



**Annual Report on Financial Assurance Plans and
the Watershed Protection and Restoration
Program
-2019-**

Prepared by:
The Maryland Department of the Environment

Prepared for:
Governor Larry Hogan
The Senate Education, Health & Environmental Affairs Committee
The House Environment & Transportation Committee

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I. Introduction

Maryland's stormwater management (SWM) program includes fiscal reporting requirements for Maryland's 10 largest urban jurisdictions, which are Baltimore City and Anne Arundel, Baltimore, Carroll, Charles, Frederick, Harford, Howard, Montgomery, and Prince George's counties. One of these reporting requirements, Financial Assurance Plans (FAPs), needs to demonstrate how stormwater restoration projects are going to be funded. These plans, submitted every two years, are to be completed by each National Pollutant Discharge Elimination System (NPDES) Phase I municipal separate storm sewer system (MS4) jurisdiction. The plans must include the following: all actions required to meet MS4 permit requirements; annual and projected 5-year costs and revenues necessary to meet the impervious surface restoration plan (ISRP) requirements; any and all sources of funds used toward meeting MS4 permit requirements; and all specific actions and expenditures undertaken in the previous fiscal years to meet the ISRP requirement.

FAPs submitted on the anniversary date of each jurisdiction's MS4 permit, between December 2018 and February 2019, were required to demonstrate sufficient funding for meeting 100% of the projected ISRP costs for the 2-year period immediately following the filing of the plan. Local governing bodies were required to hold public hearings and sign the plans for accuracy prior to submitting them to the Maryland Department of the Environment for review. The law requires that the department shall: post FAPs on its website within 14 days of receipt; make a decision regarding the adequacy of these plans within 90 days of receipt; and submit an annual evaluation of these plans to the governor and the General Assembly by September 1 each year.

A second reporting requirement for each MS4 jurisdiction, excluding Montgomery County, is to submit a Watershed Protection and Restoration Program (WPRP) Annual Report on the anniversary date of its MS4 permit. The report requires the following items:

- The number of properties, if any, subject to a stormwater remediation fee
- Any funding structure developed, if any, including the amount of money collected
- The amount of money deposited into the Watershed Protection and Restoration Fund (WPRF) in the previous fiscal year by source
- The percentage and amount of funds in the WPRF spent on purposes defined in the law
- All SWM projects implemented in the previous fiscal year for the ISRP requirement

This *Annual Report on Financial Assurance Plans and the Watershed Protection and Restoration Program, 2019*, (FAP Annual Report), fulfills the requirement of § 4-202.1(j)(7), Environment Article of the Annotated Code of Maryland. The department's Executive Summary and Evaluation is included below, followed by individual evaluations of each MS4 jurisdiction's FAP and WPRP Annual Report. Finally, the department provides a summary of these programs regarding statewide progress and future goals. The citizens of Maryland, and local, state, and federal partners are commended for their effort in developing and implementing these very important environmental programs for improving local water resources and restoring the Chesapeake Bay.

II. Primary Information

Table 1: Significant Dates for FAPs and WPRP Annual Reports

	MS4	FAP Submission Date	WPRP Annual Report Submission Date	Date of Public Hearing	FAP Approved by Local Governing Body (Y/N)	Department's Determination of Sufficient Funding (100%)
Large	Anne Arundel	2/25/2019	2/12/2019	2/19/2019	Y	6/25/2019
	Baltimore City	12/27/2018	12/27/2018	11/29/2018	Y	4/10/2019
	Baltimore	12/27/2018	12/27/2018	12/11/2018	Y	6/6/2019
	Montgomery	2/19/2019	2/15/2015	1/29/2019	Y	6/25/2019
	Prince George's ¹	2/15/2019	1/1/2019	6/11/2019	Y	1/2/2020
Medium	Carroll	12/18/2018	12/18/2019	11/29/2018	Y	4/10/2019
	Charles ²	12/20/2018	12/20/2019	6/5/2018	Y	8/21/2019
	Frederick ³	12/27/2018	12/27/2019	10/16/2018	N	8/23/2019
	Harford	12/21/2018	12/21/2019	10/9/2018	Y	4/10/2019
	Howard ⁴	12/18/2018	12/18/2018	4/22/2019	Y	7/26/2019

