Stormwater Management Program Area Overview

Description: The projects in the Stormwater Management Program Area focus on improving, creating, restoring, and maintaining the City's stormwater management infrastructure including streams, stormwater treatment facilities, and storm drain/flood conveyance systems.

Goal: To preserve, improve, and protect City infrastructure; enhance local and regional water quality; and comply with federal and State clean water regulations.

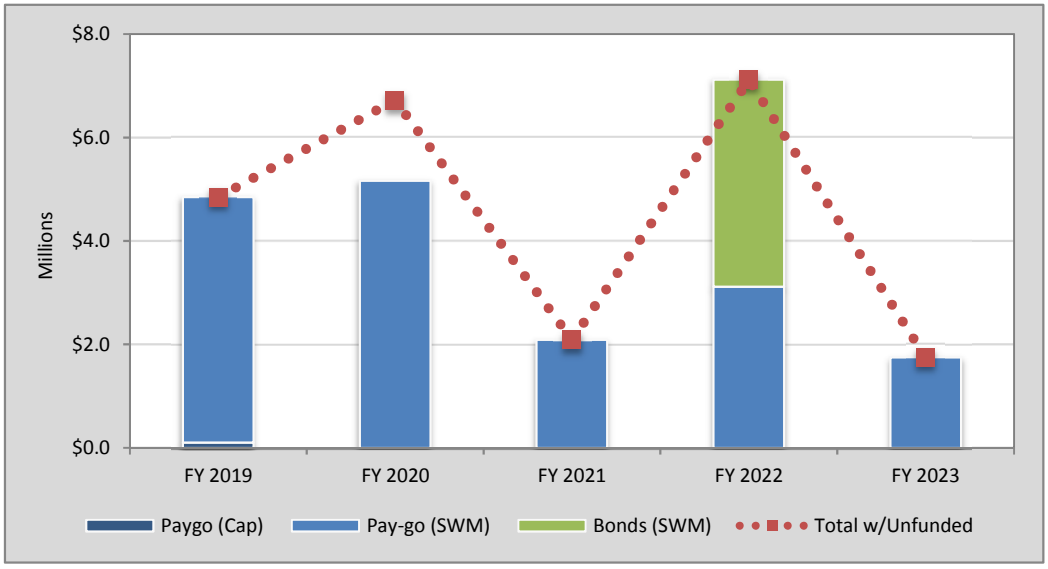
New project(s) for FY 2019:

Stream Restoration: Watts Branch – Lower Stream (SA19)

Project(s) closed for FY 2019:

None

FY 2019 - FY 2023 New Funding Schedule



Stormwater Management Program Area Summary of Total Funding

	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
Funded	**9,690,400**	**4,848,800**	**6,723,500**	**2,088,700**	**7,116,530**	**1,746,750**	**-**	**32,214,680**
Unfunded	-	-	-	-	-	-	-	-
Total with Unfunded ($)	**9,690,400**	**4,848,800**	**6,723,500**	**2,088,700**	**7,116,530**	**1,746,750**	**-**	**32,214,680**

Storm Drain Rehab & Improvement: FY16-FY20 (SA16)

Description: This project funds a sustainable program of inspection and analysis of storm drain infrastructure; design and construction of pipe extensions and surface drainage improvements; and structure and pipe rehabilitation or replacement. Project prioritization is based on multiple factors, including the immediate risk to property and public safety and the consequence of failure of existing infrastructure.

Changes from Previous Year: The project cost increased due to updated engineer's estimates and the addition of Maple Alley and Crawford Dr. improvements.

Current Project Appropriations

Prior Appropriations:	1,151,400
Less Expended as of 2/1/18:	64,734
Total Carryover:	1,086,666
New Funding:	278,800
Total FY 2019 Appropriations:	1,365,466

Critical Success Factor: Stewardship of Infrastructure and Env.

