



Committee: T&E
Committee Review: Completed
Staff: Keith Levchenko, Senior Legislative Analyst
Purpose: preliminary decisions – straw vote expected
Keywords: #StormDrainsCIP, DOT, Drainage

AGENDA ITEM #8
 March 29, 2022
Worksession

SUBJECT

FY23-28 Capital Improvements Program – Conservation of Natural Resources: Storm Drains

EXPECTED ATTENDEES

- Dan Sheridan, Design Section Chief, Division of Transportation Engineering, Department of Transportation (DOT)
- Tim Cupples, Chief, Division of Transportation Engineering, DOT
- Brady Goldsmith, Chief, Management Services, DOT
- Richard Dorsey, Chief, Division of Highway Services, DOT
- Veronica Jaua, Fiscal and Policy Analyst, Office of Management and Budget

FISCAL SUMMARY

FY23-28 Rec. vs. FY21-26 Latest Approved Expenditures (in 000's)

	Six-Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	20,414	3,004	3,482	3,482	3,482	3,482	3,482		
FY23-28 CE Rec	33,924			8,404	5,104	5,104	5,104	5,104	5,104
change from approved (\$,%)	13,510 66.2%			4,922	1,622	1,622	1,622		
Committee Rec	33,924			8,404	5,104	5,104	5,104	5,104	5,104
change from approved (\$,%)	13,510 66.2%			4,922	1,622	1,622	1,622		
change from CE Rec (\$,%)	- 0.0%			-	-	-	-	-	-

- **Expenditures:** Recommended FY23-28 CIP is \$33.9 million, an increase of \$13.5 million (or 66 percent), intended to address backlogs of systematic work and the continued high number of drainage assistance requests.
- **Funding:** On February 8, the Council approved CIP amendments for Storm Drain General and Storm Drain Culvert Replacement, switching FY22 funds from Long-Term Financing to Water Quality Protection Bonds (based on discussions with the Maryland Department of the Environment as to which types of work are eligible for long-term financing). The Executive’s FY23-28 request completes the funding switch to bonds for FY23 and beyond.
- **Projects**
 - Facility Planning: Storm Drains level of effort up 50 percent
 - Storm Drain General level of effort up 100 percent
 - Outfall Repairs projects level of effort up 100 percent
 - Storm Drain Culvert Replacement: large one-time increase in FY23
 - No new "stand alone" projects.

OTHER ISSUES

- Increases in drainage assistance requests in recent years have led to backlogs within the Facility Planning: Storm Drains project and the Storm Drain General project.
- The Storm Drain Culvert Replacement project is substantially underfunded per the Eighth Report of the Infrastructure Maintenance Task Force (see ©29)
- The County’s Climate Action Plan (June 2021) includes as one of its highest priority adaptation actions, the repair and enhancement of stormwater management conveyance systems (culverts and outfalls) (see ©27-28) to address flooding from more frequent and more intense rainfall expected in the future.
- On March 15, the County Executive transmitted an amendment/supplemental appropriation for the Stormwater Management CIP which would provide \$1.3 million for a new flood control study project. According to the County Executive’s transmittal, this amendment/supplemental is needed because current flooding problems in the County are expected to get even worse in the future because of climate change. This study will provide for the development of a comprehensive flood management strategy, and watershed by watershed plans to build resiliency and improve public safety. A public hearing is scheduled for April 19 at 1:30 PM.
- On March 15, the County Executive transmitted technical amendments (funding switches from Water Quality Protection Bonds to Water Quality Protection Current Revenue) for the Storm Drain General and Storm Drain Culvert Replacement projects. (see attachments A1-A6). **Council Staff recommends preliminary approval of these technical amendments as transmitted pending review of the Water Quality Protection Fund Fiscal Plan later this spring.**

COMMITTEE RECOMMENDATION

- **Approve the Storm Drain CIP as recommended by the County Executive.** *NOTE: Council Staff also recommends preliminary approval of the Executive’s March 15 technical amendments to the Storm Drain General and Storm Drain Culvert Replacement projects.*

NOTE: Committee members were supportive of potential further increases in the Storm Drain program if additional funding is available. These increases can be considered in the context of the T&E Committee review of the Water Quality Protection Fund Fiscal Plan and Water Quality Protection Charge requirements during the Operating Budget review of the DEP budget later this spring.

This report contains:

- | | |
|--|-------------|
| • T&E Committee 3/7/2022 Council Staff Report | Pages 1-©36 |
| • DOT Presentation Slides 3/2/2020 | Slides 1-18 |
| • March 15 Amendments to the Executive’s Recommended FY23-28 CIP
(Excerpts) | A1-A6 |

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T&E COMMITTEE #1&2
March 7, 2020

Worksession

MEMORANDUM

March 2, 2022

TO: Transportation & Environment Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: **Worksession: FY23-28 Capital Improvements Program (CIP) Conservation of Natural Resources: Agenda Item #1: Storm Drains and Agenda Item #2: Stormwater Management**

NOTE: Both the Storm Drains CIP and the Stormwater Management CIP are funded via the Water Quality Protection Fund and do not affect the County's affordability calculations regarding General Obligation Bonds or General Current Revenue.

• **Storm Drains**

- Recommended FY23-28 CIP is \$33.9 million, an increase of 66 percent, intended to address backlogs of systematic work and the continued high number of drainage assistance requests
- Facility Planning level of effort up 50 percent
- Storm Drain General and Outfall Repairs projects levels of effort up 100 percent
- Culvert Replacement: large one-time increase in FY23
- No new "stand alone" projects.

Council Staff concurs with the recommended increases in each of the projects.

• **Stormwater Management**

- Six-year program is \$118.2 million (up by \$5.2 million or 4.6 percent)
- Intended to meet the impervious area retrofit requirement in the County's new NPDES-MS4 permit (1,814 acres)
- Wheaton Regional Dam Flooding Mitigation Project – Completion in FY24

Council Staff supports approval of the County Executive's recommendations

NOTE: Council Staff has asked DEP and DOT to provide summary presentations of their programs, including some specific "before and after" examples of recently completed work funded out of these various CIP projects.

The following officials and staff will be attending this meeting:

Storm Drains CIP

- Dan Sheridan, Design Section Chief, Division of Transportation Engineering, Department of Transportation (DOT)
- Tim Cupples, Chief, Division of Transportation Engineering, DOT
- Brady Goldsmith, Chief, Management Services, DOT
- Richard Dorsey, Chief, Division of Highway Services, DOT
- Veronica Jaua, Fiscal and Policy Analyst, Office of Management and Budget

Stormwater Management CIP

- Adrianna Hochberg, Director, Department of Environmental Protection (DEP)
- Patty Bubar, Deputy Director, DEP
- Frank Dawson, Chief, Watershed Restoration Division, DEP
- Amy Stevens, Watershed Restoration Division, DEP
- Pam Parker, Watershed Restoration Division, DEP
- Saeyin Oh, Watershed Restoration Division, DEP
- Vicky Wan Chief, Strategic Services Division, DEP
- Rich Harris, Fiscal and Policy Analyst, Office of Management and Budget

Attachments

- County Executive’s Recommended FY23-28 CIP (Stormwater Management) (©1-14)
- County Executive’s Recommended FY23-28 CIP (Storm Drains) (©15-26)
- Montgomery County Climate Action Plan Excerpt (Adaptation Actions/Repair and Enhancement of Stormwater Conveyance Systems (©27-28)
- Infrastructure Task Force Report (February 2020) Excerpt (©29)
- Public Hearing Testimony from the Stormwater Partners (©30-36)

AGENDA ITEM #1: FY23-28 STORM DRAINS CIP

Summary

The Department of Transportation (DOT) Division of Transportation Engineering manages the County storm drains program. Properly functioning storm drains remove excess water from the roads, ensuring safer road conditions while also protecting roads from water damage. Properly functioning storm drains also protect adjacent properties from water runoff damage. Work is identified through requests for assistance that come from property owners as well as from government agencies. DOT works in partnership with the state and other municipalities when state roads and/or municipal properties are involved.

DOT staff will provide a presentation of the storm drains program.

An excerpt from the Executive’s Recommended FY23-28 CIP for storm drains is attached on ©15-26. The Executive is recommending a six-year total of \$33.9 million FY23-28 (an increase of \$13.6 million (66.2 percent) from the Approved FY21-26 CIP) for four Storm Drain projects. No

new projects are recommended. The following table shows the recommendation by fiscal year compared to the latest Approved FY21-26 CIP.

Table #1
Storm Drains CIP (in 000s)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	20,414	3,004	3,482	3,482	3,482	3,482	3,482		
FY23-28 CE Recommended	33,924			8,404	5,104	5,104	5,104	5,104	5,104
percent change from approved	66.2%			141.4%	46.6%	46.6%	46.6%		

The County’s Climate Action Plan (June 2021) includes as one of its highest priority adaptation actions the repair and enhancement of stormwater management conveyance systems (culverts and outfalls) (see ©27-28) to address flooding from more frequent and more intense rainfall expected in the future. This need as well as the current backlog in systematic work are key reasons for the Executive’s large recommended increase the Storm Drain CIP.

The sources of funds for the Storm Drains CIP are shown in the following chart.

Table #2
Storm Drains CIP (in \$000s)

	FY21-26	FY23-28	\$\$\$	%
	Total	Total	Change	Change
Total	20,414	33,924	13,510	66.2%
Federal Aid	82	-	(82)	-100.0%
Long-Term Financing	16,672	-	(16,672)	-100.0%
Water Quality Protection Bonds	-	29,460	29,460	n/a
Water Quality Protection Charge	3,660	4,464	804	22.0%

The chart shows that Long-Term Financing (paid with Water Quality Protection Charge current revenue) which had been the dominant funding source assumed for this program the past couple of years is being replaced by Water Quality Protection Bonds. On February 8, the Council approved CIP amendments for Stormdrain General and Stormdrain Culvert Replacement switching FY22 funds from Long-Term Financing to Water Quality Protection Bonds. This was done based on discussions with the Maryland Department of the Environment over the past two years as to which types of work are eligible for long-term financing. The Executive’s FY23-28 request completes the funding switch to bonds for future years.

There is also some Water Quality Protection Charge current revenue included as well. Also, some storm drain projects can involve State, Federal, or other outside participation, although none of these sources are assumed in the Recommended CIP at this time.

Public Hearing Testimony

The Council received public hearing testimony from the Stormwater Partners Network, the Audubon Naturalist Society, and the Rock Creek Conservancy supporting full funding of the Executive’s Recommended CIP for Storm Drains. The Stormwater Partners Network written testimony is attached on ©30-36.

Project Review

Facility Planning: Storm Drains (PDF on ©17-18)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	2,002	402	320	320	320	320	320		
FY23-28 CE Recommended	2,880			480	480	480	480	480	480
change from approved	878			160	160	160	160		
percent change from approved	43.9%			50.0%	50.0%	50.0%	50.0%		

This project provides for the investigation and analysis of various storm drainage assistance requests (DARs) initiated by private citizens and public agencies. Non-capital maintenance work (such as cleaning out storm drains) is referred immediately for quick turnaround. For capital work, depending on the complexity of the project, in-house staff or consultants design projects to a 35 percent design level. At that point, projects that cost over \$500,000 become stand-alone projects if approved. Projects costing less than \$500,000 are constructed in the Storm drain: General project.

A large portion of funds from this project covers the costs of responding to Drainage Assistance Requests (DARs), background research, data collection, survey, and concept alternative evaluation.

According to DOT staff, there has been an uptick in the number of requests in recent years with 289 drainage assistance requests in FY21 and 142 drainage assistance requests in FY22 to date. DOT responds (email or phone call) to requests within 48 hours with a goal of doing site visits/evaluations within two weeks. DOT's goal is to establish a plan of action within two weeks of a site evaluation. The actual design work can take 6 months to a year depending on the complexity of the project.

The County Executive is recommending \$480,000 annually in this project. This represents a 50 percent increase from the current level of effort of \$320,000. This increase will provide DOT the capacity to move more projects through the facility planning process and into the Storm Drain: General project or as stand-alone projects. The project is funded entirely with Water Quality Protection Charge current revenue funding in the Recommended FY23-28 CIP.

The annual level of effort in this project was \$250,000 as far back as FY09 but was increased to \$290,000 in FY17 and then up to its current annual level of \$320,000 in FY21. At the same time, as noted earlier, the DARs have risen in volume and the solutions have gotten more complex and expensive leading to a backlog in planning work after the initial site visits are completed.

Last June, the Council approved an \$82,000 supplemental appropriation and amendment to this project for a Federal Grant (via the Maryland Department of Natural Resources) for the study of the River Falls neighborhood storm drain system. The study will identify potential solutions to address current flood hazards as well as future hazards exacerbated by the impacts of climate change. Potential solutions will include green infrastructure practices that would promote infiltration, reduce runoff, and provide water quality benefits. The intention is to use this work as a model for the County (and potentially other Counties as well) for how to address flood hazards while also achieving water quality and climate resilience co-benefits.

DOT staff have noted candidate projects which are in Equity Emphasis Areas including:

- *FY23 Reading Rd – additional inlets and storm drain connection to Manchester Rd.*
- *FY24 potential projects in an EEA include:*
 - *Three Oaks Dr/Melbourne Ave – install bioretention facility and re-align inlet*
 - *Wilton Ave – solution needs to be developed*
 - *Wallace Ave – solution needs to be developed*
 - *Weisman Rd – solution needs to be developed.*

Going forward, DOT has indicated it plans to do more outreach in Equity Emphasis Areas to encourage residents experiencing storm drainage problems to utilize the DAR process.

DOT and DEP staff along with Permitting Services and other departments are working to develop a more integrated County response to flooding issues that address both long-term water quantity and water quality concerns.

Council Staff concurs with the Executive’s recommended increase in the annual level of effort in this project given the continued backlog of work. The impact of this (and increases being considered in other projects) on the Water Quality Protection Fund and Charge can be considered during the DEP Operating Budget review later this spring.

Outfall Repairs (PDF on ©20-21)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	2,772	462	462	462	462	462	462		
FY23-28 CE Recommended	5,544			924	924	924	924	924	924
change from approved	2,772			462	462	462	462		
percent change from approved	100.0%			100.0%	100.0%	100.0%	100.0%		

This project provides for the repair of existing storm drain outfalls into stream valleys. The priorities for this project are developed in coordination with DEP. In addition to planned projects (see below), DOT also receives and coordinates efforts for one or two requests per month from various sources, including DOT, DHS, DEP, WSSC, and M-NCPPC.

The PDF notes the projects completed in FY20 and FY21 and projects expected to be completed in FY22 and FY23.

DOT staff has noted (see table below) that there is a backlog of non-emergency outfall work already identified and ready to move forward if a higher level of effort for the project is approved.

List of Projects	Outfall Repair
	CIP 509948
Pendleton Dr - \$90k - 100 ft of stabilization - Parks request	\$ 90
Brentford Dr - \$200k - 125 ft of stabilization- poor access	\$ 200
Bilney Dr - \$170k - 130 ft of stabilization - poor access	\$ 170
Blackburn Ct - \$80k - 60 ft of stabilization	\$ 80
Palisades Ct - \$140k - 60 ft of stabilization - poor access and steep slopes-Parks request	\$ 140
Parkwood Dr - \$200k - replace concrete channel with natural stabilization -Parks request	\$ 200
Total	\$ 880

For FY23-28, the County Executive recommends an annual expenditure level of \$924,000, which is a doubling of the annual level of effort in the approved CIP. This higher funding level will greatly reduce the current backlog and allow for a quicker response to emerging work identified in the future.

Funding is split between Water Quality Protection Charge current revenue and bonds (previously Long-Term Financing). As was included in the FY21-26 CIP, the Executive recommends a two-year appropriation (\$1.848 million) to give DOT more flexibility in year one of the CIP.