1. A draft FAP was submitted on Feb. 15, 2019. A pdf of the approved FAP was submitted on Aug. 5, 2019, and an excel file was submitted on Sept. 24, 2019.
2. On June 6, 2019, the department determined that Charles County's original FAP had insufficient data to complete its review. A revised FAP, submitted by the county on June 28, 2019, was determined to demonstrate sufficient funding. This determination was conditional on the revised FAP being approved by the local governing body. This approval, and a public hearing, occurred on Oct. 8, 2019.
3. Frederick County's original FAP was approved by the local governing body on Oct. 18, 2018. On June 6, 2019, the department determined that Frederick County's original FAP had insufficient data to complete its review. A revised FAP, submitted by the county on June 28, 2019 and again on Aug. 15, 2019, has yet to be approved by the local governing body. The department's determination is contingent upon the approval of the county's impervious area analysis by the department and the official approval of the FAP by the Frederick County Council.
4. A draft FAP was submitted on Dec. 18, 2018. An approved FAP was submitted on May 20, 2019.

III. Executive Summary and Evaluation

Anne Arundel, Baltimore, Carroll, Charles, Frederick, Harford, Howard, Montgomery, and Prince George’s counties, and Baltimore City submitted comprehensive information on local projects for meeting ISRP requirements, including:

- Upland Practices: wet ponds, swales, infiltration, dry wells, rain gardens, green roofs, permeable pavement, rainwater harvesting, submerged gravel wetlands
- In-Stream Practices: shoreline management, outfall stabilization, stream restoration
- Programmatic Practices: street sweeping, inlet cleaning, storm drain vacuuming

The department approved each MS4’s impervious acre baseline analysis, which sets the 20% level of restoration required under the stormwater permits. In accordance with the 2014 Accounting Guidance, some MS4s have submitted revised baseline analyses as part of the permit reapplication process.

This evaluation of the FAPs is comprised of budget and restoration information that have been provided by each MS4 Phase I permitted jurisdiction. Each locality has held public hearings and each plan has been signed by the local governing body. As per the department’s review, Charles and Frederick counties submitted revised FAPs this summer that showed completion of the 20% restoration requirement. Frederick County’s revised FAP still requires a public hearing and approval by the local governing body.

Current Implementation

- Statewide, the specific actions implemented by the MS4s for meeting ISRP requirements through FY18 are 61% completed (see Table 2).

Table 2: Specific Actions Completed Through FY18 to Meet ISRP Permit Requirements

MS4	Impervious Acre (IA) Baseline ¹	Acres Restored as of			Restoration Complete ³
		FY16 ²	FY17 ²	FY18 ³	
Anne Arundel	4,996	912	1,680	2,140	42.8%
Baltimore City	4,291	3,624	3,953	4,078	95.0%
Baltimore	6,036	983	1,033	3,504	58.1%
Montgomery	3,778	1,918	2,927	3,782	100.1%
Prince George's	6,105	225	937	2,217	36.3%
Carroll	1,614	1,247	1,369	1,491	92.4%
Charles	1,577	253	310	679	43.1%
Frederick	1,270	161	186	563	44.3%
Harford	2,218	453	478	504	22.7%
Howard	2,262	1,028	1,434	1,858	82.1%
Totals:	34,147	10,804	14,307	20,816	61.0%

1. Updated baselines from FY18 MS4 Annual Reports. All revised impervious acre baselines, except for Frederick County's, have been approved.
2. Restoration data from FY16 and FY17 MS4 Annual Reports (covering the end of the previous permit term up to June 30, 2016 and June 30, 2017, respectively). Some of the data has been updated to reflect annual report review findings.
3. Restoration data from FY18 FAPs (covering the end of the previous permit term up to June 30, 2018).

Projected Implementation and Funding

- Over the next two years, the MS4s projected completing 16,930 acres of restoration. Excluding Montgomery County, the permit term for large MS4s ended in the middle of FY19. The permit term for the medium MS4s ends in the middle of FY20.

