

WATER PROGRAM

The Water Program is administered by the Water division of the Utilities Department. The program is designed to achieve five primary strategic objectives:

- 1) Replace and/or rehabilitate aging infrastructure;
- 2) Maintain or increase system reliability;
- 3) Improve system efficiency;
- 4) Address system growth; and
- 5) Regulatory compliance

The water utility continues to plan and invest in the future of the city by maximizing treatment capacity and ensuring facilities are in place to reliably provide water to current and future city residents. The Water Program is slated to improve and enhance the city's water supply, treatment and distribution systems, and provide for new construction and/or upgrades of the city's infrastructure such as pump stations, tanks, treatment facilities, and transmission and distribution water mains.

PRIOR YEAR ACCOMPLISHMENTS

Meter Upgrades (W-044)

Project has been completed.

24" Transmission Main Replacement (W-042)

Restructured the timeline for the project to better coincide with the road improvements being undertaken in Prince William County and the City limits. Phase 3B was tied in October 2016.

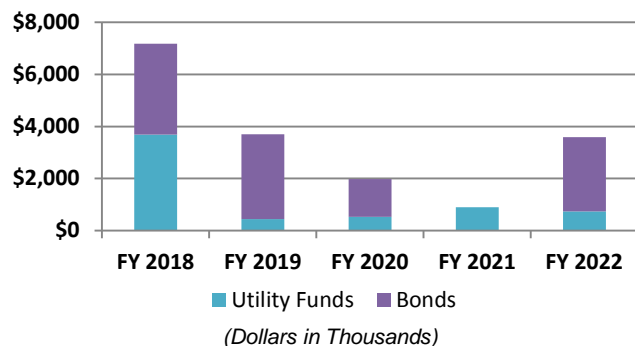
Finished Water Capacity Increases (W-047)

Wrapped up a capacity increase study for the water treatment plant where we can increase our capacity within the existing infrastructure.

THE FIVE-YEAR PLAN (FY 2018 – FY 2022)

The FY 2018 Adopted Five-Year Capital Improvement Program (CIP) includes \$6,280,000 in Enterprise Funds (Water Fund) and \$11,055,000 in Bonds.

In FY 2018 funding consists of a \$3,685,000 transfer from the Water Fund and \$3,500,000 in Bonds.



FY 2018 CAPITAL PROJECTS

24" Transmission Main Replacement (W-042)

Additional funding is programmed for the 24" Transmission Main Replacement. This project is estimated to be completed in FY 2025.



Finished Water Capacity Increases (W-047)

During FY 2018 the plant will be upgraded from 14 MGD to 15 MGD and minor water plant improvements will begin.

Main Replacement/Looping (W-050)

While no funding is programmed in FY 2018 for Main Replacement / Looping (W-050) it is important to note that water mains are still being upgraded during this time; this is being done in conjunction with roadway improvements and can be found in the Transportation Program. Additionally, using funds remaining from prior years, the water mains along Liberty Street, Windsor Avenue, and Richmond Avenue will be replaced.

Clear-Well Addition and Roof Renovation (W-065)

Critical upgrade needed for reliability – design to be performed in FY 2018 and construction to start the same year.

Interconnecting Meter Vaults (W-068)

Planning for future upgrades to meter vaults

Water Plant Improvements (W-026)

Rebuild of superpulsator vacuum chamber including piping & electrical systems; Upgrade of the master control center (MCC).

FY 2017 MAINTENANCE CAPITAL PROJECTS

There are no maintenance capital projects included in the FY 2018 Proposed CIP for the Water Program.

NEW PROJECTS

Water Plant Improvements (W-026)

SUMMARY OF WATER CAPITAL PROJECTS

(\$ in Thousands)

Cost Estimates:	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project	5-Year CIP
Planning	1,925	480	50	55	60	280	665	3,515	925
Land	-	1,020	-	-	-	-	-	1,020	1,020
Construction	9,179	5,685	3,645	1,920	835	3,305	7,335	31,904	15,390
Total Cost	11,104	7,185	3,695	1,975	895	3,585	8,000	36,439	17,335
Funding Sources:									
General Fund	-	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-	-
Water Fund	9,104	3,685	440	525	895	735	4,100	19,484	6,280
Electric Fund	-	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-	-
Bonds	2,000	3,500	3,255	1,450	-	2,850	3,900	16,955	11,055
State	-	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-	-
Total Funding	11,104	7,185	3,695	1,975	895	3,585	8,000	36,439	17,335
Operating Impacts:									
Revenue	-	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-	-
Program (Costs) Saving	-	-	-	-	-	-	-	-	-
Debt Service	-	-	(280)	(541)	(657)	(657)	(21,806)	(23,941)	(2,135)
Net Revenue	-	-	(280)	(541)	(657)	(657)	(21,806)	(23,941)	(2,135)

Program Highlights:

The FY 2018 Adopted Five-Year CIP includes \$17,335,000 for the Water Program, which reflects an increase of \$130,000 or 0.8% from the FY 2017 Adopted Five-Year CIP. Changes in the adopted CIP include the roll-off of funding for water main upgrades related to Prince William Street, the moving of Grant Avenue Improvements to the Transportation program since efforts are being driven by the transportation improvements, and an increase to costs for 24" Transmission Main Replacement of \$1.8 million.

