

# SANITARY SEWER

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Note: Projects with a \$0 total funding are active capital projects funded in prior CIPs that do not require additional resources.

	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2023 - FY 2032
<b>Sanitary Sewers</b>												
AlexRenew Wastewater Treatment Plant Capacity	-	-	-	-	2,400,000	-	-	-	-	-	-	2,400,000
Citywide Sewershed Infiltration & Inflow	19,896,715	-	-	-	-	-	-	-	-	-	-	-
Combined Sewer Assessment & Rehabilitation	11,505,000	-	4,130,000	-	-	-	-	-	-	-	-	4,130,000
Combined Sewer Wet Weather Mitigation	-	1,500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	10,500,000
Holmes Run Trunk Sewer	9,002,000	-	-	-	-	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Reconstructions & Extensions of Sanitary Sewers	17,100,452	-	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	8,100,000
Sanitary Sewer Asset Renewal Program	5,750,000	4,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	36,000,000
Sanitary Sewer Stream Crossing Protection	-	1,125,000	-	4,132,700	-	140,700	-	149,300	-	158,400	-	5,706,100
Sanitary Sewer Wet Weather Mitigation	-	3,000,000	1,500,000	1,500,000	1,000,000	1,000,000	500,000	500,000	500,000	500,000	500,000	10,500,000
Sanitary Sewers Total	63,254,167	10,125,000	11,030,000	11,032,700	8,800,000	6,540,700	5,900,000	6,049,300	5,900,000	6,058,400	5,900,000	77,336,100
<b>Grand Total</b>	<b>63,254,167</b>	<b>10,125,000</b>	<b>11,030,000</b>	<b>11,032,700</b>	<b>8,800,000</b>	<b>6,540,700</b>	<b>5,900,000</b>	<b>6,049,300</b>	<b>5,900,000</b>	<b>6,058,400</b>	<b>5,900,000</b>	<b>77,336,100</b>

Significant Project Changes in the Sanitary Sewers Section

This year’s Capital Improvement Program (CIP) underwent significant changes for a variety of reasons. A major driver was the need to accommodate several new projects, and commitments to funding, while keeping the General Fund transfer to the CIP consistent and staying within City debt limits. This means funding for projects in other categories had to be decreased or removed.

Projects with increased funding in this CIP section total \$28.8 million, while \$900,000 in reductions were made. Therefore, this section had a net increase of \$27.9 million, or +64 percent of the Approved FY 2022 – FY 2031 funding level. Note, these comparisons do not include Fiscal Years 2022 or 2032 funding. This section is unique from some others because investments are predominantly funded by the Sanitary Sewer Fund and fee-backed GO Bonds.

The below chart highlights any project funding that increased or decreased by more than 15%, or \$1 million.

CIP Subsection	CIP Doc Title	TOTAL FY 2023 - 2032	Amount	Percentage
			Changed Since FY22 Approved CIP*	Changed Since FY22 Approved CIP
Sanitary Sewers	Sanitary Sewer Wet Weather Mitigation	10,500,000	10,000,000	100.0%
Sanitary Sewers	Combined Sewer Wet Weather Mitigation	10,500,000	9,500,000	100.0%
Sanitary Sewers	Sanitary Sewer Stream Crossing Protection	5,706,100	5,706,100	100.0%
Sanitary Sewers	AlexRenew Wastewater Treatment Plant Capacity	2,400,000	2,400,000	100.0%
Sanitary Sewers	Sanitary Sewer Asset Renewal Program	36,000,000	1,000,000	3.2%
Sanitary Sewers	Reconstructions & Extensions of Sanitary Sewers	8,100,000	(900,000)	(11.1%)

\*This dollar amount was calculated by comparing FY 2023 – 2031 funding levels of the FY 2022 Approved CIP and this FY 2023 Proposed CIP. Since the FY 2022 Approved CIP did not have FY 2032 funding designations, that FY was removed from these calculations.