Council Staff concurs with the Executive’s recommended increase in the annual level of effort in this project given the existing and future work expected. The impact of this (and increases being considered in other projects) on the Water Quality Protection Fund and Charge can be considered during the DEP Operating Budget review later this spring.

Storm Drain Culvert Replacement (PDF on ©22-23)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	9,700	1,200	1,700	1,700	1,700	1,700	1,700		
FY23-28 CE Recommended	13,500			5,000	1,700	1,700	1,700	1,700	1,700
change from approved	3,800			3,300	-	-	-		
percent change from approved	39.2%			194.1%	0.0%	0.0%	0.0%		

This project provides for the replacement of failed storm drain pipes and culverts that are less than 6 feet in roadway longitudinal length.¹ The project does not make major changes to the location or size of the existing storm drain facilities. The work done out of this project includes systematic work and emergency work. DOT defines this work as follows:

Systematic work would be characterized as the repairs of fatigued and/or damage to the storm drain infrastructure, that is most likely reported by residents to MC311 or other agencies within the County Government. Those repairs or storm drain replacements are subsequently scheduled to be performed as funding allows. These projects sometimes require permit acquisition and coordination.

Emergency work would be characterized as reported failures that require immediate attention for the safety of the public. Staff moves swiftly to ensure that the site is made safe. Critical coordination efforts begin as plans are then made for repairs.

Emergency work, by definition, is unforeseen and therefore when this type of work arises, it is funded out of the same annual level of effort in this project as the systematic work unless supplemental funding is sought.

For FY23-28, the County Executive recommends a one-time increase of \$3.3 million in FY23 (from \$1.7 million to \$5.0 million) and the same \$1.7 million approved level of effort in FYs24-28. the \$1.2 million per year; the same annual level of expenditures as in the Approved FY21-26 CIP.²

¹ Structures longer than 6 feet in longitudinal length would continue to be addressed in the Bridge Renovation Program project (No. 509753).

² Two years ago, given the large backlog of replacement work for storm drain pipes and culverts as identified in the Infrastructure Task Force Report, Council Staff recommended and the Council approved phasing in a higher annual

The approved project funding was entirely Long-Term Financing which is now being switched to Water Quality Protection Bonds.

Through DOT’s recent asset inventory work, an additional 400 pipes were found that were not in its inventory. The 75 worst pipes are now assumed to be updated over the next six years. Some will e addressed in this project and some in bridge program.

The PDF notes that four projects are being added in FY23 and funded with the additional \$3.3 million included in the Recommended CIP for FY23. All four projects involve severely deteriorating infrastructure. They include: Crabbs Branch storm drain, Wightman Road culvert, Centerway Road culvert, and Tucker Lane culvert. Two other projects were already assumed to be done in FY23: Armat Drive (Culvert Paving/Lining) and Hidden Valley (Culvert Paving/Lining).

The Eighth Report of the Infrastructure Maintenance Task Force (February 2020) includes information on storm drains (see excerpt on ©29) and the results of the survey work up to that point, and identifies a backlog of \$47.3 million and an “Acceptable Annual Replacement Cost” of \$4.04 million. Even with the increase in the level of effort approved two years ago, the current level of effort of \$1.7 million is only about 42 percent of that level.

Council Staff recommends approval of the one-time FY23 increase of \$3.3 million recommended by the County Executive. Given the backlog and increased level of effort noted in the Infrastructure Task Force Report, consideration should be given to increasing the level of effort in this project in FY24 and beyond. This impact of an increased level of effort can be reviewed when the Council takes up the DEP Operating Budget and the Water Quality Protection Fund Six-Year Fiscal Plan.

Storm Drain General (PDF on ©24-26)

Storm Drain General									
	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	5,940	940	1,000	1,000	1,000	1,000	1,000		
FY23-28 CE Recommended	12,000			2,000	2,000	2,000	2,000	2,000	2,000
change from approved	6,060			1,000	1,000	1,000	1,000		
percent change from approved	102.0%			100.0%	100.0%	100.0%	100.0%		

This project includes any storm drain projects costing less than \$500,000, as well as funding to address “spot” projects that can be addressed relatively quickly throughout the year. Projects are prioritized based on their public safety impact (if any), cost, readiness (i.e., facility planning must be completed), potential community benefits, and order the issue was first identified (if projects are of equal merit).

level of effort in the Storm Drain Culvert Replacement project. This additional funding also provides DOT more flexibility to deal with emergencies in a timely manner.

For FY23-28, the County Executive recommends doubling the annual funding level from \$1.0 million to \$2.0 million per year. The level of effort was increased from \$854,000 to \$1.0 million (a 17 percent increase) two years ago to help address the backlog of work in this project.

A two-year appropriation has been provided for this project through the last several CIP cycles to provide flexibility to DOT to plan and complete projects through its work order contractor without having to have artificial delays waiting for the next fiscal year to begin. In past years, DOT has noted that it has exhausted its past two-year appropriations (\$1.7 million) early in Year Two.

A list of work completed in FY21 and FY22 is provided below:

Groton Rd- \$25k – Storm drain repair, bioswale and infiltration trench.
Charen Lane - \$44k – Expanded 2 inlets, replaced manhole and installed grass swale.
Goshen Rd - \$26k- Installed inlet and bioswale.
Windsor Lane - \$76k – Installed storm drain and infiltration trench.
Pearson St - \$16k – Installed curb and storm drain inlet.
Whisperwood Lane - \$155k– Repaired endwall and stream restoration.
Brandy Hall Lane - \$109k – storm drain repair to prevent erosion adjacent to Park property.
Hollyoak Ct - \$132k - Repaired storm drain and installed step pools for stream stabilization
Eastwood Ave - \$33k – Installed curb, inlet, manhole and infiltration trench
Tomlinson Ave- \$18k - Installed pipe and drywell.
Tranford Dr - \$20k – Installed pipe, infiltration trench and swale.
McComas Ave - \$65k – Infiltration trench.
Stafford Rd - \$49k – Stabilized outfall, installed rip rap using imbricated stone and soil stabilization matting.
Thornley Ct – \$16k - Installed headwall and swale.
Roosevelt St - \$50k – Installed infiltration trench and two inlets.
Brookside Dr - \$47k – Installed and repaired storm drain.
Greenfield St - \$32k – Re-graded grass swale and installed storm drain.
Stonington Pl - \$35k – Installed inlet and storm drain.
Lamberton Dr - \$108k – Installed headwall, endwall, plunge pools and stabilized outfall.
Warren St - \$166k – Installed 4 inlets, endwall, manhole, storm drain pipe and infiltration trench.
Decatur St - \$15k – Installed infiltration trench.
Burdette Rd - \$25k – Installed inlet, grass swale and infiltration trench.
Buttonwood - \$32k – Installed manhole, inlets and stabilized outfall

Candidate projects for FY23 are listed on the PDF.

In addition, DOT has provided a list of 13 projects (see below) that are considered non-emergency but could be prioritized and added to the candidate list if funding allows

List of projects	Planning	Construction
	Facility Planning	Storm Drain
	Storm Drain	General
	CIP 508180	CIP 500320
1. Princess Anne Dr – Erosion issue on steep road and sidewalk. Construction cost estimate = \$75k, Planning = \$7.5k	\$ 7.5	\$ 75
2. Williamsburg Dr – Install bump outs with bioretention to prevent icing from sump pump discharge. Construction cost estimate = \$75k, Planning = \$7.5k.	\$ 7.5	\$ 75
3. Woodbine St – Install storm drain to prevent frequent but minor road flooding. Construction cost estimate = \$225k, Planning = \$25k	\$ 25.0	\$ 225
4. Glenbrook Road - Install curbing and bioretention. Construction cost estimate = \$80k, Planning cost = \$8k	\$ 8.0	\$ 80
5. Turner Lane - Replace headwall and concrete channel. Construction cost estimate = \$25k and planning = \$5k.	\$ 5.0	\$ 25
6. Thornapple St – Add inlets at intersections. Construction cost estimate = \$80k and planning = \$8k.	\$ 8.0	\$ 80
7. Cambridge Park Ct- Add inlets and bioretention. Construction cost estimate = \$125k and planning = \$12.5k.	\$ 12.5	\$ 125
8. Sunset Lane – icing at intersection. Solution to be investigated.		
9. Beech Tree Rd – Install inlets. Construction cost estimate = \$75k and planning = \$7.5k.	\$ 7.5	\$ 75
10. Dresden St- Increase storm drain pipe size. Construction cost estimate = \$75k and planning = \$7.5k.	\$ 7.5	\$ 75
11. Wyoming Ct – Install pervious parking on street. Construction cost estimate = \$100k and planning = \$10k.	\$ 10.0	\$ 100
12. Jamestown Rd – Install inlets. Construction cost = \$50k and planning = \$5k.	\$ 5.0	\$ 50
13. Long Pine Trail – Reconfigure intersection to direct runoff to bioretention. Construction cost = \$25k and planning = \$3k	\$ 3.0	\$ 25
TOTAL	\$ 106.5	\$ 1,010

Council Staff concurs with the Executive’s recommended increase in the annual level of effort in this project given the existing and future work expected. The impact of this (and increases being considered in other projects) on the Water Quality Protection Fund and Charge can be considered during the DEP Operating Budget review later this spring.

Given the high priority given to Storm Drain work in the County’s Climate Action Plan, the large backlogs of known work identified by DOT, and the current longer than recommended replacement cycle (based on the Infrastructure Task Force report from two years ago) for pipes and culverts, Council Staff is supportive of the increases recommended by the County Executive. Council Staff also concurs with the funding switches assumed from Long-Term Financing to Water Quality Protection Bonds.

AGENDA ITEM #2: FY23-28 STORMWATER MANAGEMENT CIP

Summary

Stormwater management is a shared responsibility among several County departments and agencies. DEP plans and implements the stormwater management CIP program. The Department of Permitting Services reviews, approves, inspects, and enforces requirements for construction of privately-owned stormwater management facilities. DEP works with the County’s Department of Transportation (DOT) to address storm drain outfall repair issues, as well as with the Washington Suburban Sanitary Commission (WSSC Water) when WSSC Water infrastructure work is needed. DEP also inspects and provides structural maintenance for most Montgomery County Public Schools (MCPS) and the Montgomery County facilities on Maryland-National Capital Park and Planning Commission (M-NCPPC) land. M-NCPPC, in coordination with DEP, performs stream restoration work (utilizing Water Quality Protection funding) on park land which is credited under the County’s MS-4 permit (discussed later).

Racial Equity and Social Justice Goals

DEP has developed new tools for its three new contracting mechanisms in identifying areas of low income and high percentages of people of color which would benefit from retrofit projects. DEP has set a goal that 33 percent of its projects must be in areas within the high/medium percentile range on the equity assessment mapping tool. DEP provided the following additional detail regarding how this demographic tool was developed.

The Department of Environmental Protection (DEP) has developed a demographic index and equity assessment mapping tool to identify areas within the County that are characterized by low income and a high percentage of people of color. The equity assessment map is a means for the department to ensure equity is factored during the project selection process and throughout implementation. This map utilizes American Community Survey data from the 2019 version of the US EPA EJSCREEN for census block groups in the County. By utilizing this data and determining the demographic index percentile of an area, the department can assess equity during the project selection process.*

(<https://www.montgomerycountymd.gov/water/restoration/equity.html>)

In the soon to be released Pay for Performance RFP and resulting contracts, DEP is incentivizing Offerors to meet this goal. Projects located in high/medium percentile range on the equity assessment mapping tool, as defined above, will receive additional points in the scoring of any Proposal. This RFP has not been issued at this time; so individual projects have not been identified.

In the Parks MOU, there are four projects:

- *Lake Frank Tributary Stream Restoration and Outfall Repairs*
- *Collingwood Outfalls and Lemontree Tributary Restoration*
- *Tributary and Mainstem Stream Restoration at Radio Tower Site*
- *Desmet Place Outfall Repairs*

71% of stream restoration work under the Parks MOU is in high/medium percentile range on the equity assessment mapping tool.

In the Design/Build IFB portfolio, DEP has identified seven projects to issue IFBs for and, of these, three of the five pond retrofits and two low impact development projects are in high percentile range on the equity assessment mapping tool. DEP is estimating that about 50% of the impervious acreage credit from the IFBs will be in high/medium demographic index areas.

Fiscal Summary

An excerpt from the Executive's Recommended FY23-28 CIP is attached on ©13-26. Overall, there are four ongoing projects. As shown in the following chart, the Executive is recommending an increase of \$5.2 million (4.6%) in the six-year program (from \$113 million to \$118.2 million).

Table #1
Stormwater Management CIP (in \$000s)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY19-24 Latest Approved	112,992	21,882	26,530	16,870	15,590	16,130	15,990		
FY21-26 CE Recommended	118,191			22,433	17,752	28,027	18,454	16,101	15,424
change from Approved	5,199			5,563	2,162	11,897	2,464		
percent change from Approved	4.6%			33.0%	13.9%	73.8%	15.4%		

The county's 4th generation National Pollution Discharge Elimination System Municipal Separate Storm Sewer System (NPDES-MS4) Permit³ was issued in November 2021. Most notably, in terms of the CIP, is the requirement that by November 4, 2026, Montgomery County complete the restoration of 1,814 impervious acres that have not been treated to the maximum extent practicable (MEP) with yearly requirements to be met. As noted in prior briefings to the T&E Committee, the Stormwater Management CIP had already been structured to meet the restoration requirements (also 1,814 impervious acres) in the prior draft of the now final permit. At the Committee worksession, DEP will provide a summary of the MS4 permit requirements under the new permit.

Table 2:
Stormwater Management Projects: Six-Year Spending Changes (in \$000s)

Project	Six-Year Costs		Change from App.	
	Approved	1/15/22	\$\$	%
Facility Planning: SM	5,578	6,407	829	14.9%
Misc Stream Valley Improvements	5,110	-	(5,110)	-100.0%
SM Facility Major Structural Repair	22,560	24,927	2,367	10.5%
SM Retrofit - Countywide	74,844	83,078	8,234	11.0%
Wheaton Regional Dam Flooding Mitigation	4,900	3,779	(1,121)	-22.9%
Total Expenditure Changes	112,992	118,191	5,199	4.6%
Change from Approved		\$ 5,199		
		% 4.6%		

The sources of funds for the Approved FY21-26 CIP and the FY23-28 Recommended CIP are shown in the following chart.

³ The County's 2010-2015 MS4 permit is available on the Maryland Department of the Environment (MDE) website at: <https://mde.maryland.gov/programs/Water/StormwaterManagementProgram/Documents/Final%20Determination%20Determination%20Final%20MS4%20Permit%20Final.pdf>

**Table #3
Stormwater Management CIP Funding (in \$000s)**

	FY21-26	FY23-28	% of	Change from FY19-24	
	Total	Total	Total	\$\$	%
Six-Year Total	112,992	118,191		5,199	4.6%
Contributions	600	-		(600)	-100.0%
Long-Term Financing	71,320	58,123	49.2%	(13,197)	-18.5%
State Aid	14,049	12,130	10.3%	(1,919)	-13.7%
Federal Aid	3,201	-	0.0%	(3,201)	n/a
SWM Waiver Fees	2,100	2,360	2.0%	260	n/a
Water Quality Protection Charge - Bonds	-	30,617	25.9%	30,617	n/a
Water Quality Protection Charge	21,560	14,961	12.7%	(6,599)	-30.6%

About a decade ago, the Council approved the Executive’s recommendation to use bonds paid for with Water Quality Protection Charge (WQPC) revenue to cover most of the spending in this program. These bonds are separate from the County’s General Obligation Bond Spending Affordability limits. For FY19-24, the Executive recommended and the Council approved transitioning most of these WQPC bonds to long-term financing. However, based on further experience with the long-term financing program, some elements of the stormwater management program are recommended to transition back to Water Quality Protection Bonds. The Council recently approved CIP amendments to adjust FY22 spending in several projects. The Recommended CIP makes these same changes for the upcoming CIP period.