Mandate/Plan: Clean Water Act; 2010 Water Resources Element

Anticipated Project Outcome: Integrity of existing storm drain infrastructure and elimination of localized flooding and resulting property damage.

Project Timeline and Total Cost by Type: Construction estimate increased and design decreased due to assessment results and the identification of specific repairs.

	Estimated Start		Estimated Completion		Estimated Cost *(through FY 2020 only)*			
Type	**Original**	**Current**	**Original**	**Current**	**Original**	**Current**	**$ Change**	**% Change**
Planning / Design	FY 2016	FY 2016	FY 2020	FY 2020	476,300	375,700	(100,600)	-21%
Construction	FY 2016	FY 2016	FY 2021	FY 2021	1,493,400	2,059,000	565,600	38%
Other	-	-	-	-	-	-	-	-
				Project Total ($):	**1,969,700**	**2,434,700**	**465,000**	**24%**

Project Funding: This project is fully funded. This project is considered a routine capital maintenance project and is funded in five year increments. *Funding beyond FY 2020 will be included in a future project, but is shown here for consolidated planning purposes.*

Source	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
Paygo (SWM)	1,151,400	278,800	1,004,500	1,078,700	440,530	453,750	-	4,407,680
Total Funded ($)	**1,151,400**	**278,800**	**1,004,500**	**1,078,700**	**440,530**	**453,750**	-	**4,407,680**
Unfunded (SWM)	-	-	-	-	-	-	-	-
Total w/Unfunded ($)	**1,151,400**	**278,800**	**1,004,500**	**1,078,700**	**440,530**	**453,750**	-	**4,407,680**

Operating Cost Impact: No measurable impact.

Fund	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
SWM	-	-	-	-	-	-	-	-

Project Manager: Gabe Kosarek, Principal Civil Engineer, 240-314-8513.

Notes: FY 2019 work includes the design of the Maple Alley storm drain project; construction of the Middle Ln. renewal and Denham Rd. outfall restoration projects; and the design and construction of the Ritchie Pkwy. drainage improvement project. Budget based on a 30 year inspection cycle and costs of comparable rehabilitation projects implemented within the last few years in Rockville, and includes a 3 percent escalation factor for later years.

Stream Restoration: Anderson Park (SA18)

Description: This project funds the design and construction of stream restoration within Anderson Park. This stream has highly eroded stream banks that endanger sanitary sewer infrastructure and private property, and are significant sources of sediment. Large sediment sources and potential sanitary sewer overflows reduce water quality within the watershed and ultimately the Chesapeake Bay.

Changes from Previous Year: The scope was expanded and funds increased due to Nelson St. spot repair and SHA-funded stream restoration on private property at Plymouth Woods.

Current Project Appropriations

Prior Appropriations:	454,000
Less Expended as of 2/1/18:	-
Total Carryover:	454,000
New Funding:	-
Total FY 2019 Appropriations:	454,000

Critical Success Factor: Stewardship of Infrastructure and Env.

Mandate/Plan: 2015 Watts Branch Watershed Assessment; 2010 Water Resources Element; Clean Water Act

Anticipated Project Outcome: Stabilization of stream banks, protection of public infrastructure and private property, and reduction in TMDL pollutant loads.

Project Timeline and Total Cost by Type: Project scope and costs increased due to Nelson Street spot repair and Maryland State Highway Administration agreement to fund restoration work on private property (Plymouth Woods).

	Estimated Start		Estimated Completion		Estimated Cost			
Type	**Original**	**Current**	**Original**	**Current**	**Original**	**Current**	**$ Change**	**% Change**
Planning / Design	FY 2018	FY 2018	FY 2020	FY 2020	454,000	454,000	-	-
Construction	FY 2020	FY 2020	FY 2021	FY 2021	2,349,000	4,288,000	1,939,000	83%
Other	-	-	-	-	-	-	-	-
				Project Total ($):	**2,803,000**	**4,742,000**	**1,939,000**	**69%**

Project Funding: This project is fully funded.

