

# 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
Sanitary Sewers												
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 Approved CIP. Since the FY 2022 Approved CIP did not have FY 2032 funding designations, that FY was removed from these calculations.

Sanitary Sewers FY 2023 - FY 2032 10-Year Plan

Sanitary Sewer Rate	FY 2021 Approved	FY 2022 Approved	FY 2023 Approved	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 23-32
Sanitary Sewer Rate (\$ per 1,000 gallons)	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	
Proposed Rate Increase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
New Sanitary Sewer Rate	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28	

Revenues	FY 2021 Approved	FY 2022 Approved	FY 2023 Approved	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 23-32
Sewer Line Maintenance Fee	11,322,663	10,756,140	10,838,915	10,920,207	11,002,108	11,084,624	11,167,759	11,251,517	11,335,903	11,420,923	11,506,580	11,592,879	112,121,415
Sewer Connection Fee	4,000,000	6,000,000	6,180,000	6,365,400	6,556,362	6,753,053	6,955,644	7,164,314	7,379,243	7,600,620	7,828,639	8,063,498	70,846,774
New Debt Issuance	0	0	0	0	0	0	0	0	0	0	0	0	0
Fund Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Funds Reprogrammed from Other Projects*			4,500,000	0	0	0	0	0	0	0	0	0	4,500,000
Use of Fund Balance	36,749	5,889,496	1,222,068	6,110,000	6,040,000	3,550,000	1,250,000	700,000	910,000	720,000	690,000	590,000	21,782,068
<b>Total Revenues</b>	<b>15,359,412</b>	<b>22,645,636</b>	<b>22,740,983</b>	<b>23,395,607</b>	<b>23,598,470</b>	<b>21,387,677</b>	<b>19,373,403</b>	<b>19,115,831</b>	<b>19,625,147</b>	<b>19,741,543</b>	<b>20,025,219</b>	<b>20,246,377</b>	<b>209,250,258</b>

<b>All Operating</b>	7,783,270	8,923,358	9,898,270	9,809,276	10,035,379	10,267,066	10,503,353	10,746,256	10,995,793	11,251,982	11,517,840	11,790,387	106,815,603
<b>All Capital Projects</b>	4,898,020	11,253,000	11,024,000	11,971,000	12,020,700	9,837,000	7,629,700	7,043,000	7,249,300	7,160,000	7,381,400	7,289,000	88,605,100
<b>All Debt Service</b>	2,678,122	2,469,278	1,818,713	1,792,534	1,727,995	1,473,213	1,427,871	1,520,677	1,580,325	1,527,581	1,335,810	1,289,998	15,494,717
<b>Total Expenditures</b>	<b>15,359,412</b>	<b>22,645,636</b>	<b>22,740,983</b>	<b>23,572,810</b>	<b>23,784,074</b>	<b>21,577,279</b>	<b>19,560,924</b>	<b>19,309,933</b>	<b>19,825,418</b>	<b>19,939,563</b>	<b>20,235,050</b>	<b>20,369,385</b>	<b>210,915,420</b>

