$120	$443	$874	$934	$563	$465	$3,399	$3,822	2029
CH	Miscellaneous Facility Projects	2004	Ongoing	$121	$5	$5	$0	$0	$0	$0	$0	$0	$0	$0	$10	$8,039	2022
CV	Laboratory Upgrades	2006	Ongoing	$0	$121	$88	$0	$0	$0	$0	$0	$0	$0	$0	$209	$8,768	2021
CW	Security at Blue Plains	2005	Ongoing	$386	$884	$535	$148	$72	$72	$48	$0	$0	$0	$0	$1,759	$6,568	2025
DQ	Non-OEM PLC Interfaces/Replacements	2009	Closed	$8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,185	2020
EI	Plantwide Painting of Steel Pipes	2012	Ongoing	$0	$0	$0	$0	$271	$1,624	$1,619	$1,366	$0	$0	$0	$4,880	$4,960	2026
GP	Instrumentation & Control & Electric Program Management	2009	Ongoing	$1,065	$1,349	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,349	$5,691	2020
GW	Control Systems Replacement	2022	Ongoing	$0	$0	$0	$420	$490	$618	$932	$2,266	$7,835	$12,423	$6,630	$31,614	$37,000	2031
HL	DWT - Process and Operations Jobs	2011	Ongoing	$704	$1,240	$1,008	$1,254	$1,461	$291	$0	$0	$0	$0	$0	$5,254	$10,022	2024
IC	Electrical Monitoring Systems	2015	Ongoing	$0	$2	$478	$770	$2,387	$6,608	$1,554	$0	$0	$0	$0	$11,799	$13,611	2025
IT	Hauled Waste Receiving Facility	2020	Ongoing	$0	$0	$0	$0	$722	$1,429	$1,425	$1,425	$0	$0	$0	$5,001	$5,000	2026
IU	Solar Photovoltaic System	2020	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$960	2021
IV	Blue Plains IT Backbone Fibre-Optic Cables Tubes	2016	Ongoing	$0	$3	$699	$1,462	$581	$329	$64	$0	$0	$0	$0	$3,138	$5,899	2025
JF	Construction of Flood Seawall	2019	Ongoing	$0	$3,357	$2,485	$3,425	$3,201	$546	$418	$0	$0	$0	$0	$13,432	$15,053	2025
LP	Wastewater Asset Management Technical Support	2013	Ongoing	$20	$268	$248	$204	$330	$0	$0	$0	$0	$0	$0	$1,050	$10,000	2023
LS	Miscellaneous Facility Projects FY 2013	2013	Ongoing	$713	$2,404	$358	$304	$304	$681	$748	$450	$450	$451	$450	$6,600	$16,864	2030
LX	Process Control System Upgrade	2021	Ongoing	$0	$0	$1,846	$1,777	$2	$0	$0	$0	$0	$0	$0	$3,625	$4,000	2023
OD	Plantwide Paving	2015	Ongoing	$392	$42	$240	$483	$2,014	$1,784	$1,535	$387	$0	$0	$0	$6,485	$8,240	2026
OE	Plantwide Drainage & Runoff	2016	Ongoing	$81	$90	$587	$4,437	$2,622	$2,099	$2,960	$1,909	$0	$0	$0	$14,704	$17,289	2026
OG	City Water & Sewer Upgrades at Wastewater Treatment Plant	2022	Ongoing	$0	$0	$0	$22	$554	$453	$0	$0	$0	$0	$0	$1,029	$1,250	2024
OH	Plantwide Demolition	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$40	$1,460	$3,574	$2,008	$7,082	$11,100	2032
OI	Plantwide Painting & Signage	2024	Ongoing	$0	$0	$0	$0	$0	$116	$283	$51	$0	$0	$0	$450	$450	2026
OM	Plantwide Hot Water System/ Loop Rehabilitation	2017	Ongoing	$1,378	$2,222	$1,180	$0	$0	$0	$0	$0	$0	$0	$0	$3,402	$6,654	2021
ON	Plantwide Grounding Upgrades	2022	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,500	2028
OP	Plantwide Sump Pump Rehabilitation	2023	Ongoing	$0	$0	$0	$0	$0	$115	$344	$345	$194	$2	$0	$1,000	$1,000	2028
OQ	Plantwide Roofing Upgrades	2022	Ongoing	$0	$0	$0	$114	$494	$764	$407	$3,919	$4,301	$0	$0	$9,999	$10,000	2027
OS	Plantwide Lighting Upgrades	2017	Ongoing	$274	$507	$2,000	$0	$0	$0	$0	$0	$0	$0	$0	$2,507	$3,015	2021
PF	Chemical System/Building Upgrades	2015	Ongoing	$1,797	$421	$183	$761	$2,447	$7,141	$2,912	$71	$0	$0	$0	$13,936	$23,482	2026
TA	Process Computer Control System	1997	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$65,498	2019
TZ	Electric Power System - Power Gear	2001	Ongoing	$1,172	$1,662	$3,838	$10,087	$7,516	$8,427	$4,356	$3,085	$8,253	$3,138	$0	$50,362	$71,332	2028
YD	Miscellaneous Projects	1999	Ongoing	$649	$1,270	$70	$300	$1,254	$1,036	$417	$350	$350	$351	$349	$5,747	$51,084	2029
XP	Efficiency Improvements	2020	New	$0	$0	$12,500	$12,500	$0	$0	$0	$0	$0	$0	$0	$25,000	$25,000	2024
TOTAL PLANTWIDE BUDGETS				**$10,357**	**$17,387**	**$32,784**	**$42,213**	**$30,735**	**$37,879**	**$23,127**	**$18,231**	**$25,062**	**$20,506**	**$9,902**	$257,826	**$525,997**	

($ in thousands)

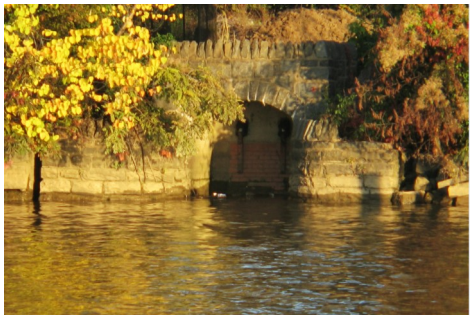
SOLIDS PROCESSING		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
AM	Solids Processing Program Management	2001	Ongoing	$385	$672	$1,353	$1,844	$1,541	$1,650	$1,505	$1,609	$1,540	$1,198	$168	$13,080	$18,205	2029
BX	Gravity Thickener Upgrades Phase II	2010	Ongoing	$360	$17,977	$19,087	$15,295	$11,454	$8,473	$0	$0	$0	$0	$0	$72,286	$82,866	2024
EV	Area Substation No. 6	2008	Ongoing	$158	$59	$0	$0	$0	$0	$0	$0	$0	$0	$0	$59	$22,104	2020
I3	Biosolids Blending Development Center	2015	Ongoing	$50	$370	$5,879	$1,001	$0	$0	$0	$0	$0	$0	$0	$7,250	$8,348	2022
LD	Pre-Dewatering Additional Centrifuges	2020	Ongoing	$0	$6	$509	$642	$4,032	$4,020	$142	$0	$0	$0	$0	$9,351	$10,118	2025
LE	High Strength Waste Receiving Facility (Includes Fats, Oils & Grease	2024	Ongoing	$0	$0	$0	$0	$0	$271	$726	$3,804	$481	$0	$0	$5,282	$6,008	2027
RM	Biosolids Rehabiiltation	2021	Ongoing	$0	$0	$20	$5,469	$5,417	$3,477	$10,191	$4,666	$3,450	$332	$345	$33,367	$79,996	2033
XA	New Digestion Facilities	1999	Ongoing	$4,498	$723	$463	$0	$0	$0	$0	$0	$0	$0	$0	$1,186	$552,896	2021
XB	Centrifuge Thickener Facility	1999	Ongoing	$28	$7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7	$48,726	2020
XZ	Solids Processing Building / Dewatered Sludge Loading Facility	1999	Ongoing	$12	$33	$3	$3,173	$3,408	$4,863	$3,197	$2,579	$556	$1,147	$1,956	$20,915	$41,240	2032
XY	Process Control & Computer Sys	2028	New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,799	$10,389	$18,188	$54,000	2033
TOTAL SOLIDS PROCESSING BUDGETS				**$5,493**	**$19,847**	**$27,314**	**$27,424**	**$25,852**	**$22,754**	**$15,761**	**$12,658**	**$6,027**	**$10,476**	**$12,858**	$180,971	**$924,507**	