## ALEXRENEW WASTEWATER TREATMENT PLANT CAPACITY

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: 1500 Eisenhower Ave.  
 REPORTING AREA: Southwest Quadrant

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 3  
 ESTIMATE USEFUL LIFE: 21 - 25 Years

AlexRenew Wastewater Treatment Plant Capacity													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>2,400,000</b>	-	-	-	-	<b>2,400,000</b>	-	-	-	-	-	-	<b>2,400,000</b>
Financing Plan													
Sanitary Sewer Fund	2,400,000	-	-	-	-	2,400,000	-	-	-	-	-	-	2,400,000
<b>Financing Plan Total</b>	<b>2,400,000</b>	-	-	-	-	<b>2,400,000</b>	-	-	-	-	-	-	<b>2,400,000</b>
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

### CHANGES FROM PRIOR YEAR CIP

Funding added in FY 2026 to complete a feasibility study and planning level engineering for project.

### PROJECT DESCRIPTION & JUSTIFICATION

This project will include a feasibility study and planning level engineering to be performed jointly between the City and AlexRenew, to determine whether the existing AlexRenew facility can be expanded to treat an additional 4 million gallons per day (MGD). A total of \$2.4 million is included in FY 2026 to complete the feasibility study and planning level engineering. It is not anticipated that the City will reach its existing treatment capacity until after Year 2040, construction of additional wastewater treatment capacity will not be needed until after 2030. It is anticipated that the total cost of the project will be significant.

As a part of the City’s 2013 Sanitary Sewer Master Plan (Master Plan) and in anticipation of future growth, it was recommended that the City seek an additional 4 MGD of wastewater treatment capacity at Alexandria Renew Enterprises (AlexRenew). This future treatment capacity was added to the FY 2014 - 2023 CIP. In 2017, state legislation was passed that required the City to accelerate the mitigation of the impacts of combined sewer overflows (CSO). Following the 2017 CSO legislation, the City transferred ownership of the combined sewer outfalls to AlexRenew. AlexRenew is currently in the preliminary design phases of its RiverRenew initiative, which will include significant construction and new facilities in order to convey combined sewer flows to the AlexRenew facility for treatment. This infrastructure, which is estimated to cost approximately \$613 million, must be constructed and operational by July 1, 2025 to comply with the 2017 CSO legislation. With the construction of RiverRenew, the City and AlexRenew will need to reassess options for additional wastewater treatment.

### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Sanitary Sewer Master Plan

### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

## CAPITAL SUPPORT OF CSO MITIGATION PROJECTS

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide  
 REPORTING AREA: Citywide

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 1  
 ESTIMATE USEFUL LIFE: Varies

Capital Support of CSO Mitigation Projects													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

### CHANGES FROM PRIOR YEAR CIP

No changes from prior CIP.

### PROJECT DESCRIPTION & JUSTIFICATION

As part of legislation passed by the 2017 Virginia General Assembly, the City has been required to accelerate its efforts to address combined sewer discharges from all four outfalls in the City. The bill mandated combined sewer overflow (CSO) mitigation and construction at all outfalls be completed no later than July 1, 2025.

In order to meet this very aggressive mandated schedule for completion of the project, an agreement was reached with AlexRenew on May 1, 2018 that transferred the ownership of the CSO outfalls, along with the responsibility for construction and financing of future infrastructure to meet the timeline mandated by the General Assembly, to AlexRenew. AlexRenew, established as the Alexandria Sanitation Authority, is a City created, rate payer funded, public body that owns and operates the large interceptors, pump stations and wastewater treatment facility in the City. The outfall transfer between the City and AlexRenew was finalized at the June 23, 2018 City Council Public Hearing.

AlexRenew is currently in the design phase of the project, which is currently estimated at \$613 million (total program cost). AlexRenew will be funding the project through issuance of rate-payer funded revenue bonds, along with funding provided by the State.

Although AlexRenew has taken ownership of the CSO's and responsibility for the outfall mitigation projects outlined in the LTCPU, the City is still responsible for supporting AlexRenew's efforts to complete these mitigation projects on the schedule set by the General Assembly. This funding provides support for the CSO mitigation efforts, including coordination on development special use permits and other City permits, inspection and monitoring during the construction phase, stakeholder coordination, public meetings and City Council updates, data collection, historical records research and other associated work associated with regulatory review and oversight.

#### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Sanitary Sewer Master Plan

#### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

## COMBINED SEWER ASSESSMENT & REHABILITATION

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Old Town CSO Area  
 REPORTING AREA: Old Town

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 3  
 ESTIMATE USEFUL LIFE: 30+ Years

Combined Sewer Assessment & Rehabilitation													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>15,635,000</b>	<b>11,505,000</b>	-	<b>4,130,000</b>	-	-	-	-	-	-	-	-	<b>4,130,000</b>
Financing Plan													
GO Bonds (Stormwater)	6,505,000	6,505,000	-	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer Fund	7,630,000	3,500,000	-	4,130,000	-	-	-	-	-	-	-	-	4,130,000
Stormwater Utility Fund	1,500,000	1,500,000	-	-	-	-	-	-	-	-	-	-	-
<b>Financing Plan Total</b>	<b>15,635,000</b>	<b>11,505,000</b>	-	<b>4,130,000</b>	-	-	-	-	-	-	-	-	<b>4,130,000</b>
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

### CHANGES FROM PRIOR YEAR CIP

FY 2023 funding pushed back to FY 2024 and funding increased by \$213,000 to account for increased construction costs.

### PROJECT DESCRIPTION & JUSTIFICATION

This project provides for the condition assessment of sewers in the combined sewer service area in Old Town and remediation of structurally deficient sewers.

The City will perform condition assessments including cleaning and televising lines, assessing information to determine condition of lines, and determining if rehabilitation is needed. Structurally deficient sewers will be identified, and the results of the field work will be evaluated to develop remediation projects which are expected to include the relining of sewers and manhole repairs. Project funding may be adjusted upon completion of the assessment period based on the condition of the sewers and need for rehabilitation.

In addition to the health and environmental benefits of this project, completion of this project will repair and renew the City's sewer infrastructure, extend the infrastructure's useful life, and reduce the number of pipe collapses and other emergency repairs.

The City is responsible for the ownership and maintenance of the sewers located in the combined sewer service area. The combined sewer outfalls are owned by Alexandria Renew Enterprises (AlexRenew). AlexRenew is also responsible for compliance with requirements of the combined sewer system permit issued by the Department of Environmental Quality and for complying with the legislation passed by the Virginia General Assembly in 2017, which requires that combined sewer discharges be mitigated to comply with the legislation by July 1, 2025. The City continues to work with AlexRenew to ensure this deadline is met.

### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

N/A

### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

## COMBINED SEWER WET WEATHER MITIGATION

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide  
 REPORTING AREA: Citywide

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 2  
 ESTIMATE USEFUL LIFE:

Combined Sewer Wet Weather Mitigation													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>10,500,000</b>	-	<b>1,500,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>10,500,000</b>
Financing Plan													
Sanitary Sewer Fund	9,000,000	-	-	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	9,000,000
Reprogrammed Project Balances (Sanita)	1,500,000	-	1,500,000	-	-	-	-	-	-	-	-	-	1,500,000
<b>Financing Plan Total</b>	<b>10,500,000</b>	-	<b>1,500,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>10,500,000</b>

### CHANGES FROM PRIOR YEAR CIP

New project added to FY 2023 - FY 2032 CIP.

### PROJECT DESCRIPTION & JUSTIFICATION

This project will fund the design, construction and construction management of a variety of sewer upsizing projects in combined sewer areas of the City where sewer backups and/or flooding have been documented to occur as a result of extreme wet weather. Currently, a number of areas are under study for potential wet weather mitigation within the combined sewer service area. These studies will evaluate existing system capacity, identify capacity deficiencies and then propose alternatives for capacity improvements. This project is intended to include both capacity improvement projects and combined sewer separation projects.

Projects where initial studies have been completed include the following:

- Nethergate community
- Pitt/Gibbon Streets

These studies have identified multiple alternatives to mitigate flooding and these alternatives are currently being evaluated further. Once an alternative (project) is selected, the project will move to detailed design and then construction. A number of other areas within the combined sewer system have initial studies underway and will be added to the CIP once those studies are completed and alternatives to mitigate flooding and sewer backups identified. Funding is provided for on an annual basis and funding adjustments may be needed each year based on the identification of future projects.

