

## STORMWATER PROGRAM

The Stormwater Program is administered by the Engineering Department. Staff is responsible for the planning, design, and construction of stormwater projects that will improve the environment, reduce runoff volumes, mitigate flooding, and meet state and federal regulatory compliance requirements.

Many projects in the Stormwater Program work to meet the Environmental Protection Agency's (EPA) Total Maximum Daily Load (TMDL) for the Chesapeake Bay. TMDL is the calculation of the maximum amount of pollution a body of water can receive and still meet state water quality standards designed to ensure waterways meet a national primary goal of being swimmable and fishable. Monitoring data shows that the Chesapeake Bay has poor water quality, degraded habitats, and low populations of many species of fish and shellfish.

According to the EPA, the goal of TMDL for the bay is to restore clean water in the Chesapeake Bay and the region's streams, creeks, and rivers. TMDL was promoted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. It is required under the federal Clean Water Act and responds to consent decrees in Virginia and the District of Columbia from the late 1990s. Pollution limits are divided by jurisdiction and major river basin based on state-of-the-art modeling tools, extensive monitoring data, peer-revised science and close interaction with jurisdiction partners. The TMDL is designed to ensure that all pollution control measures needed to fully restore the Chesapeake Bay and its tidal rivers are in place by 2025, with practices in place by 2017 to meet 60 percent of the overall nitrogen, phosphorus, and sediment reductions.

The Virginia Municipal Separate Storm Sewer Program (MS-4) is also a major driver of stormwater projects. The permit is renewed every 5 years with increasing requirements to remove pollutants from natural streams.



*Prince William Hospital Pond*

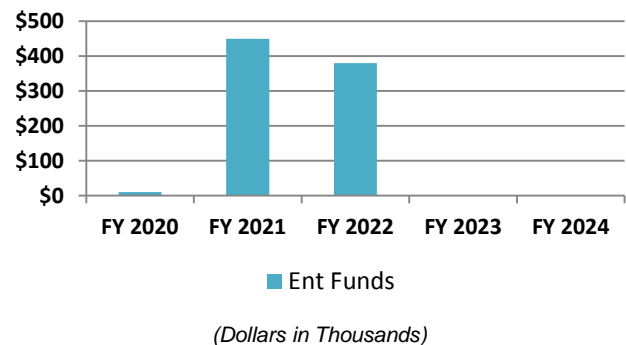
### PRIOR YEAR ACCOMPLISHMENTS

The stormwater utility is investing every year in ongoing projects to maintain and upgrade the infrastructure including planning and design for School Street drainage improvements (D-025) and the Cockrell Branch Stormwater Pond restoration (D-018).

### THE FIVE-YEAR PLAN (FY 2020 – FY 2024)

The FY 2020 Five-Year Capital Improvement Program includes an \$839,000 transfer from Enterprise Funds (Stormwater Fund).

In FY 2020 funding includes a \$10,000 transfer from the Stormwater Fund.



### FY 2020 CAPITAL PROJECTS

#### *Cockrell Branch Stormwater Pond (D-018)*

Restore and dredge the Cockrell Branch Storm Water Management Pond to restore capacity and functionality to the pond and improve aesthetics.

### FY 2020 MAINTENANCE CAPITAL PROJECTS

Maintenance capital projects in the Stormwater Program include recurring maintenance of stormwater infrastructure to including sluice gate replacement and backups, small pond re-grading and outfall improvements, drainage improvements to flood prone areas, facility improvements including perimeter fences, outfall protection, and fountain replacements (D-029). A multi-year project to update outdated FEMA floodplain maps (D-030) is also funded.

### NEW CAPITAL PROJECTS

There are no new projects proposed for the Stormwater Program.

# SUMMARY OF STORMWATER CAPITAL PROJECTS

(\$ in Thousands)

<b>Cost Estimates:</b>	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Future</b>	<b>Total Project</b>	<b>5-Year CIP</b>
Planning	35	10	25	-	-	-	1,825	1,895	35
Land	5	-	-	-	-	-	-	5	-
Construction	197	-	424	380	-	-	17,611	18,612	804
<b>Total Cost</b>	<b>237</b>	<b>10</b>	<b>449</b>	<b>380</b>	<b>-</b>	<b>-</b>	<b>19,436</b>	<b>20,512</b>	<b>839</b>

## Funding Sources:

General Fund	-	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	60	60	-
Water Fund	-	-	-	-	-	-	230	230	-
Electric Fund	-	-	-	-	-	-	-	-	-
Stormwater Fund	137	10	449	380	-	-	396	1,372	839
Airport Fund	-	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	18,750	18,750	-
State	-	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-	-
Other Sources	100	-	-	-	-	-	-	100	-
<b>Total Funding</b>	<b>237</b>	<b>10</b>	<b>449</b>	<b>380</b>	<b>-</b>	<b>-</b>	<b>19,436</b>	<b>20,512</b>	<b>839</b>