ENHANCED NITROGEN REMOVAL		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
BI	Enhanced Nitrogen Removal (ENR) North	2008	Ongoing	$1,088	$103	$0	$0	$0	$0	$0	$0	$0	$0	$0	$103	$77,076	2020
E8	Enhanced Clarification Facilities	2009	Ongoing	$7,635	$6,857	$127	$672	$1,897	$1,770	$0	$0	$0	$0	$0	$11,323	$176,628	2024
E9	Nitrogen Removal Facilities	2008	Ongoing	$215	$154	$29	$0	$0	$0	$0	$0	$0	$0	$0	$183	$272,930	2021
EE	Filtrate Treatment Facilities	2009	Ongoing	$887	$1,405	$226	$0	$0	$0	$0	$0	$0	$0	$0	$1,631	$107,951	2021
EG	Blue Plains Tunnel	2008	Closed	$24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$177,532	2021
FG	Secondary Treatment Upgrades for Total Nitrogen	2013	Ongoing	$20	$378	$0	$0	$0	$0	$0	$0	$2,206	$1,861	$11,665	$16,110	$57,168	2032
FR	Blue Plains Tunnel Dewatering Pumping Station	2010	Ongoing	$675	$1,211	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,211	$35,617	2021
FS	Bolling Overflow & Diversion	2010	Ongoing	$1,671	$1,684	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,684	$55,937	2020
LM	Enhanced Nitrogen Removal Program Management	2013	Ongoing	$6,961	$3,994	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,994	$20,100	2025
TOTAL ENHANCED NITROGEN REMOVAL BUDGETS				**$19,176**	**$15,786**	**$382**	**$672**	**$1,897**	**$1,770**	**$0**	**$0**	**$2,206**	**$1,861**	**$11,665**	$36,239	**$980,940**	

TOTAL WASTEWATER TREATMENT BUDGETS	$53,127	$77,536	$102,976	$113,378	$107,232	$107,312	$70,680	$97,878	$101,839	$132,256	$138,165	$1,049,252	$3,698,301

($ in thousands)

FY 2019	FY 2020 - FY 2029 Disbursement Plan											Lifetime
Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Budget
$221,752	$171,436	$157,058	$192,649	$145,824	$84,267	$68,476	$155,470	$110,837	$97,863	$127,484	$1,311,366	$3,041,740



Combined Sewer Overflow Outfall

Northeast Boundary Tunnel

Fort Reno Green Infrastructure

Overview

Similar to more than 700 older communities primarily 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. Combined sewers convey both stormwater runoff and sanitary sewage from homes and businesses in a single pipe. 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 to prevent surface flooding and basement backups. This discharge is called Combined Sewer Overflow (CSO). Approximately one-third of the system is combined, mostly in the downtown and older parts of the city. There are 48 potentially active CSO outfalls in the District.

DC Water has made substantial progress in the implementation of 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. The first phase of the Anacostia River tunnel system was completed and all structures south of RFK stadium placed into operation as of March 2018. DC Water continues to implement the remaining project for the Anacostia River (currently under construction), as well as future projects for the Potomac River and Rock Creek currently under design. When fully implemented, CSO's will be reduced by a projected 96 percent city-wide during an average year (98 percent on the Anacostia River), resulting in improved water quality and significantly reducing debris in our nations capital waterways.

PROGRAM AREAS

DC Clean Rivers – The plan includes a variety of improvements throughout portions of the District served by combined sewers. For the Anacostia River, the plan includes constructing a series of massive tunnels and diversion facilities to control CSO's and to relieve surface flooding, and a tunnel dewatering pump station and increased wet weather flow treatment at Blue Plains, with system completion in 2023. In addition, the amended plan includes a combination of green infrastructure in large scale and a tunnel system to control Potomac River overflows with projected completion in 2030. Green infrastructure will also be constructed to control CSOs to Piney Branch/Rock Creek, with the first projects completed in 2019. Planning is underway for future projects.

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

- Continued construction of the Northeast Boundary Tunnel, the final segment of the Anacostia River Tunnel System
- Completed construction of the first Rock Creek Green Infrastructure project
- Post construction monitoring of the first Rock Creek Green Infrastructure Project is ongoing
- Completed the first Potomac Green Infrastructure project
- Post construction monitoring of the first Potomac Green Infrastructure project
- Substantially completed the Finding of No Significant Impact (FONSI) for the Potomac River Tunnel Environmental Assessment (EA) to conclude National Environmental Policy Act (NEPA) compliance
- Substantially completed a Programmatic Agreement for the Potomac River Tunnel to resolve compliance with Section 106 of the National Historic Preservation Act
- Began preparation of contract documents for the Potomac River Tunnel Project
- Completed 90% design of the CSO 025/026 Sewer Separation Project
- Began the procurement of CSO 025/026 Sewer Separation Project
- Completed upgrades to the Potomac Pumping Station
- Continued construction of Main Pump Station Flood Hardening Project

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 first portion of Anacostia River Tunnel System, between Blue Plains and Overflow and Diversion Facilities (CSO-019) is complete. All structures south of RFK Stadium are in operation since March 20, 2018. As of February 12, 2020, the first portion of the Anacostia River Tunnel system had captured approximately 7.2 billion gallons of combined sewer overflows and nearly 3,300 tons of trash, debris, and other solids. The system is achieving a 90% CSO capture rate, exceeding the projected 80% capture rate at this stage of implementation. 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 throughout the combined sewer system.

Potomac Pump Station Upgrades – Phase 3 upgrades to address health & safety improvements and increase the reliability of the pumping station completed.

($ in thousands)

DC CLEAN RIVERS		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
CY	Anacostia Long Term Control Plan Projects	2005	Ongoing	$193,996	$142,825	$134,050	$133,775	$60,538	$0	$0	$0	$0	$0	$0	$471,188	$1,943,834	2026
CZ	Potomac Long Term Control Plan Projects	2010	Ongoing	$12,628	$12,339	$10,723	$31,123	$43,009	$62,677	$44,986	$121,191	$89,803	$53,242	$41,333	$510,426	$562,323	2029
DZ	Rock Creek CSS LTCP Project	2010	Ongoing	$8,711	$7,034	$2,792	$14,935	$25,725	$4,859	$14,922	$27,580	$13,462	$35,649	$73,717	$220,674	$258,099	2031
TOTAL DC CLEAN RIVERS BUDGETS				**$215,335**	**$162,197**	**$147,565**	**$179,833**	**$129,272**	**$67,536**	**$59,909**	**$148,771**	**$103,265**	**$88,890**	**$115,049**	**$1,202,288**	**$2,764,255**	

PROGRAM MANAGEMENT		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
AV	Combined Sewer Overflow Program Management	2001	Ongoing	$2,062	$1,287	$1,792	$2,237	$2,972	$3,028	$2,050	$1,031	$0	$0	$0	$14,396	$57,756	2027
RP	CSO Program Management	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$1,598	$2,515	$3,125	$2,519	$9,757	$20,000	2031
TOTAL PROGRAM MANAGEMENT BUDGETS				**$2,062**	**$1,287**	**$1,792**	**$2,237**	**$2,972**	**$3,028**	**$2,050**	**$2,629**	**$2,515**	**$3,125**	**$2,519**	**$24,154**	**$77,756**	

COMBINED SEWER		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
BA	DC Water Low Impact Development Projects	2002	Ongoing	$45	$420	$116	$21	$0	$0	$0	$0	$0	$0	$0	$557	$2,870	2022
EJ	Potomac Pumping Station - Phase III Rehabilitation	2010	Ongoing	$1,688	$1,129	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,129	$35,571	2020
EK	Long Term Rehabiitation - Main & O Pump Station	2021	Ongoing	$0	$0	$27	$58	$1,592	$5,568	$4,850	$4,014	$5,000	$5,793	$9,873	$36,775	$55,644	2031
EQ	Potomac Pumping Station-Phase IV Rehabilitation	2020	Ongoing	$0	$114	$1,290	$410	$226	$0	$0	$0	$0	$0	$0	$2,041	$2,325	2023
FQ	Main & O Street PS Intermediate Upgrade	2010	Ongoing	$2,594	$5,739	$4,875	$3,435	$2,666	$189	$38	$0	$0	$0	$0	$16,942	$37,349	2025
FX	Rehabilitation Northeast Boundary Sewer - Phase I	2015	Ongoing	$27	$12	$6	$12	$26	$39	$49	$56	$57	$54	$43	$355	$4,617	2032
FZ	Tiber Creek Sewer Lining - Phase I	2016	Ongoing	$0	$0	$0	$0	$459	$301	$0	$0	$0	$0	$0	$760	$1,000	2027
G7	Combined Sewers Under Buildings	2009	Ongoing	$0	$515	$480	$5,730	$3,214	$0	$0	$0	$0	$0	$0	$9,939	$21,880	2023
IH	Combined Sewer Rehabilitation 2	2013	Ongoing	$0	$23	$907	$771	$4,942	$3,858	$336	$0	$0	$0	$0	$10,837	$31,798	2025
IP	Tiber Creek Trunk Sewer Rehabilitation	2022	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2026
OB	FY 2024 - Inflatable Dams Replacement	2022	Ongoing	$0	$0	$0	$141	$454	$3,749	$1,245	$0	$0	$0	$0	$5,589	$6,675	2025
TOTAL COMBINED SEWER BUDGETS				**$4,355**	**$7,952**	**$7,701**	**$10,579**	**$13,581**	**$13,703**	**$6,518**	**$4,070**	**$5,057**	**$5,847**	**$9,916**	**$84,924**	**$199,729**	

TOTAL COMBINED SEWER OVERFLOW BUDGETS	$221,752	$171,436	$157,058	$192,649	$145,824	$84,267	$68,476	$155,470	$110,837	$97,863	$127,484	$1,311,366	$3,041,740

($ in thousands)

FY 2019	FY 2020 - FY 2029 Disbursement Plan											Lifetime
Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Budget
$2,210	$6,869	$9,631	$7,535	$4,170	$5,392	$4,660	$4,201	$4,306	$6,869	$5,057	$58,690	$122,404

City Street Catch Basin

Stormwater Overflow

Potomac River

Overview

Stormwater runoff occurs when rain or snowmelt flows over impervious surfaces or surfaces that do not allow water to soak into the ground such as roads, driveways, sidewalks, parking lots, and buildings. The District is required to meet certain regulatory requirements in managing its separate stormwater system under the District's Municipal Separate Storm Sewer System (MS4) permit issued by the federal government.