Source	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
Paygo (SWM)	269,000	-	2,728,000	-	-	-	-	2,997,000
MDSHA (Other-SWM)	185,000	-	1,560,000	-	-	-	-	1,745,000
Total Funded ($)	**454,000**	**-**	**4,288,000**	**-**	**-**	**-**	**-**	**4,742,000**
Unfunded (SWM)	-	-	-	-	-	-	-	-
Total w/Unfunded ($)	**454,000**	**-**	**4,288,000**	**-**	**-**	**-**	**-**	**4,742,000**

Operating Cost Impact: Five years, starting in FY 2021, of post-restoration stream stability monitoring as required by U.S. Army Corps of Engineers.

Fund	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
SWM	-	-	-	48,000	-	-	-	48,000

Project Manager: John W. Hollida, Principal Civil Engineer, 240-314-8526.

Notes: This project first appeared in the FY 2018 CIP. FY 2019 work includes the design of the Nelson St. spot repair and the Anderson Park and Plymouth Woods HOA stream restoration.

Stream Restoration: Croydon Creek/Calvin Park Tributary (SB16)

Description: This project funds the design and construction of stream restoration at Croydon Creek and the Calvin Park Tributary to Rock Creek. These streams have highly eroded stream banks that are significant sources of sediment. Large sediment sources reduce water quality within the watershed and ultimately the Chesapeake Bay.

Changes from Previous Year: Construction cost estimate increased due to an increase in the amount of stream restoration required to ensure stability and the addition of funding for park trail improvements.

Current Project Appropriations

Prior Appropriations:	636,000
Less Expended as of 2/1/18:	163,909
Total Carryover:	472,091
New Funding:	4,190,000
Total FY 2019 Appropriations:	4,662,091

Critical Success Factor: Stewardship of Infrastructure and Env.

Mandate/Plan: 2012 Rock Creek Watershed Assessment and Management Plan; 2010 Water Resources Element; Clean Water Act

Anticipated Project Outcome: Stabilization of eroding stream banks and reduction in TMDL pollutant loads.

Project Timeline and Total Cost by Type: The construction cost estimate increased due to an increase in the amount of stream restoration required to ensure stability and funding was increased to include park trail improvements.

	Estimated Start		Estimated Completion		Estimated Cost			
Type	**Original**	**Current**	**Original**	**Current**	**Original**	**Current**	**$ Change**	**% Change**
Planning / Design	FY 2017	FY 2017	FY 2019	FY 2019	636,000	536,000	(100,000)	-16%
Construction	FY 2019	FY 2019	FY 2020	FY 2020	3,192,000	4,290,000	1,098,000	34%
Other	-	-	-	-	-	-	-	-
				Project Total ($):	**3,828,000**	**4,826,000**	**998,000**	**26%**

Project Funding: This project is fully funded.

Source	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
Paygo (Cap)	-	100,000	-	-	-	-	-	100,000
Paygo (SWM)	636,000	4,090,000	-	-	-	-	-	4,726,000
Total Funded ($)	**636,000**	**4,190,000**	**-**	**-**	**-**	**-**	**-**	**4,826,000**
Unfunded (SWM)	-	-	-	-	-	-	-	-
Total w/Unfunded ($)	**636,000**	**4,190,000**	**-**	**-**	**-**	**-**	**-**	**4,826,000**

Operating Cost Impact: Five years, starting in FY 2020, of post-restoration stream stability monitoring as required by U.S. Army Corps of Engineers.

Fund	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
SWM	-	-	46,000	-	-	-	-	46,000

Project Manager: Gabe Kosarek, Principal Civil Engineer, 240-314-8513.

Notes: This project first appeared in the FY 2016 CIP. FY 2019 work includes design completion and start of construction.