OMB has indicated that several additional funding switch amendments will be transmitted shortly to adjust WQPC bonds and current revenue between projects.

Public Hearing Testimony

The Council received public hearing testimony from a couple of speakers supporting out of stream stormwater control projects while expressing concerns about stream restoration projects. DEP staff will discuss this issue in their presentation. Additionally, the Stormwater Partners Network transmitted detailed written testimony on multiple stormwater management topics, which is attached on ©30-36.

Project Review

Wheaton Regional Dam Flooding Mitigation (PDF on ©13-14)

	Total Cost Thru FY20		Six-Year	FY21	FY22	FY23	FY24	FY25	FY26
FY21-26 Latest Approved	5,530	630	4,900	170	3,760	970			
FY23-28 CE Recommended	4,776		3,779	628	369	1,909	1,870		-
change from approved	(754)		(1,121)			939	1,870	-	-
percent change from approved	-13.6%		-22.9%			96.8%	n/a		

This project was first approved as part of the FY17-22 CIP to provide for the acquisition of properties located in Wheaton along Glenhaven Drive and Dennis Avenue, an area prone to severe flooding during a 100-year storm event because of the Wheaton Regional Dam downstream, the Dennis Avenue Culvert, and an undersized stream channel along Glenhaven Drive. The properties to be acquired were to be turned into non-structural recreational open space for the community. DEP began the process with the Federal Emergency Management Agency (FEMA) to update the boundaries of the 100-year floodplain in this area and the County planned to seek hazard mitigation

assistance grants for property acquisition. However, DEP was unsuccessful in getting any property owners to agree to sell their properties.

The Executive later transmitted a CIP amendment (ultimately approved by the Council) to this project with a new scope to upgrade the dam, the culvert, and/or the stream channel (as well as replacing the Dennis Avenue Bridge as a separate DOT project) to avoid future potential flooding.

The total recommended project cost is now \$4.78 million (\$754,000 less than assumed in the latest Approved FY21-26 CIP) based on the latest estimates for the scope of work.

On the funding side, the approved project had assumed \$3.0 million in Federal aid. The recommended project has removed this aid based on the project not being approved for FEMA dollars. DEP is seeking a State grant of \$3.1 million for this project. Also, Water Quality Protection Fund Current Revenue has been mostly switched to Water Quality Protection Bonds and some Long-Term financing through MDE.

Completion was previously assumed during FY23. However, DEP had to do some redesign of the project to avoid minor floodplain changes that would have required downstream property owner approvals (which were not forthcoming).

Council Staff recommends approval of the project.

Facility Planning: SM (PDF on ©3-4)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	5,578	778	920	940	960	980	1,000		
FY23-28 CE Recommended	6,407			1,018	1,037	1,057	1,077	1,098	1,120
change from approved	829			78	77	77	77		
percent change from approved	14.9%			8.3%	8.0%	7.9%	7.7%		

This project provides watershed level planning (such as countywide and tributary watershed assessments), development of the Total Maximum Daily Load (TMDL) Implementation Plan required in the new NPDES-MS4 permit, as well as general project management and planning for the program. The Executive is recommending additional funding for this project based on the increased work required from the new NPDES-MS4 permit. Specific activities associated with individual projects are captured in the Countywide PDF, the Major Structural Repair PDF and the Wheaton Regional Dam Flooding Mitigation PDF.

Council Staff recommends approval of the project.

Stormwater Management Facility Major Structural Repair (PDF on ©8-9)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	22,560	5,460	4,690	3,150	3,150	3,060	3,050		
FY23-28 CE Recommended	24,927			8,577	4,360	3,075	3,135	2,795	2,985
change from approved	2,367			5,427	1,210	15	85		
percent change from approved	10.5%			172.3%	38.4%	0.5%	2.8%		

This project provides for the design and construction of major structural repairs to County maintained stormwater management facilities. Smaller, less complex projects are funded out of the Operating Budget.

The Executive is recommending a six-year total of about \$24.9 million (an increase of \$2.4 million, or 10.5 percent). The recommended increase is intended to address cost increases being experienced for this work. Two years ago, the Executive recommended and the Council approved nearly doubling the level of effort in this project to begin to address a backlog of 65 projects.

Council Staff recommends approval of the project.

SM Retrofit: Countywide (PDF on ©10-12)

	Six-Year	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
FY21-26 Latest Approved	74,844	11,494	16,030	11,810	11,480	12,090	11,940		
FY23-28 CE Recommended	83,078			10,929	10,485	23,895	14,242	12,208	11,319
change from approved	8,234			(881)	(995)	11,805	2,302		
percent change from approved	11.0%			-7.5%	-8.7%	97.6%	19.3%	n/a	n/a

This project provides for the design and construction of stormwater management retrofit projects Countywide to meet the County’s MS-4 permit requirements.

As part of the FY21-26 CIP, the Executive recommended and the Council approved moving project costs from the Design/Build/Maintain, SM Retrofit – Government Facilities, SM Retrofit Roads, SM Retrofit Schools, Watershed Restoration – Interagency, and the Misc Stream Valley Improvements projects to this project.

The Executive is recommending a total of \$83.1 million over the six-year period (an 11 percent increase from the FY21-26 Approved CIP due to enhanced requirements in the new MS4 permit.

DEP is moving forward with three different contracting mechanisms to achieve 500 acres of its MS4 retrofit requirement. They include:

- An MOU with M-NCPPC for four stream and outfall restoration projects
- A Pay for Performance RFP for several restoration projects, and
- Design-Build Invitations for Bid for several stormwater pond retrofit and low impact development projects.

DEP staff’s presentation will provide more information on these contracting approaches and the MS4 permit in general.

Council Staff recommends approval of the project.

The Recommended FY23-28 Stormwater Management CIP reflects marginal changes from the FY21-26 Approved CIP (which had been developed based on expected requirements in the County’s new MS4 permit). With the final permit now issued, the Stormwater Management CIP reflects relatively modest increases to address the new permit. The CIP also reflects the Executive’s support for moving away from a single design/build/maintain umbrella project to a more flexible set of contracting approaches with maintenance managed separately. Council Staff recommends approval of the Stormwater Management CIP as recommended by the County Executive.

Attachments



Stormwater Management

PROGRAM DESCRIPTION AND OBJECTIVES

Uncontrolled stormwater runoff from developed areas leads to erosion of stream banks, siltation and widening of stream channels, and localized flooding. Urbanization often impacts stream habitats, leading to declines in the diversity of fish and other aquatic species. Urban runoff also adds to downstream pollution in the Anacostia, Patuxent, and Potomac rivers and the Chesapeake Bay. Multi-state agreements as well as State legislation and programs emphasize the importance of watershed-based programs to protect aquatic habitats and reduce pollution in the Bay and its tributaries.

The objectives of the Stormwater Management program are: protecting natural waterway environments; addressing the impacts of stormwater runoff by enhancing existing best management practices (BMPs) such as ponds, restoring streams previously damaged by excessive erosion and sedimentation, and installing other best management practices (BMPs) to capture runoff and allow for treatment to prevent impaired water quality. The County's Stormwater Management program is watershed-based and focuses on mitigating problems caused by development that was constructed prior to implementation of current stormwater management controls and on proactive planning in the developing portions of the County.

Residential and Commercial property owners pay a Water Quality Protection Charge (WQPC) to fund the Stormwater Management program. The WQPC funds are used to install new treatment facilities and retrofit existing facilities, maintain treatment facilities, monitor the effects of the treatment, ensure an active public education and engagement program, and ensure compliance with the multiple requirements of the permit issued to the County under the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit. The WQPC, financing secured by the WQPC, as well as a State-facilitated long-term loan, are the main funding mechanisms for treatment facility projects.

The County's stormwater control requirements are established in the MS4 Permit, issued by the Maryland Department of the Environment (MDE). A fourth generation permit was issued for Montgomery County in November 2021.

The Stormwater Management capital program includes facility planning studies and the development of Watershed Restoration Action Plans, design and construction of stormwater retrofit projects (including low-impact development and green infrastructure), and stream restoration projects. These projects reduce pollution in streams and manage peak runoff flows to improve stream channel habitat and reduce sedimentation impacts from watershed development and urbanized areas.

Since FY04, the County has performed structural maintenance for qualified private stormwater management facilities such as ponds, sand filters, and underground facilities located on homeowner and condominium association and commercial properties. The WQPC funds the maintenance of these privately-owned structures as well as County-owned facilities. This program improves the long-term operational effectiveness of these facilities and increases their pollution removal efficiency. Inspection and routine maintenance of these facilities are funded in the operating budget, while major structural repairs that require extensive engineering design and permitting are funded in the CIP.

The Stormwater Management program, which was developed by the Department of Environmental Protection (DEP) to comply with the NPDES MS4 permit, continues to act as a model for jurisdictions throughout Maryland who are required to develop and implement a Stormwater Management program.

The CIP budget represents the resources necessary to complete the requirements of the new MS4 permit and maintain improvements already completed. Additionally, DEP continues to identify program efficiencies to allow for better informed decision making and restoration outcomes at reduced costs. These include the pursuit of lower-cost funding through the Maryland Water Quality Revolving Loan Fund and the increased utilization of Public Private Contracts and Partnerships.

The FY23-28 CIP program for Stormwater Management continues the County's commitment to treat impervious surfaces within the County to the maximum extent practicable. The Department of Transportation (DOT) and the Maryland-National Park and Planning Commission also assist in achieving the County's stormwater management goals, and hold regular meetings with DEP staff looking for additional areas of cooperation.

HIGHLIGHTS

- Use Maryland Water Quality Revolving Loan funds to reduce program costs through lower interest financing.
- Use Water Quality Bonds for projects that are ineligible for low-interest loans.
- Install new stormwater management facilities and retrofit old stormwater controls to prevent property damage, improve water quality, and protect habitat.
- Repair major structures on public and private stormwater facilities accepted into the County's maintenance program.

PROGRAM CONTACTS

Contact Patrice Bubar of the Department of Environmental Protection at 240.777.7786 or Richard H. Harris of the Office of Management and Budget at 240.777.2795 for more information regarding this department's capital budget.

CAPITAL PROGRAM REVIEW

A total of five projects are recommended for FY23-28 and are described in detail in the Project Description Forms. The Recommended FY23-28 Stormwater Management capital program totals \$118.2 million, an increase of \$5.2 million or 4.6 percent from the amended approved FY21-26 program of \$113.0 million.

The Stormwater Management Capital Program will be funded primarily by long-term debt financing through the Maryland Water Quality Revolving Loan Fund, WQPC-backed bonds, and Current Revenue: WQPC. The Stormwater Management Program assumes multiple awards of Maryland Water Quality Revolving Loan Funds over the six-year period, which replace WQPC Bonds as the primary source of funding for new installations and water quality improvements. Maryland Water Quality Revolving Loan Funds are a low-interest form of borrowing that reduces the overall cost of the program. The loans and bonds will cover expenditures incurred for the design and construction of additional stormwater facilities needed to comply with the requirements of the County's MS4 permit. Cost containment efforts have been aggressively pursued to avoid large increases in the WQPC.

Also included in the funding of the stormwater management projects is an assumption of \$12.1 million in State Aid based on the State's interest in supporting stormwater management efforts throughout the state.



Facility Planning: Stormwater Management (P809319)

Category	Conservation of Natural Resources	Date Last Modified	01/07/22
SubCategory	Stormwater Management	Administering Agency	Environmental Protection
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	21,895	14,507	981	6,407	1,018	1,037	1,057	1,077	1,098	1,120	-
Other	448	448	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	22,343	14,955	981	6,407	1,018	1,037	1,057	1,077	1,098	1,120	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: General	5,000	5,000	-	-	-	-	-	-	-	-	-
Current Revenue: Water Quality Protection	14,413	9,018	638	4,757	743	762	782	802	823	845	-
Intergovernmental	68	-	68	-	-	-	-	-	-	-	-
State Aid	140	140	-	-	-	-	-	-	-	-	-
Stormwater Management Waiver Fees	2,222	797	225	1,200	200	200	200	200	200	200	-
Water Quality Protection Bonds	500	-	50	450	75	75	75	75	75	75	-
TOTAL FUNDING SOURCES	22,343	14,955	981	6,407	1,018	1,037	1,057	1,077	1,098	1,120	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	699	Year First Appropriation	FY93
Appropriation FY 24 Request	1,037	Last FY's Cost Estimate	20,092
Cumulative Appropriation	16,255		
Expenditure / Encumbrances	14,975		
Unencumbered Balance	1,280		

PROJECT DESCRIPTION

This project provides for facility planning and feasibility studies to evaluate watershed conservation needs and to identify remedial projects for stormwater management, stormwater retrofit, Environmental Site Design (ESD)/Low Impact Development (LID), and stream restoration projects. Projects in facility planning may include the preparation of watershed plans assessing stream restoration, stormwater management retrofit projects, and ESD/LID projects to help mitigate degraded stream conditions in rural and developed watersheds. Water quality monitoring and analysis is required to quantify impacts of watershed development and projects implemented in the Stormwater Management Retrofit Countywide project (No. 808726). The projects generated in facility planning

support the requirements in the County's Municipal Separate Storm Sewer System (MS4) Permit. Facility planning represents planning and preliminary design and develops a program of requirements in advance of full programming of a project. This project also provides for operation of automated fixed monitoring stations as required by the MS4 Permit.

COST CHANGE

Costs increase due to enhanced requirements of the MS4 permit, and as FY27 and FY28 enter the six-year period.

PROJECT JUSTIFICATION

The facility planning products support the requirements outlined in the County's MS4 Permit. This project establishes the facilities planning data and alternatives analysis needed to identify and set priorities for individual capital projects. Facility planning costs for projects which are ultimately included in stand-alone Project Description Forms (PDFs) are reflected here and not in the resulting individual project. Future individual CIP projects which result from facility planning will reflect reduced planning and design costs.

FISCAL NOTE

Funding sources updated in FY23 to include Water Quality Protection Charge-backed revenue bonds. FY21 supplemental in Intergovernmental for the amount of \$67,509. Expenditures in the outyears include expected costs to meet the requirements of the County's next MS4 permit. The scope of the next MS4 permit is subject to negotiation with the Maryland Department of Environment.

DISCLOSURES

Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

Maryland-National Capital Park and Planning Commission, U. S. Army Corps of Engineers, Washington Suburban Sanitary Commission, Department of Transportation, Montgomery County Public Schools, Stormwater Management Retrofit Countywide (No. 808726), Misc. Stream Valley Improvements.



Misc Stream Valley Improvements (P807359)

Category	Conservation of Natural Resources	Date Last Modified	01/08/22
SubCategory	Stormwater Management	Administering Agency	Environmental Protection
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	6,002	5,880	122	-	-	-	-	-	-	-	-
Land	2	2	-	-	-	-	-	-	-	-	-
Site Improvements and Utilities	1	1	-	-	-	-	-	-	-	-	-
Construction	10,877	9,297	1,580	-	-	-	-	-	-	-	-
Other	7,978	7,978	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	24,860	23,158	1,702	-	-	-	-	-	-	-	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: Water Quality Protection	3,917	2,415	1,502	-	-	-	-	-	-	-	-
Long-Term Financing	9,329	9,329	-	-	-	-	-	-	-	-	-
State Aid	4,106	4,106	-	-	-	-	-	-	-	-	-
Stormwater Management Waiver Fees	1,490	1,290	200	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	6,018	6,018	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	24,860	23,158	1,702	-	-	-	-	-	-	-	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	(651)	Year First Appropriation	FY73
Appropriation FY 24 Request	-	Last FY's Cost Estimate	25,511
Cumulative Appropriation	25,511		
Expenditure / Encumbrances	24,765		
Unencumbered Balance	746		

PROJECT DESCRIPTION

This project provides for design and construction of habitat restoration or stabilization measures for stream reaches having significant channel erosion, sedimentation, and habitat degradation. Developed areas constructed without current stormwater controls contribute uncontrolled runoff which results in eroded streambanks, excessive sediment, tree loss, and degraded habitat for fish and aquatic life. Stormdrain outfalls damaged from severe erosion are identified and, where possible, the outfalls are repaired - funded from the Outfall

Repairs project (No. 509948).