Table 3: Projected ISRP Implementation for the Next Two Fiscal Years to Meet ISRP Requirements

	MS4	Projected Acres to be Completed ¹	Projected Cost ¹	Total Cost per Acre ²
Large	Anne Arundel	1,871	\$63,373,621	\$33,872
	Baltimore City	4,865	60,629,277	12,462
	Baltimore	2,329	46,467,471	19,952
	Montgomery	479	18,056,784	37,697
	Prince George's	1,544	67,393,702	43,649
Medium	Carroll	832	19,565,000	23,516
	Charles	1,197	17,943,049	14,990
	Frederick	781	18,005,747	23,055
	Harford	1,941	18,608,000	9,587
	Howard	1,091	37,895,408	34,735
Totals:		16,930	\$367,938,060	\$21,733

1. Acres to be Completed and Cost from All Actions worksheet in FY18 FAPs.
2. Total Cost per Acre = Total Projected Cost/Total Projected Impervious Acres Restored Next Two Years. (Includes Best Management Practices (BMPs) with no reported cost).

- The total 2-year cost reported in the All Actions worksheets equal \$367.9 million. This is the cost for only BMPs without factoring in other associated ISRP costs such as debt service payments. The 10 MS4s report that total ISRP cost for the next two years is \$588.8 million while the total revenues is \$596.5 million.
- All MS4s showed that they have the budgets necessary to fund 100% of the ISRP requirements of the MS4 permit over the next two state fiscal years (FY19 and FY20). Each MS4 has permit terms that expired before the end of the two-year period, therefore, the reported cost and funds are to support continued implementation outside of the expired permit.