Stream Restoration Spot Repairs: FY16-FY20 (SD16)

Description: This project funds the design and construction of stream restoration spot repairs. Stream restoration projects are identified and prioritized through the City watershed study and planning process or by identifying areas that pose an immediate risk to public safety and/or public or private property. Major stream restoration projects are budgeted individually.

Changes from Previous Year: Nelson Street spot repair was removed from FY 2019 - FY 2021 as this work was added to Stream Restoration: Anderson Park (SA18). FY 2019 includes construction of the Vandegrift Ave. outfall spot repair.

Current Project Appropriations

Prior Appropriations:	580,000
Less Expended as of 2/1/18:	126,095
Total Carryover:	453,905
New Funding:	85,000
Total FY 2019 Appropriations:	538,905

Critical Success Factor: Stewardship of Infrastructure and Env.

Mandate/Plan: 2011 Cabin John and 2012 Rock Creek Watershed Assessment and Recommendations; 2015 Watts Branch Watershed Assessment; 2010 Water Resources Element; Clean Water Act

Anticipated Project Outcome: Stabilization of stream banks, protection of public infrastructure and private property, and reduction in TMDL pollutant loads.

Project Timeline and Total Cost by Type: The Nelson Street spot repair was moved to Stream Restoration: Anderson Park (SA18). The Bullards Park spot repair replaced the Tower Oaks project in FY 2017. Funding was updated to reflect current design scopes and engineer's estimates.

	Estimated Start		Estimated Completion		Estimated Cost *(through FY 2020 only)*			
Type	**Original**	**Current**	**Original**	**Current**	**Original**	**Current**	**$ Change**	**% Change**
Planning / Design	FY 2016	FY 2016	FY 2020	FY 2020	304,000	150,000	(154,000)	-51%
Construction	FY 2016	FY 2016	FY 2020	FY 2020	430,000	515,000	85,000	20%
Other	-	-	-	-	-	-	-	-
				Project Total ($):	**734,000**	**665,000**	**(69,000)**	**-9%**

Project Funding: This project is fully funded. This project is considered a routine capital maintenance project and is funded in five year increments. *Funding beyond FY 2020 will be included in a future project, but is shown here for consolidated planning purposes.*

Source	**Prior**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Future**	**Total**
Paygo (SWM)	580,000	85,000	-	-	168,000	-	-	833,000
Total Funded ($)	**580,000**	**85,000**	**-**	**-**	**168,000**	**-**	**-**	**833,000**
Unfunded (SWM)	-	-	-	-	-	-	-	-
Total w/Unfunded ($)	**580,000**	**85,000**	**-**	**-**	**168,000**	**-**	**-**	**833,000**

Operating Cost Impact: No measurable impact.

Fund	**Prior**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Future**	**Total**
SWM	-	-	-	-	-	-	-	-

Project Manager: Gabe Kosarek, Principal Civil Engineer, 240-314-8513.

Notes: FY 2019 work includes the construction of the Vandegrift Ave. outfall restoration spot repair. The budget is based on cost estimates for specific spot repairs identified through City watershed studies or other observations.

Stream Restoration: Watts Branch – Lower Stream (SA19)

Description: This project funds the design and construction of stream restoration at the Watts Branch - Lower Stream from Wootton Parkway to the City limits. This stream has highly eroded stream banks that are significant sources of sediment. Large sediment sources reduce the water quality within the watershed and ultimately the Chesapeake Bay.

Changes from Previous Year: None.

Current Project Appropriations

Prior Appropriations:	-
Less Expended as of 2/1/18:	-
Total Carryover:	-
New Funding:	-
Total FY 2019 Appropriations:	-

Critical Success Factor: Stewardship of Infrastructure and Env.

Mandate/Plan: 2015 Watts Branch Watershed Assessment; 2010 Water Resource Element; Clean Water Act

Anticipated Project Outcome: Stabilization of eroding stream banks, protection of public infrastructure, and reduction in TMDL pollutant loads.