COST CHANGE

Reduction in costs reflects conclusion of project.

PROJECT JUSTIFICATION

The project supports the requirements of the County's MS4 permit and addresses the goals of the Chesapeake Bay Watershed Agreement, Anacostia Watershed Restoration Agreement, and the County's adopted water quality goals (Chapter 19, Article IV). The project will stabilize and improve local stream habitat conditions where streams have been damaged by inadequately controlled stormwater runoff.

OTHER

Projects planned for design and construction include Booze Creek Repairs. The Montgomery Parks Department of the Maryland-National Capital Park and Planning Commission (M-NCPPC) and the Montgomery Department of Environmental Protection (DEP) have agreed that M-NCPPC will serve as the lead agency for implementing stream restoration projects including long-term monitoring and maintenance that are located wholly or mostly on parks property in support of the County's MS4 permit. Previously, DEP had begun design work on the following stream restoration projects which meet these criteria: Clearspring Manor, Glenallan, Stoneybrook (Beach Drive to Montrose Avenue), and Grosvenor (Beach Drive to Rockville Pike). DEP has provided all design work for these projects to M-NCPPC for design completion, permitting, and construction under M-MNCPPC's Stream Protection: SVP (P818571) project. M-NCPPC has agreed that all MS4 credits generated from these projects will be credited towards the County's future MS4 permit with delivery of the restored impervious acres no later than Dec. 31, 2023. M-NCPPC will provide appropriate updates at key project milestones to ensure that MS4 credits are achieved in the timeframe required, in addition to providing the long-term monitoring and maintenance required for the County to maintain the impervious acreage credit. These projects are currently estimated to have a combined cost of \$2.4M and will provide approximately 44 acres of credit; funding was provided under M-MNCPPC's Stream Protection: SVP (P818571) project. Parks will provide updated schedule and cost information on all projects for construction allocation funding beginning in FY 20, based on MDE's Water Quality Revolving Loan Fund cycle timeframes. M-NCPPC and DEP developed a Memorandum of Understanding that details how projects completed by M-NCPPC, funded with WQPC dollars, with MS4 credits going to DEP, will be handled. M-NCPPC will document all MS4 credits created through these projects in accordance with MDE requirements to obtain State approval for the permit credits. M-NCPPC recognizes that stream restoration projects with relatively small segments located on Parks property may be selected by the County's DBM contractor. If selected by the County's contractor and approved by DEP with concurrence by M-NCPPC, the contractor will need to obtain a Park Permit and comply with all M-NCPPC requirements.

FISCAL NOTE

This CIP Project will be closed after the completion of the Booze Creek Repair project, expected in FY22. Any future stream restoration work will be performed under CIP Project # 808726 - Stormwater Management Retrofit: Countywide.

DISCLOSURES

The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

Department of Transportation, Maryland-National Capital Park and Planning Commission, Washington Suburban Sanitary Commission, Department of Permitting Services, Maryland Department of the Environment, and Maryland Department of Natural Resources.



Stormwater Management Facility Major Structural Repair

(P800700)

Category	Conservation of Natural Resources	Date Last Modified	01/09/22
SubCategory	Stormwater Management	Administering Agency	Environmental Protection
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	16,729	6,825	1,597	8,307	1,417	1,250	1,325	1,435	1,445	1,435	-
Construction	35,424	14,097	4,707	16,620	7,160	3,110	1,750	1,700	1,350	1,550	-
Other	1	1	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	52,154	20,923	6,304	24,927	8,577	4,360	3,075	3,135	2,795	2,985	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Contributions	600	-	600	-	-	-	-	-	-	-	-
Current Revenue: Water Quality Protection	10,748	10,748	-	-	-	-	-	-	-	-	-
Long-Term Financing	13,656	2,703	5,704	5,249	4,989	260	-	-	-	-	-
State Aid	529	399	-	130	130	-	-	-	-	-	-
Water Quality Protection Bonds	26,621	7,073	-	19,548	3,458	4,100	3,075	3,135	2,795	2,985	-
TOTAL FUNDING SOURCES	52,154	20,923	6,304	24,927	8,577	4,360	3,075	3,135	2,795	2,985	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	3,183	Year First Appropriation	FY07
Appropriation FY 24 Request	4,100	Last FY's Cost Estimate	43,999
Cumulative Appropriation	32,881		
Expenditure / Encumbrances	24,334		
Unencumbered Balance	8,547		

PROJECT DESCRIPTION

This project provides for the design and construction of major structural repairs to County maintained stormwater management facilities. The County is responsible for structural maintenance of over 6,800 stormwater management facilities. Major structural repairs can include dredging and removing sediment, removal and replacement or relining of failing pipes and principal spillways, replacing failing riser structures, and repairing failing dam embankments. The repair work under this project is more significant than routine maintenance and requires engineering analysis and design and application for Federal, State, and/or local permitting.

COST CHANGE

Costs increase due to growth in subproject costs and as FY27 and FY28 enters the six-year period.

PROJECT JUSTIFICATION

This project provides for major structural repairs in order to comply with the County's municipal separate storm sewer system (MS4) permit. It is limited to funding repairs at facilities that require extensive engineering design and permitting that cannot be accomplished within a single fiscal year due to the time required to obtain State and Federal permits.

Current projects include: Wheaton Branch overtopping protection, Railroad Branch Dam, Lake Hallowell dredging project, Lake Whetstone Toe Drain repair, Clearspring Manor Road, Norbeck Manor Pond, Quail Valley Pond, Rossmoor Leisure World Pond, and Gunners Lake Erosion Repair.

FISCAL NOTE

Funding sources updated in FY23 to include Water Quality Protection Fund bonds in FY23-FY28. The County intends for a portion of Long-Term Financing in FY22 to also be paid for with Water Quality Protection Fund bonds. FY21 supplemental in Contributions for the amount of \$600,000. This project assumes the award of Maryland Water Quality Revolving Loan Funds (long-term financing) over the six-year period.

DISCLOSURES

Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

Department of Transportation, Maryland-National Capital Park and Planning Commission, Department of Permitting Services, Homeowners Associations, Montgomery County Public Schools, Department of General Services, Maryland State Highway Administration, Stormwater Management Retrofit: Countywide (No. 808726), and Maryland Department of Natural Resources.



Stormwater Management Retrofit: Countywide

(P808726)

Category	Conservation of Natural Resources	Date Last Modified	01/08/22
SubCategory	Stormwater Management	Administering Agency	Environmental Protection
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	51,680	24,074	3,294	24,312	3,990	4,536	3,211	4,248	4,158	4,169	-
Land	3	3	-	-	-	-	-	-	-	-	-
Site Improvements and Utilities	10	10	-	-	-	-	-	-	-	-	-
Construction	87,916	26,398	3,168	58,350	6,871	5,781	20,684	9,914	8,050	7,050	-
Other	7,522	6,982	124	416	68	168	-	80	-	100	-
TOTAL EXPENDITURES	147,131	57,467	6,586	83,078	10,929	10,485	23,895	14,242	12,208	11,319	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Contributions	60	-	60	-	-	-	-	-	-	-	-
Current Revenue: Water Quality Protection	26,372	14,193	1,975	10,204	1,657	1,691	1,551	1,728	1,708	1,869	-
Federal Aid	201	-	201	-	-	-	-	-	-	-	-
Intergovernmental	1,094	1,000	94	-	-	-	-	-	-	-	-
Long-Term Financing	65,620	8,490	4,256	52,874	6,692	5,724	19,594	8,864	6,000	6,000	-
State Aid	15,699	3,699	-	12,000	2,000	2,000	2,000	2,000	2,000	2,000	-
Stormwater Management Waiver Fees	1,160	-	-	1,160	180	180	200	200	200	200	-
Water Quality Protection Bonds	36,925	30,085	-	6,840	400	890	550	1,450	2,300	1,250	-
TOTAL FUNDING SOURCES	147,131	57,467	6,586	83,078	10,929	10,485	23,895	14,242	12,208	11,319	-

OPERATING BUDGET IMPACT (\$000s)

Impact Type	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Maintenance	540	90	90	90	90	90	90
NET IMPACT	540	90	90	90	90	90	90

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	865	Year First Appropriation	FY87
Appropriation FY 24 Request	2,761	Last FY's Cost Estimate	133,856
Cumulative Appropriation	99,334		

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Expenditure / Encumbrances	62,598
Unencumbered Balance	36,736

PROJECT DESCRIPTION

This project provides for the design and construction of new and upgraded stormwater management facilities throughout the County under the County's Municipal Separate Storm Sewer System (MS4) Permit. Facilities include but are not limited to new or upgraded stormwater management ponds, Environmental Site Design (ESD) / Low-Impact Development (LID) facilities, and stream restorations.

COST CHANGE

Costs increase due to enhanced requirements under the new MS4 permit and as FY27 and FY28 enter the six-year period, partially offset by slippage of prior-year appropriations while the County waited for the new permit to be issued.

PROJECT JUSTIFICATION

This project is needed to comply with the County's MS4 permitting requirements and to implement the County's adopted water quality goals (COMCOR Chapter 19, Article IV) and protect habitat conditions in local streams. In addition, the project supports the goals of the Anacostia Watershed Restoration Agreement.

OTHER

This project utilizes Maryland Water Quality Revolving Loan Funds (long-term financing). Expenditures in the out-years include expected costs to meet the requirements of the County's next MS4 permit. The scope of the next permit is subject to negotiation with the Maryland Department of Environment.

FISCAL NOTE

Funding Sources updated in FY23 to include Water Quality Protection Fund bonds in FY23-28. The County intends for a portion of Long Term Financing in FY22 to also be paid for with Water Quality Protection Fund bonds. FY21 supplemental in Intergovernmental for the amount of \$93,773, and FY21 fund switch of \$200,748 to remove State Aid and add Federal Aid for the Chesapeake Bay Trust Green Streets, Green Jobs, Green Towns grant program.

This project utilizes Maryland Water Quality Revolving Loan Funds (long-term financing) over the six-year period.

The work Program will be based on permit requirements, an assessment of priority needs and community input including feedback from stormwater partners.

DISCLOSURES

Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

Department of Transportation, Maryland National Capital Park and Planning Commission, Department of Permitting Services, Maryland Department of the Environment, Natural Resources Conservation Service, U.S. Army Corps of Engineers, Facility



Wheaton Regional Dam Flooding Mitigation (P801710)

Category	Conservation of Natural Resources	Date Last Modified	12/29/21
SubCategory	Stormwater Management	Administering Agency	Environmental Protection
Planning Area	Kensington-Wheaton	Status	Planning Stage

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	1,276	628	369	279	159	120	-	-	-	-	-
Construction	3,500	-	-	3,500	1,750	1,750	-	-	-	-	-
TOTAL EXPENDITURES	4,776	628	369	3,779	1,909	1,870	-	-	-	-	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: Water Quality Protection	628	628	-	-	-	-	-	-	-	-	-
Long-Term Financing	369	-	369	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	3,779	-	-	3,779	1,909	1,870	-	-	-	-	-
TOTAL FUNDING SOURCES	4,776	628	369	3,779	1,909	1,870	-	-	-	-	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	(754)	Year First Appropriation	FY16
Appropriation FY 24 Request	-	Last FY's Cost Estimate	5,530
Cumulative Appropriation	5,530		
Expenditure / Encumbrances	891		
Unencumbered Balance	4,639		

PROJECT DESCRIPTION

This flood mitigation project, located along Glenhaven Drive and Dennis Avenue in Wheaton, will excavate and expand the stream channel upstream of the Wheaton Regional Pond and modify the pond's riser structure. This project will be constructed in parallel with the Department of Transportation's (DOT) Dennis Avenue bridge replacement. The two projects will modify the current 100-year floodplain boundary just upstream of the pond. The post-project 100-year floodplain will not include the residential properties located in the current 100-year floodplain.

ESTIMATED SCHEDULE

The riser modification and channel design began in FY18 with the riser repair construction expected to start in FY23. The excavation of the channel will occur in coordination with DOT's culvert replacement in FY23 and FY24.

COST CHANGE

Project cost adjusted as scope is further refined.

PROJECT JUSTIFICATION

An engineering analysis by the Department of Environmental Protection indicates that the effect of the riser structure associated with the Wheaton Regional Pond, the Dennis Avenue Culvert, and an undersized stream channel along Glenhaven Drive, cumulatively, will cause flooding of roads and private property upstream of the pond during a 100-year storm event. Flooding of adjacent roads and private property has already occurred in 2006 and 2010.

FISCAL NOTE

Funding sources updated in FY23 to include Water Quality Protection Fund bonds in FY23-FY28. The County intends for a portion of Long Term Financing in FY22 to also be paid for with Water Quality Protection Fund bonds. This project will be done in conjunction with the DOT Dennis Avenue bridge replacement project (P501701).

COORDINATION

Department of Transportation, Federal Emergency Management Agency, Maryland Emergency Management Agency, and Dennis Ave Bridge M-0194 Replacement (No. 501701).



Storm Drains

PROGRAM DESCRIPTION AND OBJECTIVES

The Department of Transportation (DOT) involvement in the County Conservation of Natural Resources program is mandated by Section 2 58A (c) of the County Code which requires DOT to be responsible for control, supervision, design, construction, and maintenance of all culverts and storm drainage systems under the jurisdiction of the County.

The DOT Storm Drains Capital Program consists of the construction of storm drainage structures such as curbs, gutters, drainage inlets, pipes, and channels. Such networks are constructed to provide for the conveyance of stormwater from impervious surfaces into natural drainage swales and stream channels. This program is focused on storm drainage projects outside the scope of the larger DOT Roads program, which also installs storm drainage systems at the time of new road construction or existing road reconstruction or enhancement.

A second component of the Storm Drains program involves County-developer and homeowner participation in the construction of storm drainage facilities. Construction of storm drainage facilities provides a public benefit by reducing drainage problems, flooding, property damage, and contributing to the orderly development of the County. In participation projects, the County and the developer or the homeowner agree to share the costs of storm drainage facilities in which the benefit of storm drainage extends beyond the developer's or homeowner's own property. The County pays only for that portion of the project which benefits properties other than the developer's or homeowner's, not to exceed 50 percent of the total cost. Homeowners can satisfy their portion of the cost-share through in-kind contributions.

STORMWATER MANAGEMENT COORDINATION

In February 2010, the Maryland Department of the Environment issued the County a National Pollutant Discharge Elimination System (NPDES) Permit. This permit requires that the County develop and implement a Stormwater Management program to prevent harmful pollutants from being washed or dumped into the Municipal Separate Storm Sewer Systems (MS4). The DOT is partnering with the County's Department of Environmental Protection (DEP) in implementing the MS4 Permit by 1) constructing Stormwater Management (SWM) retrofit programs which have been developed through DEP's MS4 planning studies, 2) providing opportunities for curb bump-outs and road narrowing where feasible to permit implementation of Low-Impact Development (LID) SWM provisions within the right-of-way, 3) seeking DEP guidance on prioritization of storm drain outfall repairs, and 4) coordinating with DEP on storm drain projects developed in the Storm Drain General and Facility Planning Storm Drain programs to identify opportunities for enhancements which would assist in meeting the requirements of the MS4 permit.