The stormwater system has about 575 miles of storm sewer pipes and 16,000 manholes, about 15,000 catch basins and inlets, and other 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 – This category includes several projects for investigation, design and rehabilitation of local sewers to relieve local flooding and to address short term needs for improvements to storm sewers located in the separate and combined sewer areas.

On-Going – These include storm sewer rehabilitation projects carried out by DC Water's Department of Sewer Services. These annual projects also provide funding to assist in immediate storm sewer construction to alleviate flooding.

Pumping Facilities – DC Water's 16 stormwater pump 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 upgrade all 16 of these stormwater pump stations to replace aging equipment and improve reliability, safety, and code compliance.

DDOT – The annual program of stormwater infrastructure projects are coordinated with street rehabilitation or other construction work performed by the DDOT. In an effort to ease public disruption and save paving costs, DC Water coordinates its activities with those by 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 stormwater system. It also provides engineering services for condition assessment of 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. As the assessment of the storm sewer system progresses and specific rehabilitation needs are identified, jobs will be created under this program area to remediate system problems.

ACCOMPLISHMENTS

- Construction continued for the rehabilitation and improvement of the Watts Branch Storm Sewer Phase 3
- Design is complete, and construction bidding is pending for rehabilitation of the Kenilworth and 1st and D Stormwater Pump Stations
- Construction was completed for full station re-build of 14th Street Bridge Stormwater Pump Station
- Design is underway for rehabilitation of the 12th and Maine Street SW, and Portland Street Storm-water Pump Stations
- An evaluation of hydraulic capacity requirements and pump sizing; redundant power needs, includ-ing utility power and backup generators, is underway for all 16 Stormwater Pump Stations
- Partial rehabilitation and emergency repairs have been completed at 1st and Canal, 9th and D, 1st and D, and 23rd and Virginia stormwater pump stations
- SCADA control system upgrades are planned for all 16 stormwater pumping stations. Recent up-grades have been completed at 14th Street Bridge, 23rd and Virginia, and 9th and D stormwater pump-ing stations. This work is partially funded by a grand from FEMA

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Stormwater Pumping Stations Rehabilitation – This project implements the highest priority rehabilitation or upgrades, addresses issues related to health and safety and station reliability, and will reduce maintenance needs.

($ in thousands)

LOCAL DRAINAGE	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
GY Storm Sewer Rehabilitation at Various Location	2013	Ongoing	$0	$12	$22	$667	$411	$15	$0	$0	$0	$0	$0	$1,127	$5,908	2024
IE Storm Sewer Rehabilitation 3	2020	Ongoing	$0	$0	$0	$21	$183	$1,252	$1,868	$770	$0	$0	$0	$4,094	$4,817	2026
RR Local Storm Sewer Rehabilitation	2025	Ongoing	$0	$0	$0	$0	$0	$0	$80	$394	$1,792	$1,970	$1,709	$5,945	$7,300	2030
TOTAL LOCAL DRAINAGE BUDGETS			**$0**	**$12**	**$22**	**$688**	**$594**	**$1,267**	**$1,948**	**$1,164**	**$1,792**	**$1,970**	**$1,709**	**$11,166**	**$18,025**	

ON-GOING	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
FN FY2017 - DSS Stormwater Projects	2017	Closed	$43	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,000	2019
H5 FY2018 - DSS Stormwater Projects	2018	Closed	$701	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$791	2021
HM FY2019 - DSS Stormwater Projects	2019	Ongoing	$150	$608	$52	$0	$0	$0	$0	$0	$0	$0	$0	$660	$794	2021
JH FY2020 - DSS Stormwater Projects	2020	Ongoing	$0	$403	$351	$0	$0	$0	$0	$0	$0	$0	$0	$754	$820	2021
LO FY2021 - DSS Stormwater Projects	2021	Ongoing	$0	$0	$228	$522	$0	$0	$0	$0	$0	$0	$0	$750	$845	2022
M8 FY2022 - DSS Stormwater Projects	2022	Ongoing	$0	$0	$0	$587	$233	$0	$0	$0	$0	$0	$0	$820	$820	2023
MG FY2023 - DSS Stormwater Projects	2023	Ongoing	$0	$0	$0	$0	$604	$240	$0	$0	$0	$0	$0	$844	$845	2024
NV FY2024 - DSS Stormwater Projects	2024	Ongoing	$0	$0	$0	$0	$0	$626	$245	$0	$0	$0	$0	$871	$870	2025
PI FY2025 - DSS Stormwater Projects	2025	Ongoing	$0	$0	$0	$0	$0	$0	$281	$615	$0	$0	$0	$896	$896	2026
QA FY2026 - DSS Stormwater Projects	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$260	$571	$0	$0	$831	$923	2027
T7 FY2028 - DSS Stormwater Projects	2028	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$501	$380	$881	$979	2029
T9 FY2027 - DSS Stormwater Projects	2027	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$272	$583	$0	$855	$950	2028
U6 FY2029 DSS Stormwater Project	2029	New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$907	$907	$1,008	2029
TOTAL ON-GOING BUDGETS			**$893**	**$1,011**	**$631**	**$1,109**	**$837**	**$866**	**$526**	**$875**	**$843**	**$1,084**	**$1,287**	**$9,069**	**$11,540**	

PUMPING FACILITIES	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
NG Stormwater Pumping Station Rehabilatation	2017	Ongoing	$1,283	$5,310	$8,392	$4,923	$2,259	$2,854	$1,865	$1,698	$1,353	$3,430	$1,755	$33,839	$61,204	2033
TOTAL PUMPING FACILITIES BUDGETS			**$1,283**	**$5,310**	**$8,392**	**$4,923**	**$2,259**	**$2,854**	**$1,865**	**$1,698**	**$1,353**	**$3,430**	**$1,755**	**$33,839**	**$61,204**	

DDOT	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
H4 FY 2018 - DDOT Stormwater Projects	2020	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,017	2020
HP FY 2019 - DDOT Stormwater Projects	2020	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$220	2022
TOTAL DDOT BUDGETS			**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,237**	

($ in thousands)

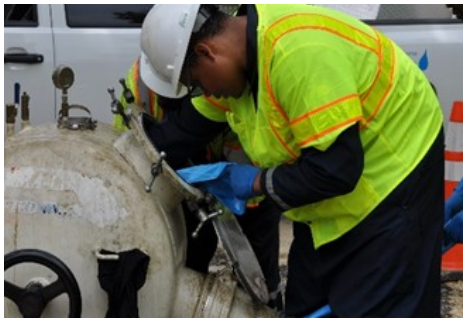
RESEARCH & PROGRAM MANAGEMENT	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
AT Stormwater Program Management	2001	Ongoing	$33	$410	$445	$582	$367	$405	$302	$228	$0	$0	$0	$2,739	$11,389	2026
RQ Storm Water Program Management	2025	Ongoing	$0	$0	$0	$0	$0	$0	$19	$236	$318	$385	$306	$1,264	$1,500	2030
TOTAL RESEARCH & PROGRAM MANAGEMENT BUDGETS			**$33**	**$410**	**$445**	**$582**	**$367**	**$405**	**$321**	**$464**	**$318**	**$385**	**$306**	$4,003	**$12,889**	

TRUNK/FORCE SEWERS	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
BO Future Stormwater Projects	2005	Ongoing	$1	$126	$141	$233	$113	$0	$0	$0	$0	$0	$0	$613	$15,510	2023
TOTAL TRUNK/FORCE SEWERS BUDGETS			**$1**	**$126**	**$141**	**$233**	**$113**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	$613	**$15,510**	

TOTAL STORMWATER BUDGETS	$2,210	$6,869	$9,631	$7,535	$4,170	$5,392	$4,660	$4,201	$4,306	$6,869	$5,057	$58,690	$122,404	

($ in thousands)

FY 2019	FY 2020 - FY 2029 Disbursement Plan											Lifetime
Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Budget
$36,224	$44,933	$63,926	$115,541	$88,110	$91,562	$138,341	$159,814	$176,789	$175,873	$174,032	$1,228,922	$2,094,934



Sewer Line Rehabilitation Perma-liner

Catch Basin

Linear Pipe Restoration

Overview

DC Water is responsible for wastewater collection in the District of Columbia, including operation and maintenance of the sanitary sewer system. The sewer system includes approximately 720 miles of sanitary sewers, 6,000 manholes, and nine wastewater pumping stations. DC Water is also responsible for sewer lateral connections from the sewer mains to the property lines of residential, government, and commercial properties. In addition, DC Water is responsible for the 50-mile long Potomac Interceptor System, which provides conveyance of wastewater from Dulles International Airport, and areas in Virginia and Maryland, to the Blue Plains AWWTP.