## Operating Impacts:

Revenue	-	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-	-
Program (Costs) Saving	-	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	(29,062)	(29,062)	-
<b>Net Revenue</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(29,062)</b>	<b>(29,062)</b>	<b>-</b>

# STORMWATER CAPITAL PROJECT LISTING

(\$ in Thousands)

Project Name	Prior Years	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Future	Total Project	5-Year CIP
Sills Pond	-	-	-	-	-	-	396	396	-
Peabody Street / Early S	-	-	25	380	-	-	-	405	405
Cockrell Branch SWM P	-	10	424	-	-	-	-	434	434
Jackson Avenue Draina	-	-	-	-	-	-	1,940	1,940	-
Hazel Drive Channel Imp	35	-	-	-	-	-	-	35	-
School Street Drainage I	202	-	-	-	-	-	-	202	-
Winter's Branch Stream	-	-	-	-	-	-	8,250	8,250	-
Flat Branch Stream Rest	-	-	-	-	-	-	4,100	4,100	-
Sumner Lake Stream Re	-	-	-	-	-	-	4,750	4,750	-
<b>Total</b>	<b>237</b>	<b>10</b>	<b>449</b>	<b>380</b>	<b>-</b>	<b>-</b>	<b>19,436</b>	<b>20,512</b>	<b>839</b>







# D-019 Jackson Avenue Drainage Improvements

**Year Introduced:** 2013  
**Change:** No change  
**Associated Proj:** N/A  
**Program Area:** Stormwater  
**Managing Dept:** Utilities  
**Manager:** T. Dawood  
**Plan Conformance:**  
 Comprehensive Plan 7.7

**Est. Start:**  
**Est. Complete:**



## Description:

Replace the existing underground storm sewer system with a larger pipe system. This includes replacing sidewalk, curb and gutter, structures, and pavement. This should address problems with flooding of yards upstream.

<b>Cost Estimate:</b> (\$ in 1,000s)	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Future</b>	<b>Total Project</b>
Planning	-	-	-	-	-	-	180	180
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	1,760	1,760
<b>Total Cost</b>	-	-	-	-	-	-	<b>1,940</b>	<b>1,940</b>
<b>Funding Sources:</b> (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	60	60
Water Fund	-	-	-	-	-	-	230	230
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	1,650	1,650
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
<b>Total Funding</b>	-	-	-	-	-	-	<b>1,940</b>	<b>1,940</b>
<b>Operating Impacts:</b> (\$ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	(2,557)	(2,557)
<b>Net Revenue</b>	-	-	-	-	-	-	<b>(2,557)</b>	<b>(2,557)</b>



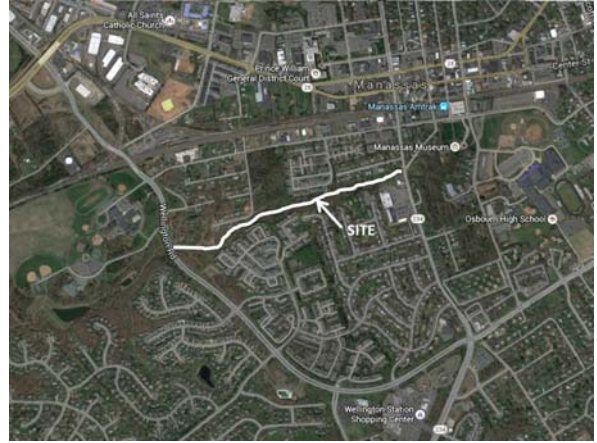




# D-026 Winter's Branch Stream Restoration

**Year Introduced:** 2015  
**Change:** No change  
**Associated Proj:** N/A  
**Program Area:** Stormwater  
**Managing Dept:** Utilities  
**Manager:** T. Dawood  
**Plan Conformance:**  
 Comprehensive Plan 7.7

**Est. Start:**  
**Est. Complete:**



**Description:**

Repair the eroded stream banks along Winter's Branch from Bartow Street to Wellington Road. Stabilize and protect the stream from further erosion. This project may be eligible for Total Maximum Daily Load (TMDL) credit.