In recognition of the Stormwater Management added value to the Storm Drains projects, Storm Drains have historically been funded through Water Quality Protection Bonds and the Water Quality Protection Charge. In FY19, Water Quality Protection Bonds were replaced with long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) from the Maryland Department of Environment (MDE). However, due to limited eligibility of Storm Drain projects under the Maryland Water Quality Revolving Loan Fund, starting in FY22 projects will continue to be funded with Water Quality Protection Bonds and the Water Quality Protection Charge. Funding schedules in project description forms (PDFs) reflect these changes.

PROGRAM CONTACTS

Contact Dan Sheridan of the Department of Transportation at 240.777.7283 or Veronica Jaua of the Office of Management and Budget at 240.777.2782 for more information regarding this department's capital budget.

CAPITAL PROGRAM REVIEW

The Storm Drains program for FY23-28 includes four ongoing projects totaling \$33.9 million. This represents \$13.6 million or 66.9% increase from the Amended FY21-26 program of \$20.3 million. This increase reflects the Department's steps to support the initiatives within the Montgomery County's Climate Action Plan, including efforts to increase the County's resiliency and ability to accommodate extreme precipitation events.



Facility Planning: Storm Drains

(P508180)

Category	Conservation of Natural Resources	Date Last Modified	01/14/22
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	9,767	6,387	500	2,880	480	480	480	480	480	480	-
Land	147	147	-	-	-	-	-	-	-	-	-
Construction	47	47	-	-	-	-	-	-	-	-	-
Other	5	5	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	9,966	6,586	500	2,880	480	480	480	480	480	480	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: General	4,103	4,103	-	-	-	-	-	-	-	-	-
Current Revenue: Water Quality Protection	5,680	2,382	418	2,880	480	480	480	480	480	480	-
Federal Aid	82	-	82	-	-	-	-	-	-	-	-
G.O. Bonds	101	101	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	9,966	6,586	500	2,880	480	480	480	480	480	480	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	480	Year First Appropriation	FY81
Appropriation FY 24 Request	480	Last FY's Cost Estimate	8,284
Cumulative Appropriation	7,086		
Expenditure / Encumbrances	6,620		
Unencumbered Balance	466		

PROJECT DESCRIPTION

This project provides for the investigation and analysis of various storm drainage assistance requests initiated by private citizens and public agencies. These requests are related to the design, construction, and operation of public drainage facilities where flooding and erosion occur. This project includes expenditures for the preliminary and final design and land acquisition for storm drain projects prior to inclusion in the Storm Drain General project, or as a stand-alone project in the Capital Improvements Program (CIP). Prior to its inclusion in the CIP, the Department of Transportation (DOT) will conduct a feasibility study to determine the general and specific features required for the project. Candidate projects currently are evaluated from the Drainage Assistance Request list. As part of the facility planning process, DOT considers citizen and public agency requests and undertakes a comprehensive analysis of storm

drainage issues and problems being experienced in the County. This analysis is used to select areas where a comprehensive long-term plan for the remediation of a problem may be required. No construction activities are performed in this project. When a design is 35 percent complete, an evaluation is performed to determine if right-of-way is needed. Based on the need for right-of-way, the project may proceed to final design and the preparation of right-of-way plats under this project. The cost of right-of-way acquisition will be charged to the Advanced Land Acquisition Revolving Fund (ALARF). When designs are complete, projects with a construction cost under \$500,000 will be constructed in the Storm Drain General project. Projects with a construction cost over \$500,000 will be constructed in stand-alone projects.

CAPACITY

Projects will be designed to accommodate the ten year storm frequency interval.

COST CHANGE

Cost increase by 50 percent per year due to increased scope related to climate action plan initiatives to address extreme precipitation impacts to storm drain and infrastructure. FY27 and FY28 funding has also been added to this level of effort project.

PROJECT JUSTIFICATION

Evaluation, justification, and cost-benefit analysis are completed by DOT as necessary. In the case of participation projects, drainage studies and preliminary plans will be prepared by the requestor's engineer and reviewed by DOT. Traffic signals, streetlights, crosswalks, bus stops, ADA ramps, bikeways and other pertinent issues are being considered in the design of the project to ensure pedestrian safety.

OTHER

Before being added as a sub-project, concept studies are evaluated based on the following factors: public safety; damage to private property; frequency of event; damage to public right-of-way; environmental factors such as erosion, general public benefit, availability of right-of-way; and 5:1 cost benefit damage prevented ratio. In the case of public safety or severe damage to private property, the 5:1 cost benefit damage prevented ratio can be waived. Drainage assistance requests are evaluated on a continuing basis in response to public requests. DOT maintains a database of complaints. Recent construction projects completed include: Menlo Avenue, Windmill Lane, Eastwood Avenue, Tomlinson Avenue, Tranford Road, Thornley Court, McComas Avenue, Roosevelt Avenue, Greenfield Street, Decatur Avenue, Stonington Place, Brookside Drive, Warren Street, Windsor Lane, Charen Lane, Goshen Road, Burdette Avenue, Pearson Street, Pearson Street, Stable Lane, Springridge Road, Wildwood Shopping Center. Candidate Projects for FY22 and FY23: Reading Road, Kenilworth Driveway, Railroad Street, Conway Drive, Easley Street, Saul Road, Lucas Lane, Parkwood Drive, Fairfax Road, Highview Drive, Gardiner Avenue, Macarthur Blvd at Persimmon Tree Road.

FISCAL NOTE

FY21 supplemental for \$81,622 in Federal Aid for River Falls drainage study.

DISCLOSURES

A pedestrian impact analysis has been completed for this project. Expenditures will continue indefinitely.

COORDINATION

Montgomery County Department of Environmental Protection, Maryland-National Capital Park and Planning Commission,



Outfall Repairs

(P509948)

Category	Conservation of Natural Resources	Date Last Modified	01/14/22
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	5,620	3,213	163	2,244	374	374	374	374	374	374	-
Land	12	12	-	-	-	-	-	-	-	-	-
Construction	8,890	5,590	-	3,300	550	550	550	550	550	550	-
Other	3	3	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	14,525	8,818	163	5,544	924	924	924	924	924	924	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: Water Quality Protection	2,879	1,132	163	1,584	264	264	264	264	264	264	-
G.O. Bonds	5,357	5,357	-	-	-	-	-	-	-	-	-
Long-Term Financing	1,220	1,220	-	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	5,069	1,109	-	3,960	660	660	660	660	660	660	-
TOTAL FUNDING SOURCES	14,525	8,818	163	5,544	924	924	924	924	924	924	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	1,848	Year First Appropriation	FY99
Appropriation FY 24 Request	-	Last FY's Cost Estimate	10,829
Cumulative Appropriation	8,981		
Expenditure / Encumbrances	8,939		
Unencumbered Balance	42		

PROJECT DESCRIPTION

This project provides for the repair of existing storm drain outfalls into stream valleys. Design of corrective measures is included when in-kind replacement of original outfall structures is not feasible. Candidate outfall repairs are selected from citizen and public agency requests. The Department of Environmental Protection's (DEP) Miscellaneous Stream Valley Improvements project generates and assists in rating the outfalls, which are identified as that project expands into additional watersheds.

COST CHANGE

Cost increase by 100 percent per year due to increased scope related to climate action plan initiatives to address extreme precipitation impacts to storm drain and infrastructure. Funding for FY27 and FY28 has been added to this level of effort project.

PROJECT JUSTIFICATION

Collapsed storm drain pipe sections, undermined endwalls, and eroded outfall channels create hazardous conditions throughout the County. The course of drainage could be altered endangering private property or public roads and speeding the erosion of stream channels. Erosion from damaged outfalls results in heavy sediment load being carried downstream that can severely impact aquatic ecosystems and exacerbate existing downstream channel erosion. As part of its watershed restoration inventories, DEP identifies storm drain outfalls that are in need of repair in County stream valleys and respective watersheds. As this program expands to include additional watersheds, each outfall is categorized and, where damaged, rated. A functional rating and evaluation process is used to prioritize each outfall.

OTHER

The number of outfall locations being repaired per year varies based on the severity of the erosion and damage, the complexity of the design, and the complexity of the needed restorative construction work. Completed outfalls in FY20-21: Bennington Drive, Margate Road, Hatherleigh Drive, Glen Road, Loxford Road, Pebble Beach Lane, Whisperwood Road, Buttonwood Lane, Brandyhall Lane, Hollyoak Court, Lambertson Road. Potential Outfalls projects in FY22-23: Georgian Forest Park, Crosby Road, Vandever Street, Garrett Park Road, Lily Stone Drive, and Littleton Street.

FISCAL NOTE

In FY23-FY28, long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) was replaced with Water Quality Protection Bonds due to limited eligibility of projects within this CIP under the revolving fund.

DISCLOSURES

A pedestrian impact analysis has been completed for this project. Expenditures will continue indefinitely.

COORDINATION

Montgomery County Department of Environmental Protection, Maryland-National Capital Park and Planning Commission, Maryland Department of the Environment, United States Army Corps of Engineers, Montgomery County Department of Permitting Services, Utility Companies, and Miscellaneous Stream Valley Improvements (CIP No. 807359).



Storm Drain Culvert Replacement

(P501470)

Category	Conservation of Natural Resources	Date Last Modified	01/14/22
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	3,596	1,303	463	1,830	555	255	255	255	255	255	-
Construction	23,102	10,155	1,277	11,670	4,445	1,445	1,445	1,445	1,445	1,445	-
Other	2	2	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	26,700	11,460	1,740	13,500	5,000	1,700	1,700	1,700	1,700	1,700	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: Water Quality Protection	4,000	4,000	-	-	-	-	-	-	-	-	-
G.O. Bonds	1,500	1,500	-	-	-	-	-	-	-	-	-
Long-Term Financing	3,600	3,560	40	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	17,600	2,400	1,700	13,500	5,000	1,700	1,700	1,700	1,700	1,700	-
TOTAL FUNDING SOURCES	26,700	11,460	1,740	13,500	5,000	1,700	1,700	1,700	1,700	1,700	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	5,000	Year First Appropriation	FY14
Appropriation FY 24 Request	1,700	Last FY's Cost Estimate	20,000
Cumulative Appropriation	13,200		
Expenditure / Encumbrances	11,476		
Unencumbered Balance	1,724		

PROJECT DESCRIPTION

This program will provide for the replacement of failed storm drain pipes and culverts. The County's storm drain infrastructure is aging and many of the metal pipe culverts installed from 1960 through the 1990's have reached the end of their service life. An asset inventory with condition assessments has been developed to better forecast future replacement needs. Going forward, funding will be programmed for both systematic and emergency replacement of these pipes and culverts. Program scope includes: storm water pipe and culvert replacement of both metal and concrete less than six (6) feet in roadway longitudinal length; headwalls, end sections, replacement, or extension of culverts to assure positive flow of stormwater and channeling of stormwater into existing ditch lines or structures. Repairs also include roadside pipe and culvert end treatment safety improvements to eliminate safety hazards. This project will not make major changes to the location or size of existing storm drainage facilities. Structures greater than six-foot-roadway-

longitudinal length are repaired under the Bridge Renovation Program, (CIP No. 509753).

COST CHANGE

Scope increase in FY23 includes four new subprojects for the following culverts, all of which have recently been discovered to be severely deteriorating: Crabbs Branch storm drain, Wightman Road culvert, Centerway Road culvert, and Tucker Lane culvert. Funding for FY27 and FY28 has also been added to this level of effort project.

PROJECT JUSTIFICATION

This program will address emergency pipe replacements of aging metal and concrete pipes that have reached the end-of-their-service life. The result of these pipe failures has been deep depressions, sinkholes, sediment build-up, open pipe joints, and metal pipe inverts to an unacceptable levels. Existing storm drain conditions are extremely poor. Repairs are needed to improve safety and reduce the potential for hazards and associated public inconvenience. Failure of a storm drain pipe will precipitate emergency repairs at much higher prices. Furthermore, this program provided funding towards developing an asset inventory of the storm drain system including pipe and culvert conditions that helps forecast future funding requirements.

FISCAL NOTE

In FY23-FY28, long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) was replaced with Water Quality Protection Bonds due to limited eligibility of projects within this CIP under the revolving fund. FY22 amendment to reduce Long-Term Financing and replace it with Water Quality Protection Bonds.

DISCLOSURES

Expenditures will continue indefinitely.

COORDINATION

Washington Suburban Sanitary Commission, Washington Gas Company, Montgomery County Department of Permitting Services, Pepco, Cable TV, Verizon, Montgomery County Public Schools, Regional Service Centers, Community Association's, Commission on People With Disabilities, Maryland Department of Environment, Montgomery County Department of Environmental Protection, and United States Army Corps of Engineers.



Storm Drain General

(P500320)

Category	Conservation of Natural Resources	Date Last Modified	01/14/22
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	6,881	2,791	514	3,576	596	596	596	596	596	596	-
Land	103	103	-	-	-	-	-	-	-	-	-
Construction	21,530	12,523	583	8,424	1,404	1,404	1,404	1,404	1,404	1,404	-
Other	1	1	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	28,515	15,418	1,097	12,000	2,000	2,000	2,000	2,000	2,000	2,000	-

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: Water Quality Protection	2,364	2,178	186	-	-	-	-	-	-	-	-
G.O. Bonds	9,169	9,169	-	-	-	-	-	-	-	-	-
Intergovernmental	122	122	-	-	-	-	-	-	-	-	-
Long-Term Financing	2,081	2,012	69	-	-	-	-	-	-	-	-
State Aid	162	162	-	-	-	-	-	-	-	-	-
Stormwater Management Waiver Fees	101	101	-	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	14,516	1,674	842	12,000	2,000	2,000	2,000	2,000	2,000	2,000	-
TOTAL FUNDING SOURCES	28,515	15,418	1,097	12,000	2,000	2,000	2,000	2,000	2,000	2,000	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	4,000	Year First Appropriation	FY03
Appropriation FY 24 Request	-	Last FY's Cost Estimate	20,515
Cumulative Appropriation	16,515		
Expenditure / Encumbrances	16,037		
Unencumbered Balance	478		

PROJECT DESCRIPTION

This project provides the flexibility to construct various sub-projects that might otherwise be delayed for lack of funds or difficulty in acquiring right-of-way. This project provides for right-of-way acquisition and construction for storm drain projects resulting from the Drainage Assistance Request Program. Individual projects range from retrofitting existing storm drainage systems to developing new

drainage systems required to upgrade the existing systems in older subdivisions. Projects formerly handled through the Neighborhood Storm Drain Improvements Project are usually small, unanticipated projects initiated by requests from citizens whose homes and properties are subject to severe flooding or erosion and where there is a demonstrated need for early relief. Potential new storm drain projects are studied under the Facility Planning: Storm Drain project. Concept studies are evaluated based on the following factors: public safety, damage to private property and frequency of event, damage to public right-of-way, environmental factors such as erosion, general public benefit, availability of right-of-way and 5:1 cost benefit damage prevented ratio. After the completion of facility planning, projects with construction estimated to cost less than \$500,000 are included in this project. Prompt relief is frequently achieved by the use of Department of Transportation (DOT) personnel to construct and provide construction management. The project also facilitates financial participation with developers up to 50 percent share of construction cost for storm drainage projects where such construction would yield a public benefit to properties other than that of homeowner or developers.

CAPACITY

Projects will be designed to accommodate the ten-year storm frequency interval.

COST CHANGE

Cost increase by 100 percent per year due to increased scope related to climate action plan initiatives to address extreme precipitation impacts to storm drain and infrastructure. Funding for FY27 and FY28 has also been added to this level of effort project.

OTHER

On Participation projects, cost sharing between the County and either homeowners or developers varies and is based upon a signed Letter of Understanding. Some funds from this project will go to support the Renew Montgomery program. Completed Projects in FY20 and FY21: Menlo Avenue, Windmill Lane, Eastwood Avenue, Tomlinson Avenue, Tranford Road, Thornley Court, McComas Avenue, Roosevelt Avenue, Greenfield Street, Decatur Avenue, Stonington Place, Brookside Drive, Warren Street, Windsor Lane, Charen Lane, Goshen Road, Burdette Avenue, Pearson Street, Stable Lane, Springridge Road, Wildwood Shopping Center. Candidate Projects for FY22 and FY23: Reading Road, Kenilworth Driveway, Railroad Street, Conway Drive, Easley Street, Saul Road, Lucas Lane, Parkwood Drive, Fairfax Road, Highview Drive, Gardiner Avenue, Macarthur Blvd at Persimmon Tree Road.