PROGRAM AREAS

Collection Sewers – Projects to rehabilitate sanitary sewer pipes based on the findings of inspection and assessment conducted on these assets.

On-Going – Urgent projects managed by the Department of Sewer Services including the replacement of sewer laterals, sewer mains, inspection and cleaning of sewer laterals and mains.

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

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

Interceptor/Trunk Force Sewers – The rehabilitation of large diameter sewers that have reached the end of their useful life or are in need of major rebuild or refurbishment.

ACCOMPLISHMENTS

- Completed procurement of design-build contractor for the rehabilitation of Potomac Interceptor between MH31 and MH30. Notice to Proceed is anticipated to be issued in Spring 2020
- Completed the concept design report for the Potomac Interceptor Phase 4 Pipe Rehab at Fairfax and Loudoun Counties
- Completed the concept design report for the Potomac Interceptor Rehab Phase 6 at Clara Barton and I-495
- Developed a risk and prioritization model for sewer assets using InfoAsset Planner, an asset management software
- G100 Lining and Repair of Local Sewers was completed
- The National Arboretum Sewer Rehabilitation was completed
- Construction of 2 doghouse manholes under Federal Highway Administration (FHWA) Beach Drive Rehabilitation project was completed
- Completed start-up and training for new seal water system for Potomac Pumping Station
- Completed start-up of new automatic control system for pumps at Main Pumping Station
- Vibration evaluation for Potomac Pumping Station was completed
- Completed control strategy revisions for Main Pumping Station
- Completed the condition assessment for the Rehab of Gate Structure 5A, 5B 5C & Poplar Point Pump Station Junction
- Completed installation of new screen at East Side Pump Station
- Started the planning and pre-design of the Major Sewer Rehab 1-5 Northeast Boundary Trunk Sewer
- Continued design on the following projects:
    - Creekbed Sewer Rehabilitation Glover Park
    - Creekbed Sewer Rehabilitation Soapstone Valley
    - Creekbed Sewer Rehabilitation Foundry Branch
    - Creekbed Sewer Rehabilitation Fort Stanton Park, Irving & Suitland
    - Potomac Interceptor Phase 1 Pipe Rehab at Clara Barton Parkway

- Continued construction on the following projects:
    - Low Area Trunk Sewer Rehabilitation
    - Sewer Rehabilitation 4
    - Creekbed Sewer Rehabilitation Rock Creek Oregon Avenue.
    - B Street/New Jersey Avenue Trunk Sewer Rehabilitation

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Pump Stations – The new seal water system, automatic control systems, vibration evaluation, and other upgrades will ensure proper operations of these pumping stations.

Ongoing and Local Sewer Rehabilitation – Renewal of small diameter sewer infrastructure will reduce emergency repair and maintenance demands for these neighborhood sewers.

Major Sewer Rehabilitation – Renewal of major sewers will reduce emergency repair and maintenance demands for these sewers.

($ in thousands)

COLLECTION SEWERS		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
G1	Small Local Sewer Rehabilatation 1	2010	Ongoing	$2,970	$1,152	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,152	$29,128	2023
GA	Small Local Sewer Rehabilatation 4	2014	Ongoing	$300	$535	$0	$0	$0	$0	$0	$0	$0	$0	$0	$535	$9,062	2020
J3	Sewer Upgrade - City Wide	2000	Ongoing	$1,315	$1,045	$515	$1,978	$0	$0	$0	$0	$0	$0	$0	$3,538	$18,315	2022
JX	Sanitary Sewer Rehabilitation 10	2016	Ongoing	$0	$15	$20	$2,173	$7,075	$2,401	$0	$0	$0	$0	$0	$11,684	$13,604	2024
QS	Local Sewer Rehabilitation 5	2020	Ongoing	$0	$39	$636	$843	$7,433	$14,239	$13,467	$6,095	$0	$0	$0	$42,752	$45,004	2026
QT	Local Sewer Rehabilitation 6	2024	Ongoing	$0	$0	$0	$0	$0	$841	$4,379	$21,435	$24,840	$8,398	$0	$59,893	$63,846	2028
QU	Local Sewer Rehabilitation 7	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$906	$4,909	$23,847	$29,282	$58,944	$71,964	2030
QW	Local Sewer Rehabilitation 8	2028	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$968	$4,428	$5,396	$119,100	2036
QX	Local Sewer Assessment 1	2020	Ongoing	$0	$1,827	$1,963	$1,870	$1,795	$0	$0	$0	$0	$0	$0	$7,455	$8,264	2023
QY	Local Sewer Rehabilitation 2	2022	Ongoing	$0	$0	$0	$1,700	$1,706	$3,904	$3,500	$3,690	$0	$0	$0	$14,500	$16,553	2026
QZ	Local Sewer Assessment 3	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$11	$4,094	$4,106	$4,094	$12,305	$17,200	2030
RG	Local Sewer Rehabilitation 9	2024	Ongoing	$0	$0	$0	$0	$0	$2,927	$11,694	$20,786	$16,902	$9,452	$3,239	$65,000	$70,000	2029
T4	District Energy Buzzard Point	2021	New	$0	$0	$5,000	$25,000	$0	$0	$0	$0	$0	$0	$0	$30,000	$30,000	2021
RZ	Sanitary Collections Sewers FY27-FY29	2026	New	$0	$0	$0	$0	$0	$0	$0	$0	$18,000	$19,000	$20,000	$57,000	$57,000	2029
TOTAL COLLECTION SEWERS BUDGETS				**$4,584**	**$4,613**	**$8,134**	**$33,564**	**$18,009**	**$24,312**	**$33,040**	**$52,923**	**$68,745**	**$65,771**	**$61,043**	**$370,154**	**$569,040**	

ON-GOING		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
D6	FY2014 - DSS Sanitary Sewer Projects	2014	Closed	$17	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,585	2018
DI	FY2015 - DSS Sanitary Sewer Projects	2014	Ongoing	$116	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2023
DW	FY2016 - DSS Sanitary Sewer Projects	2015	Closed	$455	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,940	2019
FP	FY2017 - DSS Sanitary Sewer Projects	2017	Closed	$890	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,918	2020
H6	FY2018 - DSS Sanitary Sewer Projects	2018	Ongoing	$7,962	$381	$0	$0	$0	$0	$0	$0	$0	$0	$0	$381	$11,923	2021
HN	FY2019 - DSS Sanitary Sewer Projects	2019	Ongoing	$1,943	$5,014	$262	$0	$0	$0	$0	$0	$0	$0	$0	$5,276	$12,200	2021
JI	FY2020 - DSS Sanitary Sewer Projects	2020	Ongoing	$0	$6,625	$1,780	$0	$0	$0	$0	$0	$0	$0	$0	$8,405	$12,568	2021
LN	FY2021 - DSS Sanitary Sewer Projects	2021	Ongoing	$0	$0	$10,278	$7	$0	$0	$0	$0	$0	$0	$0	$10,285	$12,945	2022
M9	FY2022 - DSS Sanitary Sewer Projects	2021	Ongoing	$0	$0	$7	$13,705	$0	$0	$0	$0	$0	$0	$0	$13,712	$13,335	2022
MF	FY2023 - DSS Sanitary Sewer Projects	2023	Ongoing	$0	$0	$0	$0	$13,667	$0	$0	$0	$0	$0	$0	$13,667	$13,735	2023
NW	FY2024 - DSS Sanitary Sewer Projects	2024	Ongoing	$0	$0	$0	$0	$0	$14,185	$0	$0	$0	$0	$0	$14,185	$14,225	2024
OX	FY2025 - DSS Sanitary Sewer Projects	2024	Ongoing	$0	$0	$0	$0	$0	$0	$15,002	$0	$0	$0	$0	$15,002	$14,650	2025
PZ	FY2026 - DSS Sanitary Sewer Projects	2025	Ongoing	$0	$0	$0	$0	$0	$0	$17	$15,236	$0	$0	$0	$15,253	$15,090	2026
Q3	FY2003 - DSS Sanitary Sewer Projects	2003	Ongoing	$3	$80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$80	$12,784	2020
T6	FY2028 - DSS Sanitary Sewer Projects	2027	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$9	$15,304	$0	$15,312	$16,020	2028
T8	FY2027 - DSS Sanitary Sewer Projects	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$17	$15,103	$0	$0	$15,120	$15,550	2027
U7	FY2029 DSS Sewer Sanitary Project	2028	New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9	$14,842	$14,851	$16,501	2029
TOTAL ON-GOING BUDGETS				**$11,385**	**$12,099**	**$12,327**	**$13,711**	**$13,667**	**$14,185**	**$15,019**	**$15,253**	**$15,111**	**$15,312**	**$14,842**	**$141,529**	**$217,969**	