Completion of these projects will help to both reduce flooding and sewer backups that occur as a result of extreme wet weather events.

#### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

N/A

#### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

## HOLMES RUN TRUNK SEWER

DOCUMENT SUBSECTION: Sanitary Sewers	PROJECT LOCATION: AlexRenew Plant to the City/Fairfax Border
MANAGING DEPARTMENT: Department of Transportation and Environmental Services	REPORTING AREA: Landmark/Van Dorn
PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability	PROJECT CATEGORY: 3 ESTIMATE USEFUL LIFE: 30+ Years

Holmes Run Trunk Sewer													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>9,002,000</b>	<b>9,002,000</b>	-	-	-	-	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>
Financing Plan													
Cash Capital	500,000	500,000											
GO Bonds (Sanitary)	4,100,000	4,100,000	-	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer Fund	4,402,000	4,402,000	-	-	-	-	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>
<b>Financing Plan Total</b>	<b>9,002,000</b>	<b>9,002,000</b>	-	-	-	-	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

### CHANGES FROM PRIOR YEAR CIP

No change from prior CIP.

### PROJECT DESCRIPTION & JUSTIFICATION

This project provides for an increase in capacity in the Holmes Run Trunk Sewer (HRTS) line, which is owned and operated by Alexandria Renew Enterprises (AlexRenew). Both the City of Alexandria and Fairfax County send wastewater flows to this sewer and share in the capacity of this sewer. The City has a sanitary sewer Service Agreement with AlexRenew that provides for peak flow capacities in this sewer, as well as the other AlexRenew interceptor sewers.

Increased capacity is required to support development occurring in the Eisenhower Valley, as well as future development and redevelopment in the West End. In 2008, the western portion of the trunk sewer from I-395 to Cameron Run was lined for additional capacity. Additional follow-up engineering and analysis has determined further improvements are needed to address long term capacity issues.

Engineering analysis between the City, Fairfax County, and AlexRenew was completed in FY 2017 which evaluated capacity issues in the HRTS, and provided a recommendation to enlarge an existing parallel, Fairfax County Holmes Run Sewer so that flows from the AlexRenew HRTS could be diverted to this sewer. Enlargement of the Fairfax County Holmes Run Sewer are proposed from the City/County line to Cameron Run, where the Fairfax sewer discharges in the the AlexRenew HRTS. A subsequent study was completed in FY 2019 that confirms construction of this sewer will have sufficient capacity to serve the proposed growth as anticipated in the Eisenhower West Small Area Plan. This study also included analysis of the Fairfax County Backlick Sewers, located in the City, and concluded that no infrastructure improvements would be required. The timing of the capacity upgrades is anticipated sometime after 2025. Design of the capacity upgrades is anticipated to be completed in two years and construction in three years.

The FY 2019 study also identified portions of the HRTS in the East Eisenhower Valley where the City will eventually exceed its peak flow capacities as stated in the Service Agreement. Development forecasting and hydraulic modeling show that the City will not exceed its Service Agreement capacities in this section of the HRTS until after 2035. Capacity improvements in this section of the HRTS have not yet been determined.

A total of \$9.0 million from the sanitary sewer fund has been budgeted in prior fiscal years for this project. The City will coordinate with AlexRenew and Fairfax County regarding implementation of projects, along with cost sharing to resolve remaining capacity issues on the Holmes Run Trunk Sewer. Depending on the outcome of these discussions, additional funding may be required in future years for both design and construction.

Completion of this project will improve the City’s sanitary sewer infrastructure, which will help mitigate any potential sanitary sewer overflows during periods of wet weather. Additionally, the project will improve the City’s readiness for accommodating quality economic growth.

#### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Sanitary Sewer Master Plan

#### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.