FISCAL NOTE

In FY23-FY28, long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) and Current Revenue: Water Quality Protection Charge were replaced with Water Quality Protection Bonds due to limited eligibility of projects within this CIP under the revolving fund. FY23 multi-year appropriation request; consistent with past practice for this project. Funding switch in the upload of actuals between Intergovernmental and Stormwater Management Waiver Fees for \$101,000. FY22 amendment to reduce Long-Term Financing and replace it with Water Quality Protection Bonds.

DISCLOSURES

A pedestrian impact analysis will be performed during design or is in progress. Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

Montgomery County Department of Environmental Protection, Maryland-National Capital Park & Planning Commission, Maryland Department of the Environment, United States Army Corps of Engineers, Montgomery County Department of Permitting Services,



Climate Adaptation Actions

Montgomery County’s Climate Action Plan (CAP) is an integrated plan designed to reduce greenhouse gas (GHG) emissions to slow the future impacts of climate change as well as reduce those impacts and adapt to those changes. The County and the entire globe are already experiencing the social, environmental, and economic impacts of a changing and more extreme climate. For this reason, the County must equip itself with the resources and infrastructure to withstand these impacts. Vulnerable populations disproportionately experience the impacts of climate change, and the County should therefore prioritize implementing adaptation actions that will support its people and communities that are the most vulnerable and sensitive to the impacts of climate change in terms of exposure, sensitivity, and adaptive capacity.

Specifically, the County must reduce the risks and impacts associated with its primary climate hazards: extreme heat, extreme precipitation, high winds, and drought. Extreme heat poses threats to human and animal health, natural resources and ecosystems, agriculture, and infrastructure. Extreme precipitation and high winds lead to damaged physical assets and ensuing human health threats, including mold growth and accumulation of dust and particulate matter. Drought is a threat to agriculture, natural resources, the urban landscape, and the water supply. Climate adaptation actions are outlined in **Table 15**.

Please refer to the **Racial Equity and Social Justice** chapter for more information on the historical context and current conditions associated with systemic racism and environmental injustices, and how these relate to climate adaptation.

Table 15: CAP climate adaptation actions

Action	Climate Risk Reduction	Racial Equity & Social Justice	Public Health	Environmental Stewardship	Economic Prosperity	Authority	County Investment	Private Investment	Lead	Contributors
A-1: Water Infrastructure Resilience	Extreme Precipitation	+	++	+	Neutral	Outside County	\$	\$	WSSC Water	DEP, municipalities, DC Water
A-2: Repair and Enhancement of Stormwater Conveyance Systems	Extreme Precipitation	+	+	+	Neutral	County	\$\$\$	\$	MCDOT	DPS, M-NCPPC
A-3: Temperature Monitoring and Alerts	Extreme Heat	++	+	Neutral	Neutral	County with Change	\$\$	\$	OEMHS	HHS
A-4: Extreme Weather Energy Efficiency Building Code	Extreme Heat	+	+	Neutral	Neutral	County with Change	\$\$\$	\$\$	DPS	DHCA, MCGB
A-5: Climate-Adapted Housing Incentives/Subsidies	Extreme Heat	+	++	Neutral	+	County with Change	\$\$\$	\$	DHCA, DEP	MCGB, DPS
A-6: Green/Cool/PV Roof and Pavement Code	Extreme Heat	--	++	+	++	County with Change	\$\$	\$\$\$	DPS	DHCA, MCGB



A-2

Repair and Enhancement of Stormwater Conveyance Systems

Primary Benefit:



Climate Risk Reduction – Extreme Precipitation

Co-Benefits:

Racial Equity and Social Justice – Somewhat Positive
 Public Health – Somewhat Positive
 Environmental Stewardship – Somewhat Positive

Authority:

County – Can Be Implemented Under Existing Policy

Investment Level:

County: \$\$\$
 Private: \$

Development Stage:

Ongoing

Lead:

MCDOT

Contributors:

DPS, M-NCPPC

Montgomery County’s storm drain infrastructure is aging, and many of the metal pipe culverts, which channel water under roads or trails to facilitate stormwater runoff while protecting surfaces from erosion and flooding, were installed in the 1960s through the 1990s and have reached the end of their useful life. The County developed an asset inventory of its culverts with condition assessments and recently launched a funding program for both systematic and emergency replacement of these pipes and culverts.¹¹⁸

Continued identification and repair of damaged or failing culverts and outfalls in the County will help ensure the long-term performance and safety of roads and trails that County residents rely on for driving, walking, and biking—particularly as residents are encouraged to shift from single-occupancy vehicles to active transit modes. The County review process mentioned as part of **Action A-1** should identify progress in infrastructure repairs in vulnerable areas of the County so that they are brought to parity with other areas. **In addition, the County should consider upsizing drainage infrastructure**

in flood-prone areas – being mindful of the natural ecosystem as well as regulatory requirements related to potential impacts to 100-year floodplain elevations for downstream properties – to accommodate the increased volume, intensity, duration, and frequency associated with climate change. The County should encourage management of stormwater on-site to reduce runoff and extend the useful life of culverts.

Repairing and enhancing stormwater conveyance systems (including culverts and outfalls) promotes public health by increasing the safety of roadways and paths, and they support environmental stewardship by facilitating the natural watershed. This action also promotes racial equity and social justice by improving the safety and connectivity of transportation routes in the County.



Some roads, especially during storms, dip low, and they have flash flooding. If there are certain areas that are more prone to flash flooding, the County needs to warn people or stay on top of those places when there are major storms.

~ Resilience Ambassador Survey



EQUITY-ENHANCING MEASURES

Earmark culvert and outfalls funding for areas most in need (for example, areas that lack appropriate infrastructure), especially if they are in or near vulnerable communities.

1	A	B	C	D	E	F	G	H	I	CIP		L	M	N
2	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY20 Approved	FY21 Request	Future Funding Level	Backlog	Criticality Rating
18	Infrastructure Revit. Sidewalk	Sidewalks Repairs		30	1,668	miles	56	\$74,000	\$4,114,400	\$3,350,000	\$2,250,000	Higher	\$82,288,000	4
19	Infrastructure Revit. Curb & Gutter	Curb & Gutter Repairs		30	3,336	miles	111	\$105,000	\$11,676,000	\$3,350,000	\$2,250,000	Higher	\$233,520,000	4
20	Street Tree Preservation	Neighborhood Block Pruning		10	500,000	each	50,000	\$375	\$18,750,000	\$3,100,000	\$3,100,000	Same	\$187,000,000	4
21	County Maintained Storm Drain	Storm Drain	Survey is 85% completed, as of 2019. Size under 5'	40-75	Pipes 12,130 Culverts 1,368	each	Pipes 303 Culverts 18	Pipes \$10,725 Culverts \$43,250	\$4,041,000	\$1,200,000	\$1,200,000	Higher	\$47,300,000	4
22	Guardrail Projects	Guardrails & End Treatments		30	100	miles	3.5	\$316,800	\$1,108,800	\$25,000	\$25,000	Same	\$15,840,000	3
23	Streetlighting	Pole & luminaire fixtures		25	29,500	street lights	1180	\$1,575	\$1,858,000	\$100,000	\$90,000	Same	\$23,231,250	4
24	Traffic Signals	County owned signalized intersections		25	278	signals	11	\$300,000	\$3,300,000	\$1,725,000	\$1,725,000	Same	\$33,360,000	5

2

STORMWATER PARTNERS NETWORK OF MONTGOMERY COUNTY

March 1, 2022

Written Comments for Montgomery County's Fiscal Year 2023 Capital Budget and FY23-28 CIP

Submitted by: Eliza Cava, Co-Chair, Stormwater Partners Network of Montgomery County (SWPN) and Director of Conservation, Audubon Naturalist Society

Dear Montgomery County Council,

We, the undersigned Stormwater Partners Network of Montgomery County,¹ provide the following feedback and recommendations to Montgomery County's FY23-28 Capital Budget. As a Network, our mission is to advocate for clean water, protecting and improving our watersheds in ways that are equitable and ecologically sensitive, improving community resilience to stormwater impacts such as storm-driven flooding, and connecting communities to their backyard waterways. Our vision is that Montgomery County's waterways are clean, pollution-free, and resilient to the climate crisis, providing healthy, equitable, safe, and thriving green spaces for communities, families, and wildlife.

The Network has historically worked towards implementing stronger regulatory measures to strengthen our stormwater management and infrastructure, increase infiltration of water on site instead and decrease stormwater runoff into our precious local waterways. We also support the work and needs of Montgomery Parks, particularly resource stewardship, and the work of the County to meet climate and equity goals. We ask the Council to consider and carefully review our budget requests as presented in our testimony, and to go further and actively seek the funds needed to implement and continue to protect our natural resources.

I. Fully Fund Stormwater, Forest, and Climate Requests

As a baseline, we ask that Council fully fund the CIP Budget items for DEP and Montgomery Parks:

- **DEP - Facilities Planning for stormwater \$6.41M**

This request is necessary so that DEP can continue to conduct project planning in-house, using experienced engineering and environmental staff to prioritize projects and set milestones.

- **DEP - Countywide Stormwater Management Retrofits: \$83.08M**

DEP has revised their planning for capital spending for the majority of credits needed under the new MS4 permit several times over the last few years. The agency has had the luxury of time to do these revisions, as the Maryland Department of the Environment delayed issuance of the new

¹ The Stormwater Partners Network is composed of organizations and individuals who support our mission and vision. A full list of our current organizational membership (23 civic and environmental organizations in or serving Montgomery County) can be found on our website, www.stormwaterpartnersmoco.net.

STORMWATER PARTNERS NETWORK OF MONTGOMERY COUNTY

permit for several years. Now that the new permit is finally active and will cover the next five years, DEP needs to accelerate its project delivery of stormwater management retrofit projects. Under the current approach, these projects will be delivered using a multi-contractor strategy, with planning and individual contract management done in-house and community outreach also led by the agency. SWPN strongly supports this new contracting approach and thanks the Department for soliciting our feedback and briefing our Steering Committee and membership numerous times over the last 4 years as they developed it.

We worked with DEP to ensure important provisions in this overall contracting approach: 1) the use of new GIS maps to target stream restoration projects only where upland stormwater management had already been conducted²; 2) to target upland restoration in areas draining into existing stream restoration projects to help protect those projects from excessive storm flow; 3) a required cap (50%) on the total amount of required credits that can be achieved through stream restoration³; 4) a minimum percentage of high-quality green infrastructure, called “LID” by the Department.

- **DEP - Stormwater Management Facility: Major Structural Repairs: \$24.93M**

Ongoing repair and maintenance of existing stormwater management facilities is just as important as constructing new stormwater management projects and planting forests.

- **DEP - Wheaton Regional Dam Flooding Mitigation: \$3.78M**

This unique project, a relatively small part of the stormwater portfolio, is an important element in the County’s response to major flooding problems and will provide lessons learned for other projects and plans in the future. There will likely need to be an additional follow-on, part 2 of this project in the future, to continue to protect neighborhoods and Sligo Creek from flooding.

- **DOT - Storm Drains Programs: \$33.9M**

Flood mitigation is also addressed in Department of Transportation PDFs **Storm Drain General, Storm Drain Culvert, Outfall Repairs, and Facility Planning: Storm Drain**. The significant increases in these requests are a direct result of the stronger impacts of climate change and meant to begin implementing the county’s Climate Action Plan. Historically, these projects have been eligible for funding under the Water Quality Protection Charge. In recent CIP budgets, DOT has attempted to seek funding through other sources, such as state revolving funds, instead of relying

² Mapping tools available at <https://www.montgomerycountymd.gov/water/restoration/equity.html>

³ Stormwater Partners Network has considered the extent to which stream restorations, or stream repairs, are part of the County’s work portfolio. Our members do not have consensus on several important issues around stream restoration, as we have detailed in comments to MDE signed by many of our members on the MS4/Stormwater permit. However, we all encourage the County agencies that perform stormwater management to ensure that if stream restorations are undertaken, they be done with extraordinary care, caution, and forethought to ensure that they result in benefits to the ecology of the local stream valley and riparian system, as well as downstream beneficiaries of reduced sediment pollution such as the Potomac River and Chesapeake Bay. And, they should be tightly coupled with extensive upland retrofits, ideally before restoring the stream valley. See SWPN Letter on Montgomery County MS4 Permit. January 2021. Available at: <https://stormwaterpartnersnetwork.squarespace.com/current-recent-campaigns/2021/1/26/stormwater-partners-network-comments-on-montgomery-county-draft-stormwater-permit>.

STORMWATER PARTNERS NETWORK OF MONTGOMERY COUNTY

on WQPC dollars. Those requests did not prove successful, and so DOT is returning to WQPC funds sources at the same time as they are budgeting for substantially higher future capital costs to address climate change.

While we are very supportive of the importance of these projects, it is worth noting that managing for increased storm volume affects both water *quality* and water *quantity* issues. We address the interlinked nature of these concerns later in this letter. The need to better manage water *quantity* (i.e., flooding) as our climate changes raises the question of raising and expanding the purposes of the WQPC (see Section II below for more detail on this issue). We also hope that these projects may be eligible for federal infrastructure dollars, and that the County will do all storm drain planning in close collaboration across departments.

As the county proceeds with infrastructure retrofits, upgrades, and new installations, we strongly urge you to require analyses that evaluate our changing precipitation patterns due to climate change. Designing infrastructure based on old data using outdated standards will result in underperformance of the system, which we are already witnessing with the increase in flood events. We hope that in the future, the County will learn from all these projects and incorporate those lessons-learned into a comprehensive long-term flood response strategy (see below for more detail).

- **Parks – Stream Protection: SVP Projects: \$14.5M**
- **Parks – MS4 requirements: \$8.8M**

SWPN congratulates Parks and DEP for overcoming past obstacles to collaboration and developing a new memorandum of understanding and procedure for transferring MS4 credits generated but not needed by Parks on M-NCPPC lands to DEP for its Phase I MS4 permit. This collaboration took some time in coming and is a testament to the leadership of the two Departments at the top and throughout their divisions. While our Network has varying opinions on the practice of stream restoration overall (see footnote 3), we generally support Parks managing projects for the lands that it owns and has stewardship responsibility for.

- **Parks - Reverse cuts to requested capital budget**

SWPN notes that while the capital budget requests increased stormwater funding for Parks, other budget categories for the agency were cut \$19.4 million, or 7.3%, from the request that the Parks Department deemed the minimum to adequately support our parks and reduced the requested allocation of Montgomery County general obligation bonds for the parks by 16%. These cuts reflect a decreasing priority for the parks at a time we believe the relative value of our parks to the quality of life of county residents is increasing. SWPN strongly values the role of parks whether they be urban or rural, managed for visitation or managed for natural resources. Montgomery County residents are blessed with an incredible park system and this system needs to be maintained for all present and future residents to continue to enjoy.

Furthermore, restoring funding to Parks and expanding investment in trees and natural infrastructure is essential for our resilience to higher temperatures resulting from climate change.

STORMWATER PARTNERS NETWORK OF MONTGOMERY COUNTY

Extreme temperatures will increase in the future, posing severe health risks especially to the most vulnerable populations.