Project Timeline and Total Cost by Type: No change.

	Estimated Start		Estimated Completion		Estimated Cost			
Type	**Original**	**Current**	**Original**	**Current**	**Original**	**Current**	**$ Change**	**% Change**
Planning / Design	FY 2020	FY 2020	FY 2022	FY 2022	460,000	460,000	-	-
Construction	FY 2022	FY 2022	FY 2023	FY 2023	4,982,000	4,982,000	-	-
Other	-	-	-	-	-	-	-	-
				Project Total ($):	**5,442,000**	**5,442,000**	**-**	**-**

Project Funding: This project is fully funded.

Source	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
Paygo (SWM)	-	-	460,000	-	982,000	-	-	1,442,000
Bonds (SWM)	-	-	-	-	4,000,000	-	-	4,000,000
Total Funded ($)	**-**	**-**	**460,000**	**-**	**4,982,000**	**-**	**-**	**5,442,000**
Unfunded (SWM)	-	-	-	-	-	-	-	-
Total w/Unfunded ($)	**-**	**-**	**460,000**	**-**	**4,982,000**	**-**	**-**	**5,442,000**

Operating Cost Impact: Five years, starting in FY 2023, of post-restoration stream stability monitoring as required by U.S. Army Corps of Engineers.

Fund	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
SWM	-	-	-	-	-	81,000	-	81,000

Project Manager: Gabe Kosarek, Principal Civil Engineer, 240-314-8513.

Notes: This is a new project for FY 2019.

SWM Facilities Improvement: FY16-FY20 (SE16)

Description: This project funds the assessment, design, rehabilitation, construction, and decommissioning of stormwater management (SWM) facilities. SWM facilities improvement projects are identified and prioritized through the City watershed study and planning process. This project improves water quality, aesthetics, and flood control; promotes wildlife; and restores facility function.

Changes from Previous Year: A $450,000 grant was added mid-FY 2018 for the Hungerford Stoneridge retrofit project. The RedGate stormwater project was replaced with the Northeast Park project based on the results of a priority analysis.

Current Project Appropriations

Prior Appropriations:	4,130,000
Less Expended as of 2/1/18:	1,297,624
Total Carryover:	2,832,376
New Funding:	295,000
Total FY 2019 Appropriations:	3,127,376

Critical Success Factor: Stewardship of Infrastructure and Env.

Mandate/Plan: MS4 Permit; SWM Act of 2007; Clean Water Act

Anticipated Project Outcome: Enhancement of SWM facility function and reduction in TMDL pollutant loads.

Project Timeline and Total Cost by Type: Grant funding was added for the Hungerford and Watkins Pond retrofits, which reduced paygo funding in FY 2018 and FY 2019. $170,000 was transferred to Stream Restoration (2K59), which closed in FY 2017. Work was reprioritized and estimates were updated to reflect current design scopes.

	Estimated Start		Estimated Completion		Estimated Cost *(through FY 2020 only)*			
Type	**Original**	**Current**	**Original**	**Current**	**Original**	**Current**	**$ Change**	**% Change**
Planning / Design	FY 2016	FY 2016	FY 2021	FY 2021	526,000	598,650	72,650	14%
Construction	FY 2016	FY 2016	FY 2021	FY 2021	4,143,000	4,797,350	654,350	16%
Other	-	-	-	-	-	-	-	-
				Project Total ($):	**4,669,000**	**5,396,000**	**727,000**	**16%**

Project Funding: This project is fully funded. This project is considered a routine capital maintenance project and is funded in five year increments. *Funding beyond FY 2020 will be included in a future project, but is shown here for consolidated planning purposes.*

Source	**Prior**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Future**	**Total**
Paygo (SWM)	2,930,000	295,000	971,000	1,010,000	1,526,000	1,293,000	-	8,025,000
Grants (SWM)	1,200,000	-	-	-	-	-	-	1,200,000
Total Funded ($)	**4,130,000**	**295,000**	**971,000**	**1,010,000**	**1,526,000**	**1,293,000**	**-**	**9,225,000**
Unfunded (SWM)	-	-	-	-	-	-	-	-
Total w/Unfunded ($)	**4,130,000**	**295,000**	**971,000**	**1,010,000**	**1,526,000**	**1,293,000**	**-**	**9,225,000**

Operating Cost Impact: Maintenance and repairs.