($ in thousands)

PUMPING FACILITIES	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
CX Sewer Facilities Security Upgrades	2010	Ongoing	$191	$81	$36	$32	$0	$0	$0	$0	$0	$0	$0	$149	$1,417	2023
GZ Sewer Instrumentation & Control	2012	Ongoing	$0	$1,324	$23	$0	$0	$0	$0	$0	$0	$0	$0	$1,347	$9,141	2021
LY Sewer Facilities Security Upgrades	2020	Ongoing	$0	$21	$86	$116	$58	$19	$0	$0	$0	$0	$0	$300	$2,000	2024
MB 3rd Street & Constitution Ave NW - Pumping Station	2014	Ongoing	$0	$0	$0	$1,424	$2,633	$415	$0	$0	$0	$0	$0	$4,472	$7,501	2024
MC Additional Sewer SCADA System Sites	2015	Ongoing	$328	$617	$1,858	$1,734	$680	$0	$0	$0	$0	$0	$0	$4,889	$8,099	2023
PM East Side Pumping Station	2019	Ongoing	$406	$161	$388	$1,359	$1,381	$0	$0	$0	$0	$0	$0	$3,289	$4,000	2023
PT Existing Sewer Facilities Building Optimization	2020	Ongoing	$0	$15	$33	$104	$433	$52	$0	$0	$0	$0	$0	$637	$705	2024
RH Sewer Pump Stations Upgrades	2020	Ongoing	$0	$351	$3,570	$1,039	$1,212	$0	$0	$0	$0	$0	$0	$6,172	$8,644	2023
RS Sewer Pump Station Upgrades 2	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$3,879	$5,029	$19,044	$25,383	$53,335	$150,720	2032
RT Sewer Pump Station Upgrades 3	2027	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$2,599	$8,688	$8,245	$19,533	$42,600	2035
RU Sewer Pump Station Upgrades - Pumps & VFDs	2022	Ongoing	$0	$0	$0	$1,117	$1,842	$4,582	$10,468	$7,760	$4,305	$0	$0	$30,074	$35,950	2027
TOTAL PUMPING FACILITIES BUDGETS			**$926**	**$2,570**	**$5,995**	**$6,924**	**$8,240**	**$5,068**	**$10,468**	**$11,639**	**$11,933**	**$27,732**	**$33,628**	**$124,196**	**$270,778**	

PROGRAM MANAGEMENT	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
AU Sanitary Sewer Program Management	2001	Ongoing	$1,994	$2,137	$3,890	$4,036	$4,374	$3,278	$2,470	$0	$0	$0	$0	$20,185	$65,441	2025
DN Sewer Inspection Program	2010	Ongoing	$611	$1,866	$1,427	$2,853	$633	$635	$633	$596	$596	$389	$326	$9,955	$27,809	2030
LR Sanitary Sewer Asset Management	2014	Ongoing	$9	$147	$147	$125	$125	$0	$0	$0	$0	$0	$0	$544	$5,000	2024
QH Sanitary Sewer Program Management FY26-30	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$2,578	$3,304	$3,675	$4,010	$13,566	$20,800	2031
TOTAL PROGRAM MANAGEMENT BUDGETS			**$2,614**	**$4,150**	**$5,464**	**$7,014**	**$5,132**	**$3,913**	**$3,103**	**$3,174**	**$3,900**	**$4,064**	**$4,335**	**$44,250**	**$119,050**	

($ in thousands)

	INTERCEPTOR/TRUNK FORCE	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
A4	Future Sewer System Upgrades	2004	Ongoing	$3,710	$1,851	$653	$3,034	$805	$0	$0	$0	$0	$0	$0	$6,343	$45,813	2025
DM	Upper Anacostia Main Interceptor Relief Sewer	2010	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$493	2029
DR	Low Area Trunk Sewer Rehabilitation	2007	Ongoing	$4,375	$4,459	$134	$0	$0	$0	$0	$0	$0	$0	$0	$4,593	$22,714	2021
FW	Rehab Piney Branch Trunk Sewer	2011	Ongoing	$0	$71	$244	$2,897	$5,163	$2,376	$0	$0	$0	$0	$0	$10,751	$16,027	2025
FY	Rehab Upstream Rock Creek Main Interceptor	2013	Ongoing	$4	$78	$7	$0	$0	$0	$0	$0	$0	$0	$0	$85	$2,515	2030
G2	Sewer Structure Rehabilitation 1	2010	Ongoing	$0	$19	$76	$245	$1,372	$347	$0	$0	$0	$0	$0	$2,059	$9,225	2024
G4	Upper Potomac Intercept Sewer Rehabilitation	2001	Closed	$852	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,852	2024
G5	Sewer Rehab Near Creek Beds	2010	Ongoing	$150	$1,385	$1,755	$6,860	$6,206	$11,951	$13,918	$4,910	$119	$324	$1,198	$48,626	$74,251	2030
G6	Sanitary Sewers Under Buildings 1	2010	Ongoing	$0	$31	$96	$1,691	$952	$0	$0	$0	$0	$0	$0	$2,770	$6,805	2023
GH	Large Sewer Rehabilitation 3	2012	Ongoing	$0	$641	$3,058	$9,698	$4,076	$0	$0	$0	$0	$0	$0	$17,473	$24,332	2023
HS	Rehabilitation of Influent Sewers	2022	Ongoing	$0	$0	$0	$1,104	$676	$234	$208	$517	$1,995	$5,853	$18,764	$29,351	$37,430	2030
HT	Rehabilitation of Anacostia Force Main	2012	Ongoing	$246	$364	$142	$0	$0	$0	$0	$89	$333	$210	$354	$1,492	$11,360	2032
IF	Sanitary Sewer Rehabilitation 2	2015	Ongoing	$0	$102	$9	$0	$0	$0	$0	$0	$0	$0	$0	$111	$1,594	2021
IK	Potomac Force Main Rehabilitation	2012	Ongoing	$0	$473	$251	$0	$34	$167	$140	$210	$384	$1,726	$1,115	$4,500	$6,127	2029
IL	Creekbed Sewer Rehabilitation 2	2013	Ongoing	$3,104	$1,954	$1,509	$1,154	$868	$4,444	$4,127	$4,212	$977	$200	$0	$19,445	$54,482	2032
IM	Creekbed Sewer Rehabilitation 3	2013	Ongoing	$0	$0	$56	$269	$309	$330	$928	$4,058	$4,966	$193	$318	$11,427	$20,697	2031
IN	Upper East Side Trunk Sewer Rehabilitation	2012	Ongoing	$0	$0	$0	$382	$726	$494	$1,067	$4,012	$10,360	$0	$0	$17,041	$19,044	2027
J0	B Street New Jersey Avenue Trunk Sewer Rehab	2004	Ongoing	$2,752	$3,810	$531	$0	$0	$0	$0	$0	$0	$0	$0	$4,341	$17,825	2021
LZ	Potomac Interceptor Projects - Rehab. Phase 2	2015	Ongoing	$1,408	$5,749	$19,360	$19,577	$15,273	$12,958	$23,283	$20,851	$15,085	$9,055	$3,607	$144,798	$161,678	2029
N7	Potomac Sewer System Rehabilitation	2000	Ongoing	$16	$3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3	$48,383	2023
PJ	Re-Activation of Anacostia Force Main/Gravity Main as Relief to Ana	2018	Ongoing	$0	$381	$159	$195	$830	$1,860	$10,260	$4,564	$0	$0	$0	$18,249	$20,001	2026
RA	Major Sewer Assessment and Heavy Cleaning 1	2021	Ongoing	$0	$0	$2,389	$2,413	$2,398	$2,308	$2,992	$123	$0	$0	$0	$12,623	$15,800	2026
RB	Major Sewer Assessment and Heavy Cleaning 2	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$4,027	$4,200	$4,200	$173	$12,600	$14,100	2029
RC	Major Sewer Rehabilitation 1	2020	Ongoing	$0	$130	$1,075	$4,206	$2,974	$5,083	$9,055	$9,394	$783	$141	$700	$33,541	$73,298	2034
RD	Major Sewer Rehabilitation 2	2021	Ongoing	$0	$0	$501	$603	$401	$1,022	$7,356	$12,790	$17,459	$13,043	$2,585	$55,759	$73,129	2029
RE	Major Sewer Rehabilitation 3	2024	Ongoing	$0	$0	$0	$0	$0	$510	$3,376	$7,069	$20,439	$23,966	$14,680	$70,040	$88,255	2031
RJ	Creekbed Sewer Rehabilitation 4	2028	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,082	$10,259	$14,341	$22,000	2030
RL	Potomac Interceptor Projects - Rehab Phase 3	2029	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,431	$6,431	$22,500	2032
TOTAL INTERCEPTOR/TRUNK FORCE SEWER BUDGETS				**$16,715**	**$21,501**	**$32,006**	**$54,327**	**$43,062**	**$44,084**	**$76,710**	**$76,826**	**$77,100**	**$62,993**	**$60,184**	$548,794	**$918,096**	

($ in thousands)

FY 2019	FY 2020 - FY 2029 Disbursement Plan											Lifetime
Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Budget
$45,310	$62,163	$88,677	$108,878	$109,000	$92,905	$101,765	$116,319	$146,791	$154,916	$154,697	$1,136,112	$2,273,813

St. Elizabeth Water Tower

30 Inch Water Main

Water Meter Installation

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 responsible for treating the drinking water. DC Water purchases water from the Aqueduct and is responsible for maintaining the distribution system that delivers drinking water to customers. DC Water distributes drinking water through 1,320 miles of pipes to more than 700,000 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 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 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.