Operating Costs	FY 2021 Approved	FY 2022 Approved	FY 2023 Approved	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total FY 23-32
T&ES Personnel Charges (incl. Worker's Comp)	3,455,535	4,029,228	4,522,440	4,658,000	4,798,000	4,942,000	5,090,000	5,243,000	5,400,000	5,562,000	5,729,000	5,901,000	51,845,440
DEC Personnel Charges	48,300	44,838	48,168	50,000	52,000	54,000	56,000	58,000	60,000	62,000	64,000	66,000	570,168
Professional Services													
Additional Consulting Services	347,270	357,688	368,000	379,000	390,000	402,000	414,000	426,000	439,000	452,000	466,000	480,000	4,216,000
Leaf Collection in CSO Areas	247,453	130,000	136,010	140,000	144,000	148,000	152,000	157,000	162,000	167,000	172,000	177,000	1,555,010
Fat, Oil, Grease (FOG Program)	200,000	206,000	209,000	212,000	215,000	218,000	221,000	224,000	227,000	230,000	233,000	236,000	2,225,000
Sanitary Sewer Capacity Study - Flow Metering, Sewer Modeling, CMOM	463,500	470,453	780,688	478,000	485,000	492,000	499,000	506,000	514,000	522,000	530,000	538,000	5,344,688
Sewer Billing	170,000	172,550	190,000	193,000	196,000	199,000	202,000	205,000	208,000	211,000	214,000	217,000	2,035,000
Infrastructure Repairs													
Sewer Jet Cleaning	260,000	263,900	268,000	272,000	276,000	280,000	284,000	288,000	292,000	296,000	300,000	305,000	2,861,000
Annual CCTV of Sewers	325,000	329,000	334,000	339,000	344,000	349,000	354,000	359,000	364,000	369,000	375,000	381,000	3,568,000
Heavy Cleaning of Sewers	315,000	318,450	323,000	328,000	333,000	338,000	343,000	348,000	353,000	358,000	363,000	368,000	3,455,000
Equipment Replacement	66,800	553,975	633,392	643,000	653,000	663,000	673,000	683,000	693,000	703,000	714,000	725,000	6,783,392
Corrective Maintenance	150,800	152,800	155,000	157,000	159,000	161,000	163,000	165,000	167,000	170,000	173,000	176,000	1,646,000
Other Non-Personnel (Training, Utilities, Rentals, etc.)	232,150	262,875	275,025	279,000	283,000	287,000	291,000	295,000	299,000	303,000	308,000	313,000	2,933,025
Building Maintenance													
Rodent Abatement in Sewers	90,000	90,000	90,000	91,000	92,000	93,000	94,000	95,000	96,000	97,000	98,000	99,000	945,000
Indirect Costs (Tr to G.F.)	1,411,462	1,541,601	1,565,547	1,590,276	1,615,379	1,641,066	1,667,353	1,694,256	1,721,793	1,749,982	1,778,840	1,808,387	16,832,880
<b>Subtotal, Operating Costs</b>	<b>7,783,270</b>	<b>8,923,358</b>	<b>9,898,270</b>	<b>9,809,276</b>	<b>10,035,379</b>	<b>10,267,066</b>	<b>10,503,353</b>	<b>10,746,256</b>	<b>10,995,793</b>	<b>11,251,982</b>	<b>11,517,840</b>	<b>11,790,387</b>	<b>106,815,603</b>

Sanitary Sewers FY 2023 - FY 2032 10-Year Plan

<b>Capital Projects</b>	<b>FY 2021 Approved</b>	<b>FY 2022 Approved</b>	<b>FY 2023 Approved</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>FY 2030</b>	<b>FY 2031</b>	<b>FY 2032</b>	<b>Total FY 23-32</b>
Reconstruction and Extension of Sanitary Sewers	0	900,000	0	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	1,250,000	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
Combined Sewer Assessment and Rehab	2,805,000	5,000,000	0	4,130,000	0	0	0	0	0	0	0	0	4,130,000
AlexRenew WWTP Expansion	0	0	0	0	0	2,400,000	0	0	0	0	0	0	2,400,000
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
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
Sanitary Sewer Stream Crossing Protection			1,125,000	0	4,132,700		140,700		149,300		158,400		5,706,100
Capitalized DPI Positions	790,730	800,000	846,000	885,000	929,000	975,000	1,024,000	1,075,000	1,129,000	1,185,000	1,244,000	1,306,000	10,598,000
Capitalize Sustainability Coordinator	52,290	53,000	53,000	56,000	59,000	62,000	65,000	68,000	71,000	75,000	79,000	83,000	671,000
<i>Subtotal, Capital Projects</i>	<i>4,898,020</i>	<i>11,253,000</i>	<i>11,024,000</i>	<i>11,971,000</i>	<i>12,020,700</i>	<i>9,837,000</i>	<i>7,629,700</i>	<i>7,043,000</i>	<i>7,249,300</i>	<i>7,160,000</i>	<i>7,381,400</i>	<i>7,289,000</i>	<i>88,605,100</i>
<b>Debt Service</b>	<b>FY 2021 Approved</b>	<b>FY 2022 Approved</b>	<b>FY 2023 Proposed</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>FY 2030</b>	<b>FY 2031</b>	<b>FY 2032</b>	<b>Total FY 23-32</b>
<i>Debt Service Payments</i>	<i>2,678,122</i>	<i>2,469,278</i>	<i>1,818,713</i>	<i>1,792,534</i>	<i>1,727,995</i>	<i>1,473,213</i>	<i>1,427,871</i>	<i>1,520,677</i>	<i>1,580,325</i>	<i>1,527,581</i>	<i>1,335,810</i>	<i>1,289,998</i>	<i>15,494,717</i>
<b>Total Expenditures, All Categories</b>	<b>15,359,412</b>	<b>22,645,636</b>	<b>22,740,983</b>	<b>23,572,810</b>	<b>23,784,074</b>	<b>21,577,279</b>	<b>19,560,924</b>	<b>19,309,933</b>	<b>19,825,418</b>	<b>19,939,563</b>	<b>20,235,050</b>	<b>20,369,385</b>	<b>210,915,420</b>

## 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.

## 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.