Fund	**Prior**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Future**	**Total**
SWM	35,000	2,500	2,500	-	-	-	-	40,000

Project Manager: Gabe Kosarek, Principal Civil Engineer, 240-314-8513.

Notes: FY 2019 work includes the design of the Fallsgrove #2 and Maryvale retrofit projects, the design and construction of the Northeast Park retrofit and stream restoration project, construction of the Hungerford-Stoneridge and Mt. Vernon retrofit projects, and facilities assessment. The budget is based on cost estimates for specific SWM improvements identified through the City watershed study and planning process.

Watts Branch – Upper Stream (2E59)

Description: This project funds the assessment, design, and construction of environmental restoration along streams and storm drain outfalls within the Upper Watts Branch Park – Forest Preserve. The project scope includes streams between Nelson Street and Gude Drive, three eroded storm drain outfalls, and the evaluation of upstream stormwater measures.

Changes from Previous Year: Due to construction bids being lower than estimate, the project total decreased by $350,000.

Current Project Appropriations

Prior Appropriations:	2,739,000
Less Expended as of 2/1/18:	1,969,884
Total Carryover:	769,116
New Funding:	-
Total FY 2019 Appropriations:	769,116

Critical Success Factor: Stewardship of Infrastructure and Env.

Mandate/Plan: 2001 Watts Branch Watershed Study; 2010 Water Resource Element; Clean Water Act

Anticipated Project Outcome: Stabilization of eroding stream banks, protection of public infrastructure, and reduction in TMDL pollutant loads.

Project Timeline and Total Cost by Type: Coordination with the Upper Watts Branch Citizens Task Force and MDE delayed this project from its original timeline and increased overall cost. Project total decreased to reduce unused construction contingency.

	Estimated Start		Estimated Completion		Estimated Cost			
Type	Original	Current	Original	Current	Original	Current	$ Change	% Change
Planning / Design	FY 2006	FY 2012	FY 2008	FY 2016	100,000	536,856	436,856	437%
Construction	FY 2008	FY 2017	FY 2010	FY 2019	234,000	2,202,144	1,968,144	841%
Other	-	-	-	-	-	-	-	-
				Project Total ($):	**334,000**	**2,739,000**	**2,405,000**	**720%**

Project Funding: This project is fully funded.

Source	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
Paygo (SWM)	1,439,000	-	-	-	-	-	-	1,439,000
Grants (SWM)	1,300,000	-	-	-	-	-	-	1,300,000
Total Funded ($)	**2,739,000**	**-**	**-**	**-**	**-**	**-**	**-**	**2,739,000**
Unfunded (SWM)	-	-	-	-	-	-	-	-
Total w/Unfunded ($)	**2,739,000**	**-**	**-**	**-**	**-**	**-**	**-**	**2,739,000**

Operating Cost Impact: Five years, starting in FY 2018, of post-restoration stream stability monitoring as required by U.S. Army Corps of Engineers.

Fund	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Future	Total
SWM	27,400	-	-	-	-	-	-	27,400

Project Manager: John W. Hollida, Principal Civil Engineer, 240-314-8526.

Notes: This project first appeared in the FY 2002 CIP. FY 2019 work includes the construction completion of environmental restoration within the Upper Watts Branch Park – Forest Preserve. In conjunction with this project, the Recreation and Parks Department funded the planting of a 2.5-acre wetland area within the Forest Preserve where trees were previously destroyed by beavers.