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 EPA. 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 hundreds of 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 system program area is the largest program for the water service area and includes three primary elements: small diameter water main renewal, large diameter water main rehabilitation, and DDOT project relocation needs.

Lead Program – The lead service line replacement includes the replacement of lead service liens in public and private right of way with copper piping. The replacement continues throughout the water distribution system as part of water main renewal projects, emergency repairs of water service lines, and for customers that request full replacement as part of the Voluntary Lead Service Replacement (LSR) Program.

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

Pumping Facilities – Rehabilitate or upgrade water-pumping stations in the system. All four water pump stations have completed major upgrades within the last fifteen years, and only minor projects are anticipated for the near future.

Storage Facilities – Rehabilitation or upgrade of elevated tanks and reservoirs. Studies to the system have identified the need for upgrades and/or new storage facilities to support changing development patterns, for regulatory compliance, to provide additional water pressure to certain areas of the District, and to provide redundant service during unplanned outages.

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.

Program Management – Provides engineering program management services for the drinking water system capital improvements program, including asset management, developing facilities plans, advancement of the smart infrastructure program, conceptual designs, design scopes of work, cost estimates, and design document review.

ACCOMPLISHMENTS

- The water service area continues to install small diameter water mains to meet the DC Water Board goal of renewing 1 percent of the system annually. This renewal includes a combination of replacement with new water mains to reduce water quality degradation from tuberculation, reduce the likelihood of water main breaks and increase the service life the small diameter water mains.
- DC Water continues its Pipe Condition Assessment (PCA) of large diameter water mains. The assessments include detailed field inspection and leak detection of high-risk water transmission mains. Recommendations for rehabilitation result in targeted capital projects to address the identified pipe sections in need of replacements or refurbishments.
- The new St. Elizabeth Water Tower and associated work, completed late in FY 2018, had continuing elements in FY 2019 to provide improved fire protection for the neighborhoods around Congress Heights.
- Extensive coordination occurred with the South Capitol Street Bridge project to relocate water mains and protect critical transmission mains. System improvements to mitigate risk during construction began and were completed in FY 2019. Similar work will continue on for two more years.

OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

Water Mains – During FY 2019, the Authority continued renewal of small diameter water pipes with the goal of 1% annual renewal. Large water main rehabilitation projects continued with two projects using internal structural repair techniques on the existing transmission system, and began specific planning for two more projects. The capital expenditures for linear water asset renewal yields reduced reactive maintenance due to breaks and other unscheduled repairs, particularly helpful in reducing long-term maintenance costs.

Water Pumping and Storage – One major reservoir upgrade project had construction start in FY 2019 with the purpose of maintaining regulatory compliance as well as for operational improvements. We are continuing with minor pump station upgrades and improvements to operational procedures which serve to reduce maintenance costs and avoid the need for major upgrades later.

($ in thousands)

DISTRICTION SYSTEMS		Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
C9	Large Diameter Water Mains 1	2014	Ongoing	$3,113	$4,262	$73	$171	$2,596	$1,320	$0	$0	$0	$0	$0	$8,422	$19,785	2024
DE	Small Diameter Water Main Rehabilitation 12	2014	Ongoing	$4,697	$5,703	$4,110	$3,959	$3,115	$0	$0	$0	$0	$0	$0	$16,888	$48,375	2023
FI	Small Diameter Water Main Rehabilitation 13	2014	Ongoing	$31	$6,737	$19,863	$1,719	$0	$0	$0	$0	$0	$0	$0	$28,319	$41,070	2022
F2	Small Diameter Water Main Rehabilitation 14	2017	Ongoing	$674	$1,586	$23,846	$8,476	$5,763	$994	$0	$0	$0	$0	$0	$40,664	$57,778	2024
F6	Steel Water Main Rehabilitation - Rehabilitation 1	2009	Ongoing	$0	$135	$239	$4,091	$866	$0	$0	$0	$0	$0	$0	$5,331	$12,139	2023
FE	20 Low Service Main & Pressure Reducing Valve	2012	Ongoing	$252	$8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8	$8,534	2020
FT	Water Mains Rehabilitation Phase II	2014	Ongoing	$895	$3,561	$5,297	$4,237	$5,619	$4,098	$1,543	$211	$0	$0	$0	$24,567	$35,556	2026
GQ	Fire Hydrant Replacement Program - Phase II	2010	Ongoing	$1,380	$922	$41	$6	$2	$0	$0	$0	$0	$0	$0	$971	$28,516	2026
GR	Small Diameter Water Main Rehabilitation 15	2018	Ongoing	$0	$1,976	$5,552	$25,711	$4,418	$0	$0	$0	$0	$0	$0	$37,658	$52,000	2023
HX	Small Diameter Water Main Rehabilitation 16	2018	Ongoing	$0	$497	$663	$9,576	$19,038	$4,798	$0	$0	$0	$0	$0	$34,573	$52,000	2024
I8	Large Valve Replacement (Contract 11-13)	2012	Ongoing	$835	$466	$0	$0	$0	$0	$0	$0	$0	$0	$0	$466	$19,614	2020
JZ	Large Diameter Water Main Replacement 3 - 4 & 5	2021	Ongoing	$0	$0	$479	$1,922	$7,641	$15,967	$18,294	$11,252	$2,362	$0	$0	$57,917	$81,320	2027
K7	Large Diameter Water Main Replacement 6 - 7 & 8	2024	Ongoing	$0	$0	$0	$0	$0	$465	$1,973	$8,374	$17,386	$21,287	$13,945	$63,428	$89,140	2030
K8	Large Diameter Water Main Replacement 9 - 10 & 11	2027	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$397	$1,803	$8,079	$10,279	$76,400	2033
KE	Small Diameter Water Main Rehabilitation 18	2020	Ongoing	$0	$0	$234	$937	$13,181	$11,738	$0	$0	$0	$0	$0	$26,090	$46,340	2025
KF	Small Diameter Water Main Rehabilitation 19	2022	Ongoing	$0	$0	$0	$297	$1,590	$16,702	$20,668	$4,856	$0	$0	$0	$44,113	$59,950	2026
KG	Small Diameter Water Main Rehabilitation 20	2023	Ongoing	$0	$0	$0	$0	$230	$1,427	$18,060	$19,880	$5,064	$113	$0	$44,774	$61,100	2028
KH	Small Diameter Water Main Rehabilitation 21	2024	Ongoing	$0	$0	$0	$0	$0	$228	$1,522	$17,103	$19,995	$5,736	$113	$44,696	$63,300	2029
KI	Small Diameter Water Main Rehabilitation 22	2025	Ongoing	$0	$0	$0	$0	$0	$0	$245	$1,471	$17,970	$23,693	$5,988	$49,368	$64,520	2030
KJ	Small Diameter Water Main Rehabilitation 23	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$230	$1,503	$21,051	$24,478	$47,263	$66,780	2031
KK	Small Diameter Water Main Rehabilitation 24	2027	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$230	$1,729	$21,446	$23,405	$68,080	2032
KL	Small Diameter Water Main Rehab 25	2028	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,238	$3,184	$10,422	$76,750	2032
MV	Small Diameter Water Main Rehabilitation 3	2006	Ongoing	$0	$41	$62	$1,331	$562	$0	$0	$0	$0	$0	$0	$1,996	$15,677	2023
O1	Small Diameter Water Main Rehabilitation 9	2012	Ongoing	$1,955	$2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2	$26,170	2020
O2	Small Diameter Water Main Rehabilitation 10	2013	Ongoing	$2,328	$3,143	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,143	$38,292	2021
O3	Small Diameter Water Main Rehabilitation 11	2014	Ongoing	$6,219	$4,193	$5	$0	$0	$0	$0	$0	$0	$0	$0	$4,199	$41,496	2021
QF	District Metering	2022	Ongoing	$0	$0	$0	$172	$452	$805	$1,188	$1,317	$1,167	$945	$572	$6,618	$9,930	2031
S3	Large Valve Replacement (Contract 3-7)	1999	Ongoing	$0	$640	$0	$0	$0	$0	$0	$0	$0	$0	$0	$640	$23,181	2022
U5	WSSC Interconnection Project	2023	New	$0	$0	$0	$0	$18	$111	$881	$656	$0	$0	$0	$1,665	$2,460	2026
KM	Small Diameter Water Main Rehab 26	2029	New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,326	$8,326	$58,700	2033
RY	Small Diameter Water Main FY27-FY29	2026	New	$0	$0	$0	$0	$0	$0	$0	$0	$33,000	$34,000	$35,000	$102,000	$102,000	2029
TOTAL DISTRIBUTION SYSTEMS BUDGETS				**$22,378**	**$33,872**	**$60,464**	**$62,606**	**$65,093**	**$58,654**	**$64,372**	**$65,350**	**$99,075**	**$117,595**	**$121,131**	$748,211	**$1,446,953**	