<b>Cost Estimate:</b> (\$ in 1,000s)	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Future</b>	<b>Total Project</b>
Planning	-	-	-	-	-	-	750	750
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	7,500	7,500
<b>Total Cost</b>	-	-	-	-	-	-	<b>8,250</b>	<b>8,250</b>
<b>Funding Sources:</b> (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	8,250	8,250
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
<b>Total Funding</b>	-	-	-	-	-	-	<b>8,250</b>	<b>8,250</b>
<b>Operating Impacts:</b> (\$ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	(12,788)	(12,788)
<b>Net Revenue</b>	-	-	-	-	-	-	<b>(12,788)</b>	<b>(12,788)</b>

# D-027 Flat Branch Stream Restoration

**Year Introduced:** 2016  
**Change:** No change  
**Associated Proj:** N/A  
**Program Area:** Stormwater  
**Managing Dept:** Utilities  
**Manager:** T. Dawood  
**Plan Conformance:**  
 Comprehensive Plan 7.7

**Est. Start:**  
**Est. Complete:**



## Description:

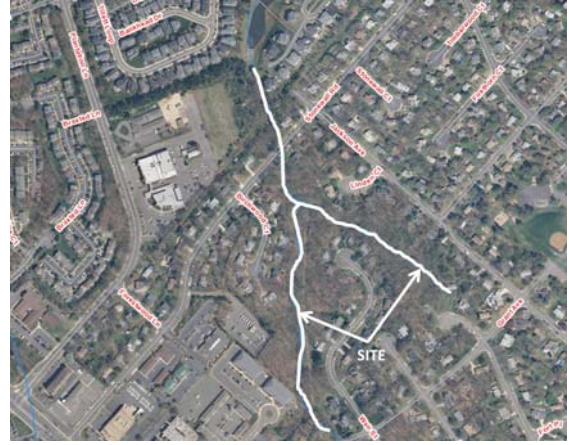
Repair the eroded stream banks along Flat Branch from upstream of the New Britain Storm Water management facility to Mathis Avenue and Portner Avenue (2 tributaries). Stabilize and protect the stream bank from further erosion. This project may be eligible for Total Maximum Daily Load (TMDL) credit.

<b>Cost Estimate:</b> (\$ in 1,000s)	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Future</b>	<b>Total Project</b>
Planning	-	-	-	-	-	-	400	400
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	3,700	3,700
<b>Total Cost</b>	-	-	-	-	-	-	<b>4,100</b>	<b>4,100</b>
<b>Funding Sources:</b> (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	4,100	4,100
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
<b>Total Funding</b>	-	-	-	-	-	-	<b>4,100</b>	<b>4,100</b>
<b>Operating Impacts:</b> (\$ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	(6,355)	(6,355)
<b>Net Revenue</b>	-	-	-	-	-	-	<b>(6,355)</b>	<b>(6,355)</b>

# D-028 Sumner Lake Stream Restoration

**Year Introduced:** 2016  
**Change:** No change  
**Associated Proj:** N/A  
**Program Area:** Stormwater  
**Managing Dept:** Utilities  
**Manager:** T. Dawood  
**Plan Conformance:**  
 Comprehensive Plan 7.7

**Est. Start:**  
**Est. Complete:**



## Description:

Repair the eroded stream banks from just upstream of Sumner Lake to Grant Avenue. Stabilize and protect the stream bank from further erosion. This project may be eligible for Total Maximum Daily Load (TMDL) credit.

<b>Cost Estimate:</b> (\$ in 1,000s)	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Future</b>	<b>Total Project</b>
Planning	-	-	-	-	-	-	450	450
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	4,300	4,300
<b>Total Cost</b>	-	-	-	-	-	-	<b>4,750</b>	<b>4,750</b>
<b>Funding Sources:</b> (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	4,750	4,750
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
<b>Total Funding</b>	-	-	-	-	-	-	<b>4,750</b>	<b>4,750</b>
<b>Operating Impacts:</b> (\$ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	(7,362)	(7,362)
<b>Net Revenue</b>	-	-	-	-	-	-	<b>(7,362)</b>	<b>(7,362)</b>

# STORMWATER MAINTENANCE CAPITAL PROJECT LISTING

(\$ in Thousands)

The City identifies Capital Projects as projects with a cost greater than \$100,000 **and** a useful life of 10+ years. The City recognizes that there are additional projects/needs that are capital in nature but do not meet the requirement set forth for a capital project. These additional projects/needs are considered Maintenance Capital Projects, a list of which is provided below for the Stormwater Program.

Project Name	Prior Years	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Future	Total Project	5-Year CIP
Stormwater / Drainage M	35	35	35	35	35	35	-	210	175
Floodplain Mapping Upd	65	65	65	65	65	65	-	390	325
<b>Total Cost</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>600</b>	<b>500</b>

## Funding Sources

General Fund	-	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-	-
Stormwater Fund	100	100	100	100	100	100	-	600	500
Airport Fund	-	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-	-
<b>Total Funding</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>600</b>	<b>500</b>

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