WATER CAPITAL PROJECT LISTING

(\$ in Thousands)

Project Name	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project	5-Year CIP
24" Transmission Main	8,310	4,460	2,455	-	-	3,070	3,900	22,195	9,985
Finished Water Capacity	650	100	800	1,450	-	-	-	3,000	2,350
Main Replacement / Loo	2,094	-	440	475	495	515	2,900	6,919	1,925
Clear-Well Addition and	50	2,350	-	-	-	-	-	2,400	2,350
Nokesville Road Upgrad	-	-	-	-	-	-	1,000	1,000	-
Interconnecting Meter V	-	30	-	50	-	-	200	280	80
Water Plant Improvemen	-	245	-	-	400	-	-	645	645
Total	11,104	7,185	3,695	1,975	895	3,585	8,000	36,439	17,335

W-042 24" Transmission Main Replacement

Year Introduced: 2007
Change: Decreased Estimate
Associated Proj: T-042
Program Area: Water
Managing Dept: Utilities
Manager: T. Dawood
Plan Conformance:
 Comprehensive Plan 7.7

Est. Start: 7/1/2012
Est. Complete: 6/30/2025



Description:

Replace the existing 45-year old water transmission main with a 36" water transmission main in order to increase reliability and water transmission capacity from the Water Treatment Plant to the City. The main is approaching the ends of its useful life and experiences unacceptable hydraulic conditions during peak demand periods. Two phases have already been completed, one phase is in construction and half completed, three more phases are in design, and the last is being planned out. The project will be coordinated with both City roadway improvements and Prince William County roadway improvements.

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project
Planning	1,225	200	-	-	-	220	125	1,770
Land	-	1,020	-	-	-	-	-	1,020
Construction	7,085	3,240	2,455	-	-	2,850	3,775	19,405
Total Cost	8,310	4,460	2,455	-	-	3,070	3,900	22,195

Funding Sources: (\$ in 1,000s)

General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	6,310	960	-	-	-	220	-	7,490
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	2,000	3,500	2,455	-	-	2,850	3,900	14,705
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	8,310	4,460	2,455	-	-	3,070	3,900	22,195

Operating Impacts: (\$ in 1,000s)

Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	(280)	(477)	(477)	(477)	(18,630)	(20,341)
Net Revenue	-	-	(280)	(477)	(477)	(477)	(18,630)	(20,341)

W-047 Finished Water Capacity Increases

Year Introduced: 2009
Change: Timeline
Associated Proj: N/A
Program Area: Water
Managing Dept: Utilities
Manager: T. Dawood

Plan Conformance:
 Comprehensive Plan 7.7

Est. Start: 7/1/2013
Est. Complete: 6/30/2021



Description:

With inevitable growth in the City and increased water demands during the summer months, it is anticipated that additional capacity will be required in the future. The first phase will enable the Water Treatment Plant to increase permitted capacity rating from 14 million gallons per day (mgd) to 15 mgd. The second phase will be to increase to 18 mgd. The project will reduce reliance on Prince William County Service Authority interconnects.

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project
Planning	650	100	-	-	-	-	-	750
Land	-	-	-	-	-	-	-	-
Construction	-	-	800	1,450	-	-	-	2,250
Total Cost	650	100	800	1,450	-	-	-	3,000

Funding Sources: (\$ in 1,000s)

General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	650	100	-	-	-	-	-	750
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	800	1,450	-	-	-	2,250
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	650	100	800	1,450	-	-	-	3,000

Operating Impacts: (\$ in 1,000s)

Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	(64)	(180)	(180)	(3,176)	(3,600)
Net Revenue	-	-	-	(64)	(180)	(180)	(3,176)	(3,600)

WATER FUTURE YEARS PROJECTS SUMMARY*(\$ in Thousands)*

Project #	Project Name and Description	COST	SOURCE
W-066	<p>Nokesville Road Upgrade</p> <p>Upgrade 3,200 feet of 8" steel pipe to 16" pipe on Route 28 (Foster Drive to Technology Drive). The new pipe will connect to the existing 24" transmission main and extend 3,200 feet northward to connect with the 16" line installed with Route 28 Overpass Projects. This project reduces the potential for breaks in an identified trouble area and is consistent with meeting the City's initiative to improve distribution system operations.</p>	\$ 1,000	Water Fund