($ in thousands)

LEAD PROGRAM	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
BW	2003	Ongoing	$4,099	$4,711	$5,408	$5,387	$5,456	$5,627	$5,719	$5,496	$5,744	$5,877	$5,692	$55,117	$243,504	2038
TOTAL LEAD PROGRAM BUDGETS			**$4,099**	**$4,711**	**$5,408**	**$5,387**	**$5,456**	**$5,627**	**$5,719**	**$5,496**	**$5,744**	**$5,877**	**$5,692**	**$55,117**	**$243,504**	

ON-GOING	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
D5 FY 2014 - DWS Water Projects	2014	Ongoing	$117	$201	$0	$0	$0	$0	$0	$0	$0	$0	$0	$201	$10,248	2020
DY FY 2016 - DWS Water Projects	2016	Ongoing	$111	$2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2	$10,330	2020
FK FY2017 - DWS Water Projects	2016	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,568	2021
GS FY 2018 - DWS Water Projects	2018	Closed	$4,505	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,704	2021
HY FY 2019 - DWS Water Projects	2019	Ongoing	$3,560	$3,344	$30	$0	$0	$0	$0	$0	$0	$0	$0	$3,375	$9,631	2021
JA FY 2020 - DWS Water Projects	2020	Ongoing	$0	$5,524	$1,057	$0	$0	$0	$0	$0	$0	$0	$0	$6,581	$15,070	2021
KW FY 2021 - DWS Water Projects	2021	Ongoing	$0	$0	$9,118	$35	$0	$0	$0	$0	$0	$0	$0	$9,153	$11,630	2022
KX FY 2022 - DWS Water Projects	2022	Ongoing	$0	$0	$0	$10,290	$34	$0	$0	$0	$0	$0	$0	$10,324	$11,664	2023
KY FY 2023 - DWS Water Projects	2023	Ongoing	$0	$0	$0	$0	$11,158	$35	$0	$0	$0	$0	$0	$11,193	$13,150	2024
KZ FY 2024 - DWS Water Projects	2024	Ongoing	$0	$0	$0	$0	$0	$12,754	$38	$0	$0	$0	$0	$12,792	$14,452	2025
L1 FY 2025 - DWS Water Projects	2025	Ongoing	$0	$0	$0	$0	$0	$0	$13,902	$32	$0	$0	$0	$13,934	$14,780	2026
L2 FY 2026 - DWS Water Projects	2026	Ongoing	$0	$0	$0	$0	$0	$0	$0	$15,398	$0	$0	$0	$15,398	$15,890	2026
L6 FY 2027 - DWS Water Projects	2027	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$17,120	$0	$0	$17,120	$18,250	2027
L7 FY2028 - DWS Water Projects	2028	Ongoing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$19,145	$0	$19,145	$19,575	2028
QJ DDCS Water Pumping and Storage Projects FY19-21	2020	Ongoing	$0	$1,460	$870	$0	$0	$0	$0	$0	$0	$0	$0	$2,330	$3,000	2021
QK DDCS Water Pumping and Storage Projects FY22-28	2022	Ongoing	$0	$0	$0	$1,973	$2,159	$2,411	$2,849	$3,153	$3,327	$3,836	$0	$19,706	$19,040	2028
L8 FY2029 - DWS Water Projects	2029	New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23,506	$23,506	$12,990	2030
TOTAL ON-GOING BUDGETS			**$8,293**	**$10,532**	**$11,075**	**$12,297**	**$13,351**	**$15,199**	**$16,789**	**$18,583**	**$20,447**	**$22,981**	**$23,506**	**$164,761**	**$217,972**	

PUMPING FACILITIES	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
AY Upgrades to Fort Reno Pumping Station	2002	Ongoing	$3	$764	$252	$100	$0	$0	$0	$0	$0	$0	$0	$1,116	$14,041	2022
FD Water Facility Security System Upgrades	2010	Ongoing	$64	$46	$30	$0	$0	$0	$0	$0	$0	$0	$0	$76	$2,132	2021
FH Discharge Piping Bryant Street Pumping Station	2009	Closed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,720	2020
HI Bryant Street Pump Station Phase III	2023	Ongoing	$0	$0	$0	$0	$304	$475	$1,652	$3,279	$0	$0	$0	$5,710	$6,620	2026
HR Anacostia Pump Station Improvements Phase II	2023	Ongoing	$0	$0	$0	$0	$160	$190	$788	$2,837	$105	$0	$0	$4,080	$4,700	2027
HV Bryant Street Pump Station - Spill Header Flow Control	2013	Ongoing	$0	$20	$294	$2,838	$2,426	$141	$0	$0	$0	$0	$0	$5,719	$7,845	2024
JB Bryant Street PS Improvements - Phase II	2012	Ongoing	$234	$319	$1,116	$4,758	$227	$0	$0	$0	$0	$0	$0	$6,420	$12,178	2023
LT Water System SCADA	2014	Ongoing	$173	$376	$958	$3,482	$1,529	$0	$0	$0	$0	$0	$0	$6,345	$8,364	2023
LU Water Facilities Security System Upgrades 2	2016	Ongoing	$0	$0	$0	$125	$392	$606	$390	$266	$0	$0	$0	$1,779	$2,000	2026
OR Fort Reno Pump Station Improvements Phase II	2024	Ongoing	$0	$0	$0	$0	$0	$36	$262	$344	$3,338	$1,608	$0	$5,588	$6,430	2028
OW Water System Sensor Program (WaSSP)	2022	Ongoing	$0	$0	$0	$720	$719	$721	$720	$720	$720	$720	$0	$5,040	$5,600	2028
PS Existing Water Facilities Building Optimization	2022	Ongoing	$0	$0	$0	$142	$458	$0	$0	$0	$0	$0	$0	$600	$695	2023
S6 West Venturi Meter - Bryant Street Pumping Station	2022	Ongoing	$0	$0	$0	$4	$69	$398	$406	$0	$0	$0	$0	$877	$1,020	2025
TOTAL PUMPING FACILITIES BUDGETS			**$473**	**$1,525**	**$2,650**	**$12,169**	**$6,284**	**$2,567**	**$4,218**	**$7,446**	**$4,163**	**$2,328**	**$0**	**$43,350**	**$85,344**	

($ in thousands)

DDOT	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
B0 B0 FY 2010 - DDOT Water Projects	2010	Ongoing	$18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,171	2021
BN FY 2011 - DDOT Water Projects	2011	Ongoing	$150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,738	2021
CJ FY 2012 - DDOT Water Projects	2008	Ongoing	$33	$752	$8	$8	$0	$0	$0	$0	$0	$0	$0	$768	$6,474	2022
CM FY 2013 - DDOT Water Projects	2012	Ongoing	$122	$969	$2	$0	$0	$0	$0	$0	$0	$0	$0	$971	$1,549	2021
TOTAL DDOT BUDGETS			**$324**	**$1,721**	**$10**	**$8**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	$1,739	**$33,933**	

STORAGE FACILITIES	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
FA Water Storage Facility Upgrades	2009	Ongoing	$1,029	$3,977	$2,938	$2,721	$337	$0	$0	$0	$0	$0	$0	$9,973	$37,383	2023
HW Rehabilitation of Elevated Water Tanks	2021	Ongoing	$0	$0	$145	$422	$1,043	$2,547	$1,567	$637	$0	$0	$0	$6,361	$7,000	2026
MA Saint Elizabeth Water Tank	2002	Ongoing	$4,104	$2,037	$784	$5,329	$4,914	$0	$0	$0	$0	$0	$0	$13,064	$47,055	2023
MQ 2MG 4th High Storage Tank	2004	Ongoing	$89	$202	$65	$248	$336	$1,117	$1,512	$1,725	$732	$0	$0	$5,937	$9,720	2027
MR 2nd High Water Storage	2009	Ongoing	$76	$0	$0	$72	$96	$626	$1,287	$6,495	$4,324	$0	$0	$12,900	$17,034	2027
QG Anacostia First and Second High Storage	2019	Ongoing	$0	$0	$386	$1,607	$7,237	$1,320	$417	$2,411	$3,695	$0	$0	$17,073	$19,171	2027
RX Water Storage Facility Upgrades Phase II	2026	New	$0	$0	$0	$0	$0	$0	$0	$66	$234	$694	$1,360	$2,354	$17,800	2036
TOTAL STORAGE FACILITIES BUDGETS			**$5,298**	**$6,216**	**$4,318**	**$10,399**	**$13,963**	**$5,610**	**$4,783**	**$11,334**	**$8,985**	**$694**	**$1,360**	$67,662	**$155,164**	