## RECONSTRUCTIONS & EXTENSIONS OF SANITARY SEWERS

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide  
 REPORTING AREA: Citywide

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 1  
 ESTIMATE USEFUL LIFE: 30+ Years

Reconstructions & Extensions of Sanitary Sewers													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>25,200,452</b>	<b>17,100,452</b>	-	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>8,100,000</b>
Financing Plan													
Cash Capital	2,146,105	2,146,105	-	-	-	-	-	-	-	-	-	-	-
GO Bond Interest Earnings	250,000	250,000	-	-	-	-	-	-	-	-	-	-	-
GO Bonds (Sanitary)	3,473,708	3,473,708	-	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer Fund	19,330,639	11,230,639	-	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	8,100,000
<b>Financing Plan Total</b>	<b>25,200,452</b>	<b>17,100,452</b>	-	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>900,000</b>	<b>8,100,000</b>
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

### CHANGES FROM PRIOR YEAR CIP

Project funding removed from FY 2023; funding added for FY 2032.

### PROJECT DESCRIPTION & JUSTIFICATION

This project provides for the construction of new sewer mains, the replacement and rehabilitation of old sewer lines as needed, repairs to City streets disturbed by sewer line repairs, and reconstruction and funds for the City's share of the cost of sewer extensions required for development.

Prior year balances, along with annual funding will be utilized to fund multiple projects in this request. Some projects are in early planning stages, while others are currently in design and construction. Obstacles to construction may include the moving of buried utility lines, such as power, water, and gas lines by the various utility owners that if not moved would interfere with the construction.

Projects currently under study/design and scheduled for construction in FY 2023 funding through prior year CIP dollars, include:

- N Saint Asaph Street/Madison Street Sewer Improvements
- Miscellaneous Sanitary Sewer Upsizing Projects

Completion of these projects improves the City's sanitary sewer infrastructure while reducing the frequency of unplanned repairs due to deferred maintenance.

### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Sanitary Sewer Master Plan

### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

## SANITARY SEWER ASSET RENEWAL PROGRAM

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide  
 REPORTING AREA: Citywide

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 2  
 ESTIMATE USEFUL LIFE: 30+ Years

Sanitary Sewer Asset Renewal Program													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>41,750,000</b>	<b>5,750,000</b>	<b>4,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>36,000,000</b>
Financing Plan													
GO Bonds (Sanitary)	1,250,000	1,250,000	-	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer Fund	40,500,000	4,500,000	4,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	36,000,000
<b>Financing Plan Total</b>	<b>41,750,000</b>	<b>5,750,000</b>	<b>4,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>36,000,000</b>
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

### CHANGES FROM PRIOR YEAR CIP

Funding increased from \$3.5 million to \$4.5 million in FY 2023; funding added for FY 2032.

### PROJECT DESCRIPTION & JUSTIFICATION

The City’s sanitary sewer system is comprised of over 240 miles of sewer line, some lines dating back over 100 years. This program provides for annual inspection, condition assessment, and rehabilitation of sanitary sewers, City-owned lateral sewers, and sewer appurtenances as part of an ongoing sewer asset management initiative.

This program provides for closed circuit television (CCTV) inspection of all sewers and City-owned laterals and visual inspection of all sewer appurtenances (manholes and other structures). Inspections will be performed with a goal of inspecting 10 percent of the system each year. The condition of all sewers and sewer appurtenances will be assessed using industry standards of cataloguing inspections and recommendations will be made as to which sewers and sewer appurtenances are vulnerable to breakage or collapse. Sewers and sewer appurtenances that are vulnerable will be rehabilitated primarily using trenchless technologies, which are significantly less costly than dig-and-replace repairs. A total of \$36 million is being budgeted for this program over the ten-year budget period. Funding in FY 2023 has been increased by \$1 million to accelerate implementation of the program.

Implementation of this project improves the City’s sanitary sewer infrastructure and extends the infrastructure’s useful life by reducing the potential of pipe collapse and other emergency repairs. Additionally, this project will help reduce the amount of infiltration and inflow (I&I) into the sanitary sewer system, which helps reduce the frequency and magnitude of sanitary sewer overflows and sewer back-ups into homes and businesses.

### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Sanitary Sewer Master Plan

### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

## SANITARY SEWER STREAM CROSSING PROTECTION

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide  
 REPORTING AREA: Citywide

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 2  
 ESTIMATE USEFUL LIFE:

Sanitary Sewer Stream Crossing Protection													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>5,706,100</b>	-	<b>1,125,000</b>	-	<b>4,132,700</b>	-	<b>140,700</b>	-	<b>149,300</b>	-	<b>158,400</b>	-	<b>5,706,100</b>
Financing Plan													
Sanitary Sewer Fund	5,706,100	-	1,125,000	-	4,132,700	-	140,700	-	149,300	-	158,400	-	5,706,100
<b>Financing Plan Total</b>	<b>5,706,100</b>	-	<b>1,125,000</b>	-	<b>4,132,700</b>	-	<b>140,700</b>	-	<b>149,300</b>	-	<b>158,400</b>	-	<b>5,706,100</b>

### CHANGES FROM PRIOR YEAR CIP

New project added to FY 2023 - FY 2032 CIP.

### PROJECT DESCRIPTION & JUSTIFICATION

This project will fund sanitary sewer inspections in stream areas, along with design, construction and construction management for those sanitary sewers at risk of breakage due to erosion of stream areas. In 2020, the City embarked on a project to inspect all sanitary sewers located in stream areas. These inspections included CCTV inspections of sanitary sewers, along with checking performing field inspections where each stream areas was walked to review the external condition of the sanitary sewer and sewer assets. A draft report was submitted in 2021 that provided an analysis of the likelihood and consequence of potential failure of the sanitary sewers and prioritized a list of sewer segments to be considered for enhanced protection.

The sanitary sewer determined most at-risk crosses Holmes Run just upstream of I-395. The pipe is exposed within the stream as the concrete armoring has become broken and cracked. The downstream sewer segment has also been undermined by erosive forces as well. It is recommended that these two sewer segments be replaced and encased. Funding in FY 2023 will be used for the design of this replacement project and FY 2024 funding will be used for construction. This project also provides for field inspections of these sewers every two years starting in FY 2023. The CIP may be updated in the future to include additional projects based on the results of these inspections.

### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

N/A

### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

## SANITARY SEWER WET WEATHER MITIGATION

DOCUMENT SUBSECTION: Sanitary Sewers  
 MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide  
 REPORTING AREA: Citywide

PRIMARY STRATEGIC THEME: Theme 8: Environmental Sustainability

PROJECT CATEGORY: 2  
 ESTIMATE USEFUL LIFE:

Sanitary Sewer Wet Weather Mitigation													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 2023 - FY 2032
<b>Expenditure Budget</b>	<b>10,500,000</b>	-	<b>3,000,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>10,500,000</b>
Financing Plan													
Sanitary Sewer Fund	7,500,000	-	-	1,500,000	1,500,000	1,000,000	1,000,000	500,000	500,000	500,000	500,000	500,000	7,500,000
Reprogrammed Project Balances (Sanita)	3,000,000	-	3,000,000	-	-	-	-	-	-	-	-	-	3,000,000
<b>Financing Plan Total</b>	<b>10,500,000</b>	-	<b>3,000,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>10,500,000</b>

### CHANGES FROM PRIOR YEAR CIP

New project added to FY 2023 - FY 2032 CIP.

### PROJECT DESCRIPTION & JUSTIFICATION

This project will fund the design, construction, and construction management of a variety of sanitary sewer upsizing projects in areas of the City where sewer backups have been documented to occur as a result of extreme wet weather. This project follows a study that was completed in 2021 which identified areas where sewer upsizing may be feasible in an effort to reduce the impacts of sanitary sewer backups. Survey data was collected for five of the identified areas and moved forward for design. Detailed design for 5 areas is currently ongoing and planned for construction in FY 2023:

- 300 block Ashby Street
- 500 block E Alexandria Avenue
- 000-100 block E Maple Avenue
- 200-300 block E Oak Street
- 100 block E Raymond Avenue

Completion of these projects will help to reduce the potential for sanitary sewer backups that occur as a result of extreme wet weather events. Funding is provided for on an annual basis and funding adjustments may be needed each year based on the identification of future projects.

#### EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

N/A

#### ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.