II. Stormwater Management Needs Additional Funding, Collaboration, and Prioritization

Montgomery County has done great work meeting regulatory requirements and thresholds for stormwater management as required by the Maryland Department of the Environment. However, these requirements are not enough to protect our local streams, lakes, wetlands, riparian zones, and watersheds. The new stormwater permit from the state, which covers the next five years, and this budget is designed to meet, requires only **half** the rate of stormwater management installation as the last permit required. While the health of some streams has improved, many are still in decline. Additional stressors due to urbanization and climate change make it even harder for streams and wetlands to function properly. In the summer, climate change drives more explosive storms that overwhelm the kinds of projects installed to date; and in the winter, more and more salt ahead of unpredictable snowstorms leads to toxic salinity conditions in streams--we are seeing that right now. The County needs to do more stormwater work, faster and more ambitiously, and must be funded accordingly.

Raise the Water Quality Protection Charge (WQPC)

Stormwater Partners Network believes that the Water Quality Protection Charge (WQPC) needs to begin rising more than the cost of baseline program delivery, but to increase our ambition as a county to truly return our watersheds to health.

Montgomery County was early to develop a stormwater fee, and it remains higher than many other suburban jurisdictions. However, just across the border in Washington, DC, residents and businesses pay substantially higher fees to maintain and improve watershed health. An average-size house in DC, with 1,000 square feet of impervious surface, pays \$252.84/year in stormwater fees. In Montgomery County, an average-sized house, with 2.4 *times* the impervious surface, pays less than half as much.⁴ Property owners in both jurisdictions pay more as their homes and impervious coverage get larger – that is what makes the fee structure equitable, as more impervious coverage means more stormwater pollution.

We recognize that stormwater fees are sometimes politically challenging issues to take on. Nonetheless, Montgomery County residents enjoy their natural amenities, including parks, forests, and protected stream valleys, and are proud of being environmentally protective. We know that climate change is bringing bigger, more intense storms to the mid-Atlantic. Residents eager to maintain the levels of environmental services and nature protection that we currently have, need to be educated and led by leaders who recognize that these services and protections

⁴ In DC, residents currently pay \$2.67 per ERU per month as a DOEE Stormwater Fee, plus a separate Clean Rivers Impervious Area Charge to DC Water which is \$18.40 per ERU per month. The ERU is the Equivalent Residential Unit, a statistical median of the amount of impervious surface area in a single-family residential property. In DC, it is approximately 1,000 square feet of impervious surface. In Montgomery County, 1 ERU = 2,406 square feet of impervious surface, and is charged \$113.50 per year.

STORMWATER PARTNERS NETWORK OF MONTGOMERY COUNTY

have costs that are increasing as the need increases. Stormwater Partners Network stands ready to support the County Council and Executive Branch in educating residents about the importance of stormwater management fees and demonstrating the important green infrastructure projects these fees go to pay for.

Increase the Stormwater Waiver Fee

One item that we would like to see changed in the budget and could be a potential long-term source of revenue is increasing the cost of stormwater waivers (or, more accurately, increasing their precision so that waiver charges match the actual replacement cost of incomplete on-site stormwater management). According to our research, waivers are currently granted very frequently but are difficult to track due to limitations in DPS' data systems. We need to know how much volume of water is being waived, and where, in order to accurately address the issues of both water quality in streams and nuisance lot-to-lot flooding. Currently, the fees from stormwater waivers do not correspond appropriately to the volume of runoff generated from a developed property and are not overall equal to the management and environmental protection costs of the stormwater impacts originating from those properties. Calculating stormwater waiver fees more precisely could bring an added source of valuable stormwater revenue while acting as a disincentive for impervious cover without raising the annual WQPC rate. While this might raise rates on some property owners, it could lower them on others. Some nearby jurisdictions that do have higher stormwater waiver fees continue to see high economic growth and development, indicating that any additional fees would be easily borne by the market.

Prepare for and create a plan of how and where federal infrastructure bill funding will be allocated for county stormwater plans

This information is very hard to gather, which makes it difficult to plan. Council should work with OMB to incorporate new information regarding federal infrastructure dollars as soon as possible, and use any freed/offset funds not to return to the general fund but to expand upon environmental protection and stormwater management work.

III. Integrate Planning for Water *Quantity* with Water *Quality* across Departments (in other words, Prepare for More Flooding)

Climate change has brought and will continue to bring more and bigger floods into the near and distant future. These floods will be disruptive, dangerous, damaging, and deadly, and we need to respond early and aggressively to mitigate their risks to communities and ecosystems.

Historically, flooding has been addressed on a case-by-case basis in response to specific complaints. With more and more neighborhoods exposed to rising waters, such an ad-hoc approach will quickly become too piecemeal and expensive to meet the needs of the entire county. Instead, the county needs to begin creating an integrated flood management plan that spans departments, incorporates both water quality and water quantity issues, and exceeds MS4 permit requirements while planning for an uncertain future.

STORMWATER PARTNERS NETWORK OF MONTGOMERY COUNTY

We understand that DEP is developing a proposal for a plan like this, and hope to see it presented as part of the Operating Budget package. Projects developed as a result of this flood management plan should be incorporated into and prioritized in Capital budgets as soon as possible, and through dedicated amendments if they are ready in between budget cycles.

All relevant agencies should be involved - the Departments of Environmental Protection, Transportation, and Permitting Services, the Office of Emergency Management and Homeland Security, M-NCPPC, and WSSC will all have roles to play. We echo the calls of the Climate Action Plan Coalition (CAP Coalition) that a position with the role of stormwater “czar” who is empowered by Council and the Executive to look across Departments for opportunities to creatively problem-solve should be appointed and supported.

This cross-departmental group, in addition to reviewing the science of climate change, future flood predictions, opportunities to use land use and zoning tools, insurance programs, building code changes, and health and safety regulations, should also consider whether another source of revenue above and beyond the WQPC is needed to be dedicated to flood management.

We appreciate County Council considering our testimony. If you have any questions, please contact SWPN Co-Chairs Eliza Cava (eliza.cava@anshome.org) or Jeanne Braha (jbaha@rockcreekconservancy.org).

Sincerely,

Eliza Cava
Director of Conservation, Audubon
Naturalist Society

Jeanne Braha
Executive Director, Rock Creek
Conservancy

Steven Findlay
President, Sugarloaf Citizens Association

Anne Ambler
President, Neighbors of Northwest Branch

Hedrick Belin
President, Potomac Conservancy

Katie Lucas
President, Muddy Branch Alliance

Sylvia Tognetti
President, Friends of Ten Mile Creek and
Little Seneca Reservoir

Ginny Barnes
Vice Chair, Conservation Montgomery

Shruti Bhatnagar
Chair, Sierra Club Montgomery County
Group

STORMWATER PARTNERS NETWORK OF MONTGOMERY COUNTY

And the following individual members:

Merikay Smith
Germantown, MD

Karen Metchis
Bethesda, MD

Tracy Roleau
Gaithersburg, MD

Kathleen Michels
Silver Spring, MD



Montgomery County *Department of Transportation*
www.montgomerycountymd.gov/mcdot



MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF TRANSPORTATION

FY23-28 Storm Drain CIP T&E Worksession

March 7th, 2022



MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY SERVICES



MC DOT

Division of Transportation Engineering and Division of Highway Services

- Emil Wolanin – Deputy Director
- Tim Cupples – Chief of Transportation Engineering
- Richard Dorsey – Chief of Highway Services
- Dan Sheridan – Chief of Planning and Design Section

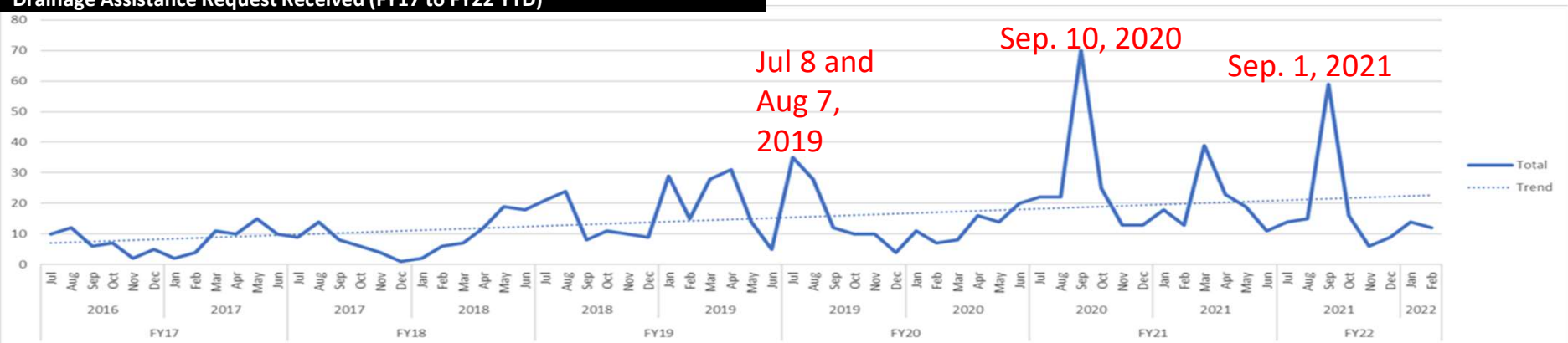
Storm Drain CIP Programs

- Storm Drain General (CIP# P500320)
 - Provides for the right-of-way acquisition and construction for storm drain projects resulting from the Drainage Assistance Request program (DAR)
- Facility Planning: Storm Drains (CIP# P508180)
 - Provides for the investigation and analysis of various DAR's initiated by county residents and public agencies.
- Outfall Repairs (CIP# P509948)
 - Provides for the repair of existing storm drain outfalls into stream valleys as selected from county residents and public agency DAR requests
- Storm Drain Culvert Replacement (CIP# P501470)
 - Replaces failed storm drains and culverts which have reached the end of their useful service life; on both an emergency (have failed), and preventive basis.

Drainage Assistance Requests

- 2017: 89
- 2018: 106
- 2019: 205
- 2020: 241
- 2021: 243
- 2022 (YTD): 28

Drainage Assistance Request Received (FY17 to FY22 YTD)



Warren Street & Luzerne Avenue Storm Drain General (CIP 500320) Inlet and bioswale



BEFORE



AFTER

Charen Lane

Storm Drain General (CIP 500320)

Inlet capacity increase



BEFORE



AFTER

Stafford Road Storm Drain General (CIP 500320) Streambank Stabilization



BEFORE

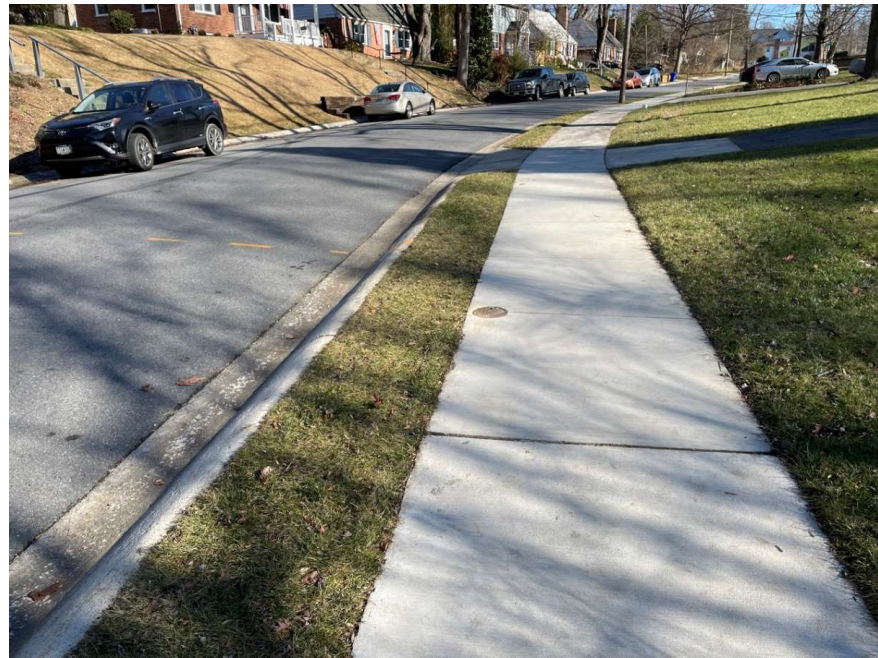


AFTER

McComas Avenue Storm Drain General (CIP 500320) Infiltration Trench



BEFORE



AFTER

Lawrence Avenue Storm Drain General (CIP 500320) Inlet installation



BEFORE



AFTER

Whisperwood Lane Outfall Repair (CIP 509948) Step pools and riffle grade stabilization



BEFORE – CONCRETE SPLASH PAD



AFTER- ENDWALL AND PLUNGE POOL

Whisperwood Lane Outfall Repair (CIP 509948) Step pools stabilization prevent channel erosion

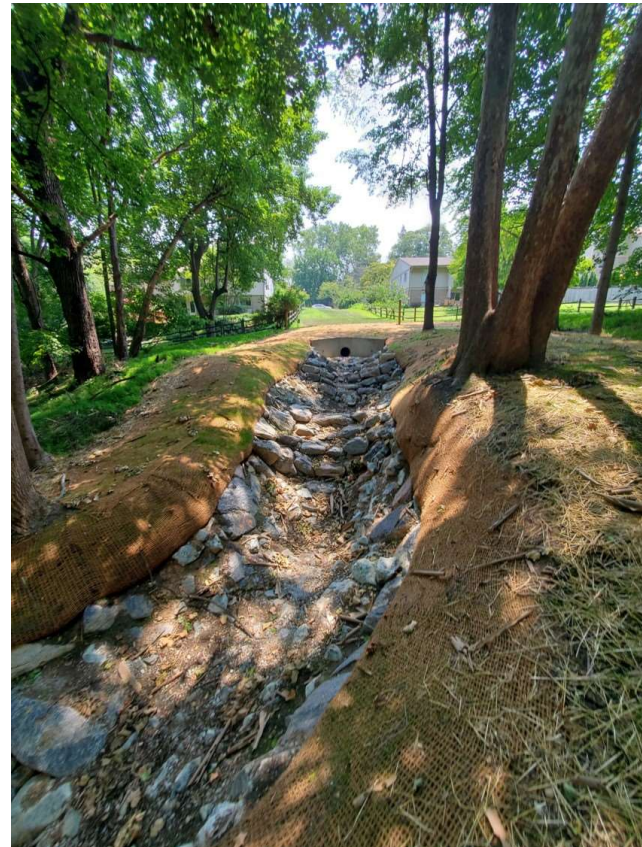


BEFORE – INCISED CHANNEL - 6' DEPTH



AFTER – STEP POOLS AND RIFFLE GRADE PROTECTION

Brandy Hall Lane Outfall Repair (CIP 509948) Plunge pool at endwall and step pools



Glen Road Outfall Repair (CIP 509948) Plunge pool at outlet and step pool for stabilization