Figure 1: Fulfillment of 100% Revenue Requirement for 2-Year Costs

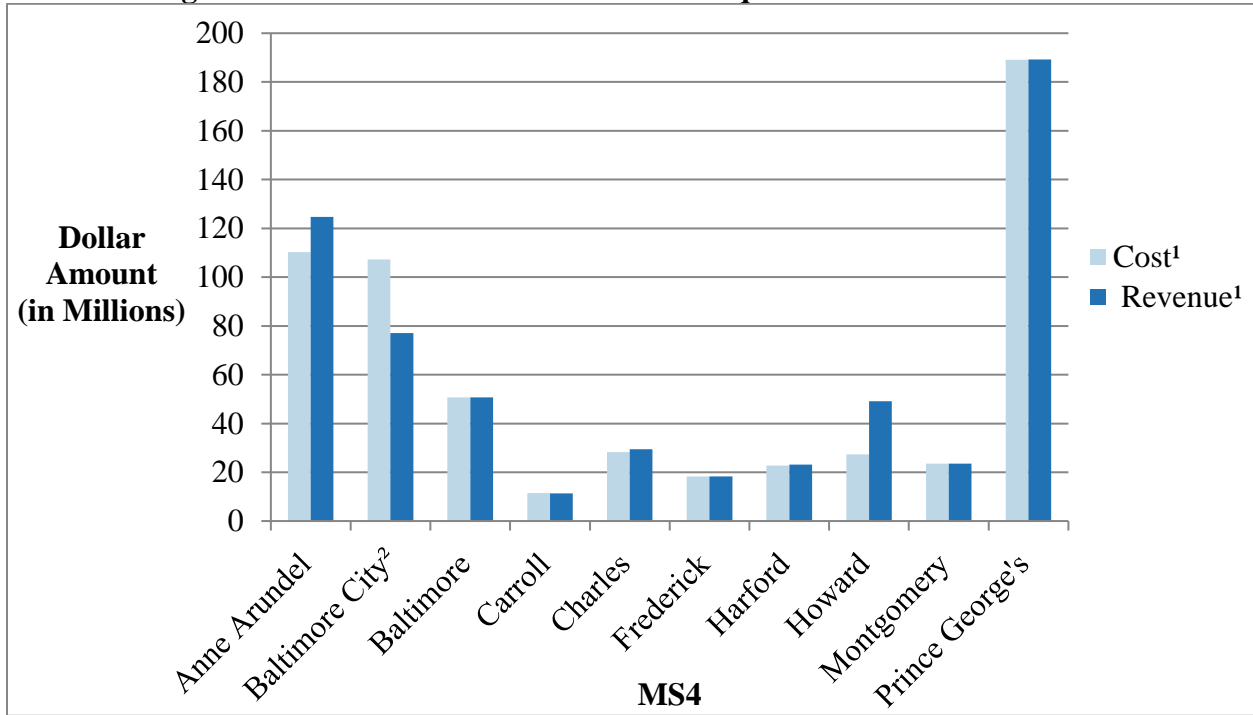


Table 4: Fulfillment of 100% Revenue Requirement for 2-Year Costs

	MS4	Cost¹	Revenue¹	Percent of Cost Covered	Meets 100% Requirement (Y/N)
Large	Anne Arundel	\$110.2M	\$124.7M	113.2%	Y
	Baltimore City²	\$107.2M	\$77.0M	71.8%	Y
	Baltimore	\$50.7M	\$50.7M	100.0%	Y
	Montgomery	\$23.5M	\$23.5M	100.2%	Y
	Prince George's	\$189.1M	\$189.2M	100.0%	Y
Medium	Carroll	\$11.4M	\$11.4M	99.8%	Y
	Charles	\$28.3M	\$29.4M	104.0%	Y
	Frederick	\$18.2M	\$18.2M	100.0%	Y
	Harford	\$22.8M	\$23.2M	101.9%	Y
	Howard	\$27.4M	\$49.1M	179.5%	Y
Totals:		\$588,833,663	\$596,494,673		

1. Cost and Revenue data from ISRP Revenue worksheet in FY18 FAPs.
2. Baltimore City's MS4 permit expired and until a new one is issued, it has no ISRP requirement and associated FAP commitment.

- Overall, the MS4s are projecting completion of 94% of the ISRP requirement by the end of their permits' 5-year terms.
- The permit terms for the large MS4s (i.e., Baltimore City and Anne Arundel, Baltimore, Montgomery, and Prince George's counties) have expired. According to data provided in the FAPs and MS4 Annual Reports, these jurisdictions have completed 21,759 acres of restoration or 86% of the total ISRP requirement. The combined cost for this restoration is approximately \$449.9 million.

Table 5: Completed and Projected Projects to Meet the ISRP 5-Year Permit Term Requirements

	MS4	Impervious Acre (IA) Baseline	Restoration Completed (L) ¹ and Projected (M) ²		Cost ³	Total Cost per Acre
Large	Anne Arundel	4,996	4,996	100.0%	\$69,165,554	\$13,844
	Baltimore City	4,291	4,530	105.6%	45,883,027	10,129
	Baltimore	6,036	6,064	100.5%	98,333,050	16,216
	Montgomery	3,778	3,782	100.1%	113,180,943	29,926
	Prince George's	6,105	2,387	39.1%	123,374,027	51,686
	Subtotals:	25,206	21,759	86.3%	\$449,936,600	\$20,678
Medium	Carroll	1,614	2,322	143.9%	\$38,701,802	\$16,667
	Charles	1,577	1,754	111.2%	31,487,491	17,952
	Frederick ⁴	1,270	1,270	100.0%	28,734,086	22,625
	Harford	2,218	2,243	101.1%	30,129,200	13,433
	Howard	2,262	2,618	115.7%	106,232,687	40,578
	Subtotals:	8,941	10,207	114.2%	\$235,285,266	\$23,051
Totals:		34,147	31,966	93.6%	\$685,221,866	\$21,436

1. Updated amounts for completed acres of restoration were obtained from MS4 permit reporting.
2. Projected acres to be completed were obtained from All Actions worksheet in FY18 FAPs.
3. Cost from All Actions worksheet in FY18 FAPs.
4. Revised baseline under review.

- The medium MS4s are projecting the completion of 114% of the ISRP requirement by the end of their permits' 5-year terms. The projected cost for this restoration is approximately \$235.3 million.
- Four MS4s have acquired or proposed to acquire nutrient credits from Maryland's Water Quality Trading Program. Anne Arundel County obtained nutrient credits in an amount equivalent to 2,607 impervious acres, or 52% of its ISRP requirement. Charles, Frederick, and Harford counties proposed obtaining nutrient credits in an amount equivalent to 32%, 5%, and

60% of their ISRP requirements, respectively. More information on Maryland’s Water Quality Trading Program can be found at mde.maryland.gov/programs/Water/WQT/Pages/index.aspx.