PROGRAM MANAGEMENT	Start	Status	FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	Lifetime Budget	Completion
KV Water Program Management Services 2F	2020	Ongoing	$0	$2,356	$3,585	$5,001	$4,498	$3,086	$730	$0	$0	$0	$0	$19,256	$30,610	2025
LB Water Program Management Services 2G	2024	Ongoing	$0	$0	$0	$0	$0	$2,161	$5,154	$8,110	$8,376	$5,441	$3,008	$32,250	$35,480	2029
LQ Water Service Area Asset Management	2013	Ongoing	$8	$129	$126	$126	$126	$0	$0	$0	$0	$0	$0	$507	$5,000	2023
ME Water System Program Management Services	1999	Ongoing	$4,437	$1,102	$1,041	$885	$230	$1	$0	$0	$0	$0	$0	$3,259	$19,854	2024
TOTAL PROGRAM MANAGEMENT BUDGETS			**$4,445**	**$3,587**	**$4,752**	**$6,012**	**$4,854**	**$5,248**	**$5,884**	**$8,110**	**$8,376**	**$5,441**	**$3,008**	$55,272	**$90,944**	

TOTAL WATER BUDGETS	$45,310	$62,163	$88,677	$108,878	$109,000	$92,905	$101,765	$116,319	$146,791	$154,916	$154,697	$1,136,112	$2,273,813

($ in thousands)

	FY 2019 Actual	FY 2020 - FY 2029 Disbursement Plan											Lifetime Budget
		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total	
CAPITAL EQUIPMENT	$21,367	$31,703	$37,207	$33,790	$32,315	$33,000	$33,000	$33,000	$33,000	$33,000	$33,000	$333,015	$333,015
WASHINGTON AQUEDUCT	$10,847	$15,515	$16,266	$18,572	$37,841	$12,699	$33,875	$9,508	$12,863	$24,068	$13,971	$195,178	$195,178
ADDITIONAL CAPITAL PROGRAMS	$32,215	$47,218	$53,473	$52,362	$70,156	$45,699	$66,875	$42,508	$45,863	$57,068	$46,971	$528,193	$528,193

Sink Hole Rehabilitation

Mobile Command Center

Meter Replacement Program

Overview

Additional Capital Programs is a subset of DC Water's Capital Improvement Program (CIP) and is comprised of Capital Equipment and the Washington Aqueduct.

Capital Equipment – This category accounts for over 60% of the Additional Capital Programs budget and includes capital equipment purchases, refurbishment, replacement and enhancement of operational facilities, vehicle equipment, office renovations, mechanical equipment, and Information Technology (IT) software/hardware needs. The current capital equipment disbursement budget includes the following cluster groups:

- ***Administration*** – Capital equipment within this cluster are primarily for the departments of Emergency Management, Facilities Management, Fleet Management, Security, and Safety. The activities/purchases include, plumbing, elevators, photocopiers, appliances, furniture, vehicles, buses, vacuum trucks, boats, backhoes, cranes, trailers, forklifts, fire suppression system equipment, renovations, cameras, and sensors.
- ***Customer Experience*** – The cluster is comprised of the following departments: Customer Care, and Information Technology (IT). The Customer Care activities/purchases support the enhancements, replacements, and upgrades of residential and commercial water meters. The IT activities are for equipment purchases for infrastructure and enterprise projects which include: laptops, cabling, radios, servers, telephones, and software applications.
- ***Finance and Procurement*** – This cluster includes the departments of Finance, and Procurement & Compliance. The activities/purchases are primarily for reserve funds to support additional capital equipment needs for new facilities, unplanned emergencies, and capital equipment requiring long-lead times.

- ***Operations & Engineering*** **–** This cluster is comprised of Wastewater Operations, Water Operations, Sewer Operations, and Engineering. The capital equipment activities/purchases support work attributable to rehabilitation, replacement, and continuous improvements or enhancements for pumps, screens, large motors, centrifuges, process control systems, actuators, flow meters, and Supervisory Control and Data Acquisition (SCADA) hardware. In addition, it includes the purchases of pipes/fittings, manhole covers/frames, sewer cameras, generators, and various other equipment for the plant, distribution and collection systems.

Washington Aqueduct **–** The Washington Aqueduct, managed by the U.S. Army Corps of Engineers (USACE), provides wholesale water treatment services to DC Water and wholesale customers in Northern Virginia, (Arlington County and Fairfax County Water Authority). DC Water purchases approximately 74 percent of the water produced by the Aqueduct's two treatment facilities, the Dalecarlia and McMillan Treatment Plants, and thus is responsible for approximately 74 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 inherited a much greater role in oversight of the Aqueduct's operations and its Capital Improvement Program, than prior to 1997.

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.

DC Water's share of Washington Aqueduct's infrastructure improvements to achieve established service levels for FY 2020 – FY 2029 is $195.2 million. The increased investments of $8.1 million funds Washington Aqueduct's risk-based asset management CIP, except the following projects: Federally Owned Water Mains, Travilah Quarry Acquisition Outfitting, and Advanced Treatment.

Additional Capital Programs

($ in thousands)

CAPITAL EQUIPMENT		FY 2019 Actual	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Yr Total
OPERATIONS & ENGINEERING													
WASTEWATER OPERATIONS													
EQP4710	Wastewater Operations	$24	$100	$100	$100	$100	-	-	-	-	-	-	$400
EQP4730	Wastewater Process Engineering	$484	$350	$425	$425	$425	-	-	-	-	-	-	$1,625
EQP4830	Maintenance Services	$1,295	$3,120	$3,920	$4,040	$4,190	-	-	-	-	-	-	$15,270
EQP4210	Pumping Services	$1,981	$1,650	$1,900	$1,950	$2,000	-	-	-	-	-	-	$7,500
	Subtotal	$3,784	$5,220	$6,345	$6,515	$6,715	-	-	-	-	-	-	$24,795
WATER OPERATIONS													
EQP4410	Water Operations	$71	$735	$800	$800	$900	-	-	-	-	-	-	$3,235
	Subtotal	$71	$735	$800	$800	$900	-	-	-	-	-	-	$3,235
SEWAGE OPERATIONS													
EQP4610	Sewer Operations	$171	$260	$235	$235	$235	-	-	-	-	-	-	$965
	Subtotal	$171	$260	$235	$235	$235	-	-	-	-	-	-	$965
ENGINEERING													
EQP4310	Engineering & Technical Services	-	$20	$492	$25	$25	-	-	-	-	-	-	$562
	Subtotal	-	$20	$492	$25	$25	-	-	-	-	-	-	$562
FINANCE & PROCUREMENT													
FINANCE													
EQP2410	Finance, Accounting & Budget	$27	$10	$10	$10	$10	-	-	-	-	-	-	$40
EQP2411	Reserve Fund	-	$3,000	$5,600	$8,000	$9,000	$30,070	$30,070	$30,070	$30,070	$30,070	$30,070	$206,020
EQP2412	HQO	$1,710	-	-	-	-	-	-	-	-	-	-	$0
	Subtotal	$1,737	$3,010	$5,610	$8,010	$9,010	$30,070	$30,070	$30,070	$30,070	$30,070	$30,070	$206,060
CUSTOMER EXPERIENCE													
CUSTOMER CARE													
EQP2340	AMR Replacement	$2,837	$2,880	-	-	-	-	-	-	-	-	-	$2,880
EQP2350	On-Going Replacement	$1,173	$2,618	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$28,988
	Subtotal	$4,010	$5,498	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$2,930	$31,868
INFORMATION TECHNOLOGY													
EQP2110	IT Infrastructure	$3,429	$2,640	$2,600	$3,000	$2,600	-	-	-	-	-	-	$10,840
EQP2115	IT Enterprise Technology	$2,942	$8,540	$9,450	$3,875	$3,500	-	-	-	-	-	-	$25,365
	Subtotal	$6,371	$11,180	$12,050	$6,875	$6,100	-	-	-	-	-	-	$36,205
ADMINISTRATION													
EQP3410	Facilities Management	$1,880	$1,805	$1,845	$1,700	$1,700	-	-	-	-	-	-	$7,050
EQP3610	Security	$559	$515	$850	$650	$650	-	-	-	-	-	-	$2,665
EQP3810	Emergency Management	-	-	$50	$50	$50	-	-	-	-	-	-	$150
EQP5610	Fleet Management	$2,784	$3,460	$6,000	$6,000	$4,000	-	-	-	-	-	-	$19,460
	Subtotal	$5,224	$5,780	$8,745	$8,400	$6,400	-	-	-	-	-	-	$29,325
TOTAL CAPITAL EQUIPMENT		$21,367	$31,703	$37,207	$33,790	$32,315	$33,000	$33,000	$33,000	$33,000	$33,000	$33,000	$333,015
WASHINGTON AQUEDUCT		$10,847	$15,515	$16,266	$18,572	$37,841	$12,699	$33,875	$9,508	$12,863	$24,068	$13,971	$195,178
TOTAL ADDITIONAL CAPITAL PROGRAMS		$32,215	$47,218	$53,473	$52,362	$70,156	$45,699	$66,875	$42,508	$45,863	$57,068	$46,971	$528,193

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