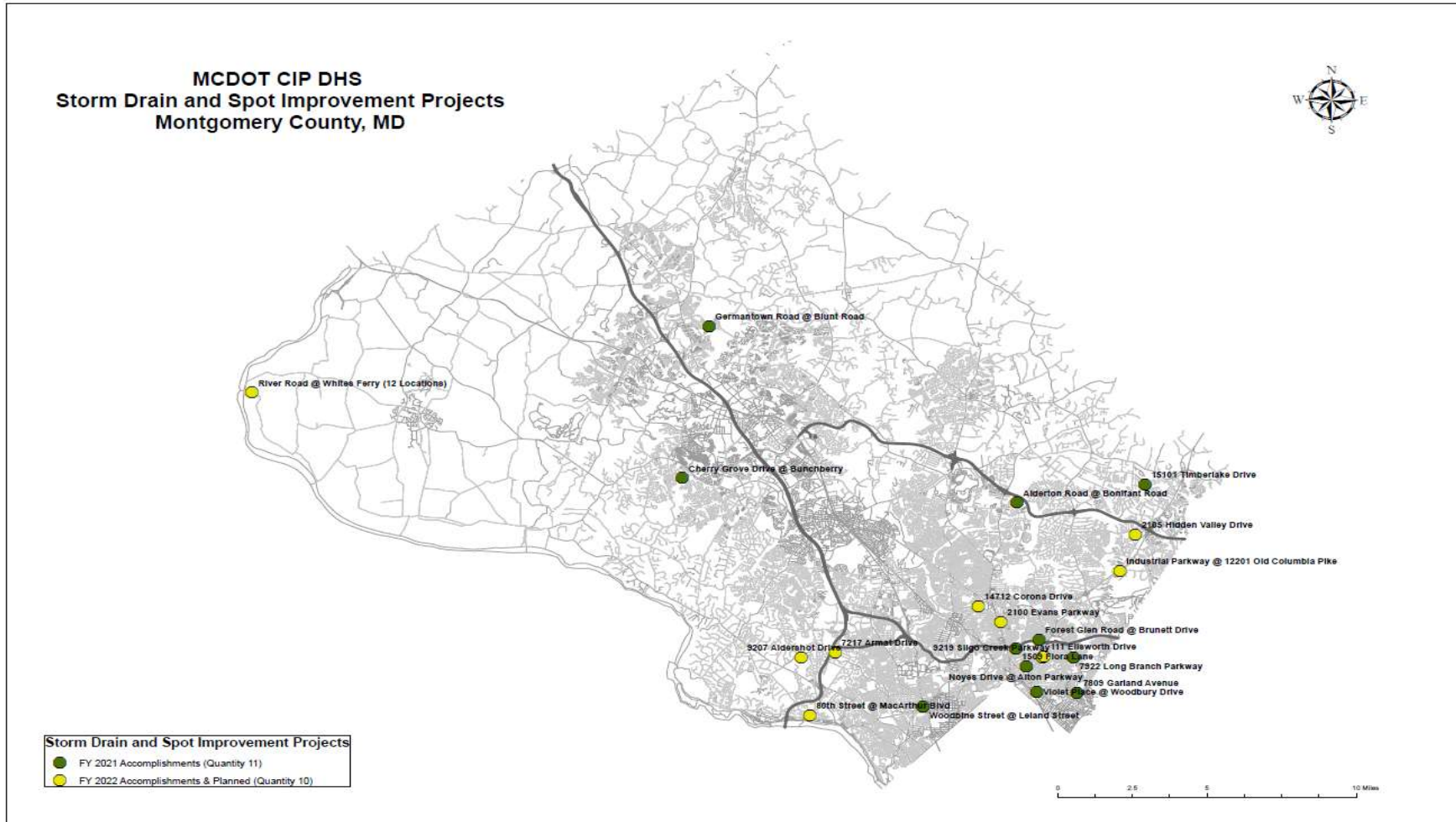
BEFORE – CONCRETE SPLASH PAD



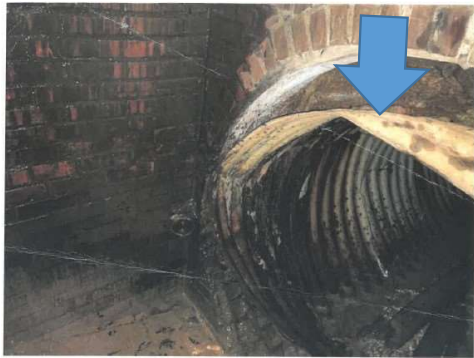
AFTER – ENDWALL WITH STEP POOLS

Storm Drain Culvert Replacement

- a. Annual funding falls short to support responses to ALL emergencies. Additional funding would allow for greater levels of response. All available CIP funding is expended annually. Emergency response beyond available CIP funding is charged to the operating budget.
- b. Costs range from \$15K to \$700K.
- c. See map on next slide for work accomplished.
- d. Increased backlog



Hidden Valley Drive Culvert Replacement (CIP 501470)



This is the outlet pipe at the man hole, where the sink hole is



BEFORE 66" DIA. CMP
(CORRUGATED METAL PIPE)



DURING



DEEP EXCAVATION –
VERY CLOSE TO
HOUSES



Industrial Parkway at Old Columbia Pike Culvert Replacement (CIP 501470)



BEFORE – FAILED
CMP STORM DRAIN
AND BRICK INLET



AFTER

BEFORE – INLET – TOP REMOVED



MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY SERVICES



Stand-Alone Projects

- No stand-alone projects are slated to move forward.
- Highway services response is on an emergency basis.

Parking Lot District Capital Projects

With updated operating budget revenues, it is possible now to accelerate and add funding for some of the capital improvements planned in the following projects: Parking Bethesda Facility Renovations (\$2,910,000); Parking Silver Spring Facility Renovations (\$700,000); and Parking Wheaton Facility Renovations (\$250,000). The amendments reflect increased capacity to support facility infrastructure repairs, improvements, and inflationary costs.

Projects with Technical Amendments

Stormwater Management Projects

The following projects generally have technical adjustments such as funding switches and transfers related to matching funding sources to appropriate types of activities, managing debt coverage requirements in ways that minimize rate increases, facilitating bond issuance, and transfers between projects. These projects are: Facility Planning: Stormwater Management, Miscellaneous Stream Valley Improvements, Stormwater Management Facility Major Structural Repair, and Stormwater Management Retrofit: Countywide.

Other Projects with Technical Amendments

Funding switches in the following projects are noted: Bus Rapid Transit: MD355 Central; Bus Rapid Transit: Veirs Mill Road; White Flint Metro Station Access Improvements; Storm Drain Culvert Replacement; and Storm Drain General. The MCPS Funding Reconciliation and the MCG Reconciliation projects have been updated respectively to reflect updated Recordation Tax and Recordation Tax Premium revenue estimates. The White Flint Metro Station Access Improvements project has been updated to reflect the receipt of a \$360,000 State grant. Supplemental appropriation requests for the Martha B. Gudelsky Child Development Center Sewer Improvements and the Public Arts Trust listed on the attached summary chart and amongst the attached project description forms have already been transmitted to the County Council.

Set Aside

My recommended CIP amendments assume a larger set-aside to hold fiscal capacity for the Farm Women's Market and the Noyes Library project. The Farm Women's Market project is a worthwhile public-private partnership, but details remain to be worked out amongst the private developer, the Town of Chevy Chase, the Maryland-National Capital Park and Planning Commission, and the County. Similarly, the Noyes Foundation has a bond bill pending with the State that may allow this project to move forward.

The department staff will be happy to answer any of your questions as you consider these amendments.

**FY 23-28 Full Recommended CIP
Budget Amendments Summary (\$000s) - Round 1**

Project #	Project Name	Explanation of Adjustment	FY23-28 Change (\$000s)	Funding Sources
P501404	MCG Reconciliation PDF	Reflects updated Recordation Tax Premium estimates and offsetting GO bond adjustments.	0	G.O. Bonds, Recordation Tax Premium (MCG)
P501470	Storm Drain Culvert Replacement	Funding switch to replace WQP Bonds with CR: WQP.	0	Current Revenue: Water Quality Protection, Water Quality Protection Bonds
P500320	Storm Drain General	Funding switch to replace WQP Bonds with CR: WQP.	0	Current Revenue: Water Quality Protection, Water Quality Protection Bonds
P076510	MCPs Funding Reconciliation	Reflects updated Recordation Tax estimates and offsetting GO bond adjustments.	0	G.O. Bonds, Recordation Tax



Storm Drain Culvert Replacement (P501470)

Category	Conservation of Natural Resources	Date Last Modified	03/03/22
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
EXPENDITURE SCHEDULE (\$000s)											
Planning, Design and Supervision	3,596	1,303	463	1,830	555	255	255	255	255	255	-
Construction	23,102	10,155	1,277	11,670	4,445	1,445	1,445	1,445	1,445	1,445	-
Other	2	2	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	26,700	11,460	1,740	13,500	5,000	1,700	1,700	1,700	1,700	1,700	-

FUNDING SCHEDULE (\$000s)											
Current Revenue: Water Quality Protection	9,000	4,000	-	5,000	5,000	-	-	-	-	-	-
G.O. Bonds	1,500	1,500	-	-	-	-	-	-	-	-	-
Long-Term Financing	3,600	3,560	40	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	12,600	2,400	1,700	8,500	-	1,700	1,700	1,700	1,700	1,700	-
TOTAL FUNDING SOURCES	26,700	11,460	1,740	13,500	5,000	1,700	1,700	1,700	1,700	1,700	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)				
Appropriation FY 23 Request		5,000	Year First Appropriation	FY14
Appropriation FY 24 Request		1,700	Last FY's Cost Estimate	20,000
Cumulative Appropriation		13,200		
Expenditure / Encumbrances		11,476		
Unencumbered Balance		1,724		

PROJECT DESCRIPTION

This program will provide for the replacement of failed storm drain pipes and culverts. The County's storm drain infrastructure is aging and many of the metal pipe culverts installed from 1960 through the 1990's have reached the end of their service life. An asset inventory with condition assessments has been developed to better forecast future replacement needs. Going forward, funding will be programmed for both systematic and emergency replacement of these pipes and culverts. Program scope includes: storm water pipe and culvert replacement of both metal and concrete less than six (6) feet in roadway longitudinal length; headwalls, end sections, replacement, or extension of culverts to assure positive flow of stormwater and channeling of stormwater into existing ditch lines or structures. Repairs also include roadside pipe and culvert end treatment safety improvements to eliminate safety hazards. This project will not make major changes to the location or size of existing storm drainage facilities. Structures greater than six-feet-roadway-longitudinal length are repaired under the Bridge Renovation Program, (CIP No. 509753).

COST CHANGE

Scope increase in FY23 includes four new subprojects for the following culverts, all of which have recently been discovered to be severely deteriorating: Crabbs Branch storm drain, Wightman Road culvert, Centerway Road culvert, and Tucker Lane culvert. Funding for FY27 and FY28 has also been added to this level of effort project.

PROJECT JUSTIFICATION

This program will address emergency pipe replacements of aging metal and concrete pipes that have reached the end-of-their-service life. The result of these pipe failures has been deep depressions, sinkholes, sediment build-up, open pipe joints, and metal pipe inverts to an unacceptable levels. Existing storm drain conditions are extremely poor. Repairs are needed to improve safety and reduce the potential for hazards and associated public inconvenience. Failure of a storm drain pipe will precipitate emergency repairs at much higher prices. Furthermore, this program provided funding towards developing an asset inventory of the storm drain system including pipe and culvert conditions that helps forecast future funding requirements.

FISCAL NOTE

In FY23-FY28, long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) was replaced with Water Quality Protection Bonds due to limited eligibility of projects within this CIP under the revolving fund. FY22 amendment to reduce Long-Term Financing and replace it with Water Quality Protection Bonds. Funding switch in FY23 between Water Quality Protection Bonds and Water Quality Protection Charge.

DISCLOSURES

Expenditures will continue indefinitely.

COORDINATION

Washington Suburban Sanitary Commission, Washington Gas Company, Montgomery County Department of Permitting Services, Pepco, Cable TV, Verizon,



Storm Drain General

(P500320)

Category	Conservation of Natural Resources	Date Last Modified	03/03/22
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
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EXPENDITURE SCHEDULE (\$000s)

	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	6,881	2,791	514	3,576	596	596	596	596	596	596	-
Land	103	103	-	-	-	-	-	-	-	-	-
Construction	21,530	12,523	583	8,424	1,404	1,404	1,404	1,404	1,404	1,404	-
Other	1	1	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	28,515	15,418	1,097	12,000	2,000	2,000	2,000	2,000	2,000	2,000	-

FUNDING SCHEDULE (\$000s)

	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Current Revenue: Water Quality Protection	3,364	2,178	186	1,000	1,000	-	-	-	-	-	-
G.O. Bonds	9,169	9,169	-	-	-	-	-	-	-	-	-
Intergovernmental	122	122	-	-	-	-	-	-	-	-	-
Long-Term Financing	2,081	2,012	69	-	-	-	-	-	-	-	-
State Aid	162	162	-	-	-	-	-	-	-	-	-
Stormwater Management Waiver Fees	101	101	-	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	13,516	1,674	842	11,000	1,000	2,000	2,000	2,000	2,000	2,000	-
TOTAL FUNDING SOURCES	28,515	15,418	1,097	12,000	2,000	2,000	2,000	2,000	2,000	2,000	-

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 23 Request	4,000	Year First Appropriation	FY03
Appropriation FY 24 Request	-	Last FY's Cost Estimate	20,515
Cumulative Appropriation	16,515		
Expenditure / Encumbrances	16,037		
Unencumbered Balance	478		

PROJECT DESCRIPTION

This project provides the flexibility to construct various sub-projects that might otherwise be delayed for lack of funds or difficulty in acquiring right-of-way. This project provides for right-of-way acquisition and construction for storm drain projects resulting from the Drainage Assistance Request Program. Individual projects range from retrofitting existing storm drainage systems to developing new drainage systems required to upgrade the existing systems in older subdivisions. Projects formerly handled through the Neighborhood Storm Drain Improvements Project are usually small, unanticipated projects initiated by requests from citizens whose homes and properties are subject to severe flooding or erosion and where there is a demonstrated need for early relief. Potential new storm drain projects are studied under the Facility Planning: Storm Drain project. Concept studies are evaluated based on the following factors: public safety, damage to private property and frequency of event, damage to public right-of-way, environmental factors such as erosion, general public benefit, availability of right-of-way and 5:1 cost benefit damage prevented ratio. After the completion of facility planning, projects with construction estimated to cost less than \$500,000 are included in this project. Prompt relief is frequently achieved by the use of Department of Transportation (DOT) personnel to construct and provide construction management. The project also facilitates financial participation with developers up to 50 percent share of construction cost for storm drainage projects where such construction would yield a public benefit to properties other than that of homeowner or developers.

CAPACITY

Projects will be designed to accommodate the ten-year storm frequency interval.

COST CHANGE

Cost increase by 100 percent per year due to increased scope related to climate action plan initiatives to address extreme precipitation impacts to storm drain and infrastructure. Funding for FY27 and FY28 has also been added to this level of effort project. FY23 funding switch between Water Quality Protection Bonds and Water Quality Protection Charge.

OTHER

On Participation projects, cost sharing between the County and either homeowners or developers varies and is based upon a signed Letter of Understanding. Some funds from this project will go to support the Renew Montgomery program. Completed Projects in FY20 and FY21: Menlo Avenue, Windmill Lane, Eastwood Avenue, Tomlinson Avenue, Tranford Road, Thornley Court, McComas Avenue, Roosevelt Avenue, Greenfield Street, Decatur Avenue, Stonington Place, Brookside Drive, Warren Street, Windsor Lane, Charen Lane, Goshen Road, Burdette Avenue, Pearson Street, Stable Lane, Springridge Road, Wildwood Shopping Center. Candidate Projects for FY22 and FY23: Reading Road, Kenilworth Driveway, Railroad Street, Conway Drive, Easley Street, Saul Road, Lucas Lane, Parkwood Drive, Fairfax Road, Highview Drive, Gardiner Avenue, Macarthur Blvd at Persimmon Tree Road.

FISCAL NOTE

In FY23-FY28, long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) and Current Revenue: Water Quality Protection Charge were replaced with Water Quality Protection Bonds due to limited eligibility of projects within this CIP under the revolving fund. FY23 multi-year appropriation request; consistent with past practice for this project. Funding switch in the upload of actuals between Intergovernmental and Stormwater Management Waiver Fees for \$101,000. FY22 amendment to reduce Long-Term Financing and replace it with Water Quality Protection Bonds.

DISCLOSURES

A pedestrian impact analysis will be performed during design or is in progress. Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

Montgomery County Department of Environmental Protection, Maryland-National Capital Park & Planning Commission, Maryland Department of the Environment, United States Army Corps of Engineers, Montgomery County Department of Permitting Services, Utility Companies, and Sidewalk Program - Minor Projects (CIP No. 506747).