Table 6: Nutrient Credits Utilized or Proposed for Permit Term

Jurisdiction	ISRP Requirement (Acres)	Equivalent Acres of Nutrient Credits	Percentage of ISRP Requirement Met Through Trading	Acres Restored by End of Permit	Restoration Completed and Projected
Anne Arundel	4,996	2,607	52%	4,996	100.0%
Charles	1,577	500	32%	1,754	111.2%
Frederick	1,270	65	5%	1,270	100.0%
Harford	2,218	1,331	60%	2,243	101.1%
Total		4,503		10,263	

- The next FAP submittals to the department, due with FY20 MS4 annual reports, must show how each jurisdiction can fund 100% of its ISRP requirement for FY21 and FY22. Reissued MS4 permits will redefine the ISRP and requirements for each jurisdiction.
- Individual summaries of MS4 implementation may be found in the following pages. The department’s reviews of the FAPs are provided in Appendix A. Electronic copies of reviews and submitted FAPs may be viewed via the department’s website at mde.maryland.gov/programs/Water/StormwaterManagementProgram/Pages/WPRPFinancialAssurancePlans.aspx

IV. County Analyses

Anne Arundel County

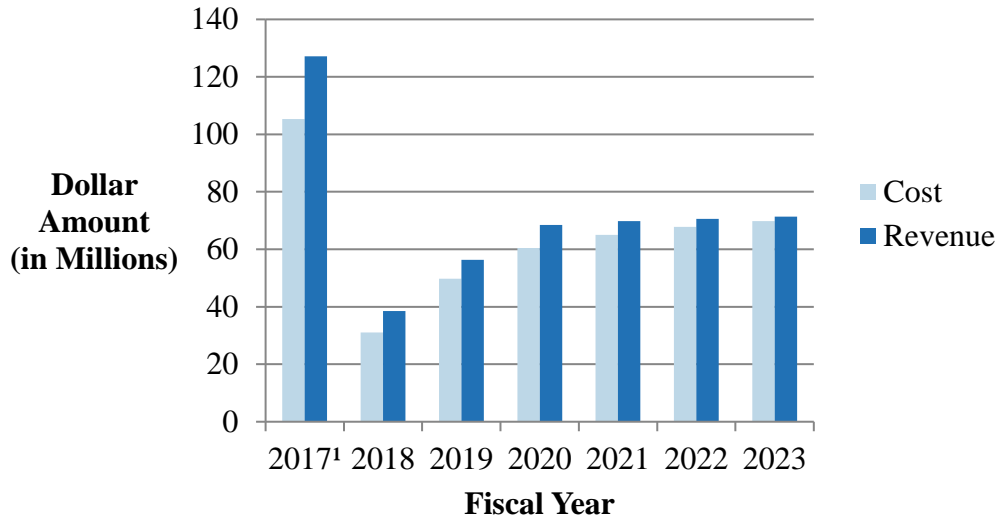
Impervious Acre Baseline: 4,996

Acres Restored: 2,140

Acres Remaining: 2,856

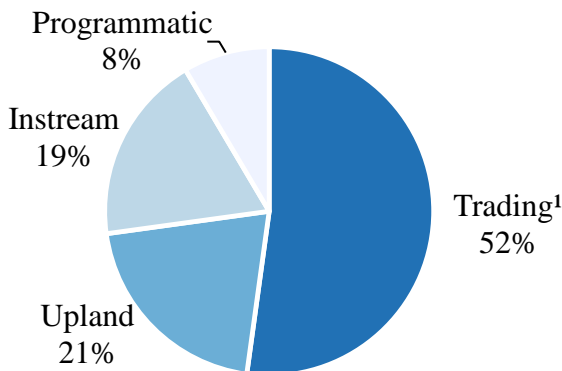
- Percent of restoration requirement as of FY18: 43%
- Projected restoration cost for entire permit term (up to FY19): \$69,165,554
- Projected impervious acres restored by end of permit term (FY19): 4,996
- Projected impervious acre restoration requirement met by end of permit term (FY19): 100%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$124,739,364
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 113%

Impervious Surface Restoration Plan Cost and Revenue



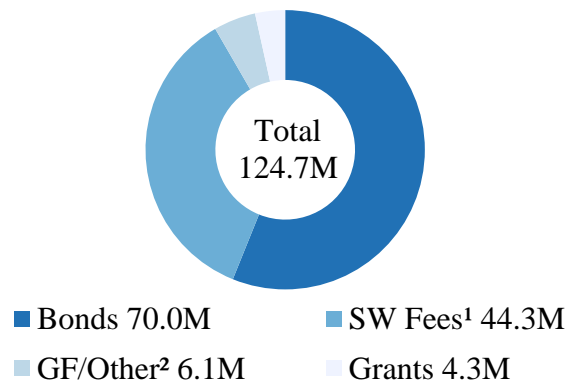
1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY14-19)



1. Trading was reported after the FAP was submitted. Permit term restoration figures obtained from MS4 reporting.

Sources of Funds (FY19-20)



1. Stormwater remediation fees.
2. General Fund.

Baltimore City

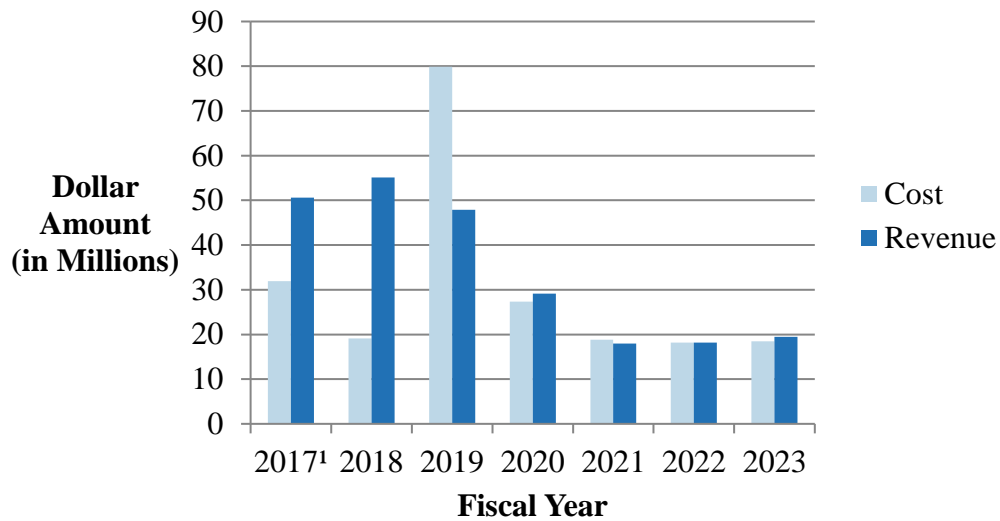
Impervious Acre Baseline: 4,291

Acres Restored: 4,078

Acres Remaining: 213

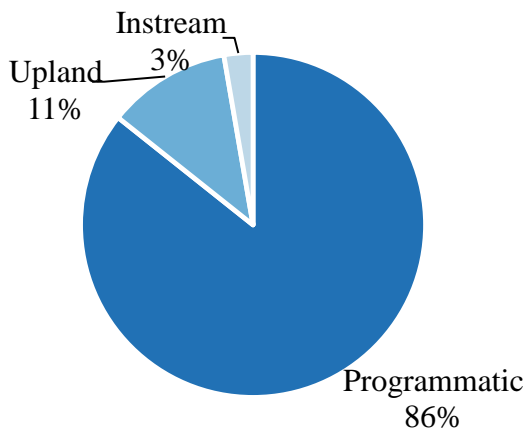
- Percent of restoration requirement met as of FY18: 95%
- Projected restoration cost for entire permit term (up to FY19): \$45,883,027
- Projected impervious acres restored by end of permit term (FY19): 4,530
- Projected impervious acre restoration requirement met by end of permit term (FY19): 106%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$77,020,675
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 72%

Impervious Surface Restoration Plan Cost and Revenue

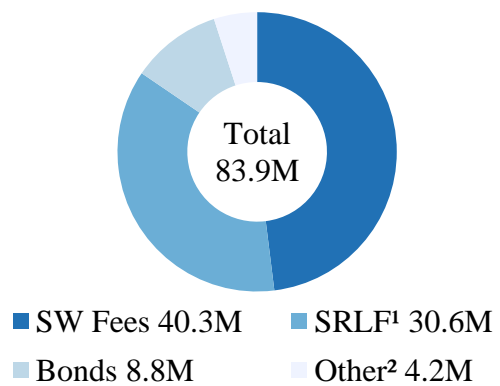


1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY14-19)



Sources of Funds (FY19-20)



1. State Revolving Loan Fund.
2. Miscellaneous fees (WPR Fund) and water/wastewater utility.

Baltimore County

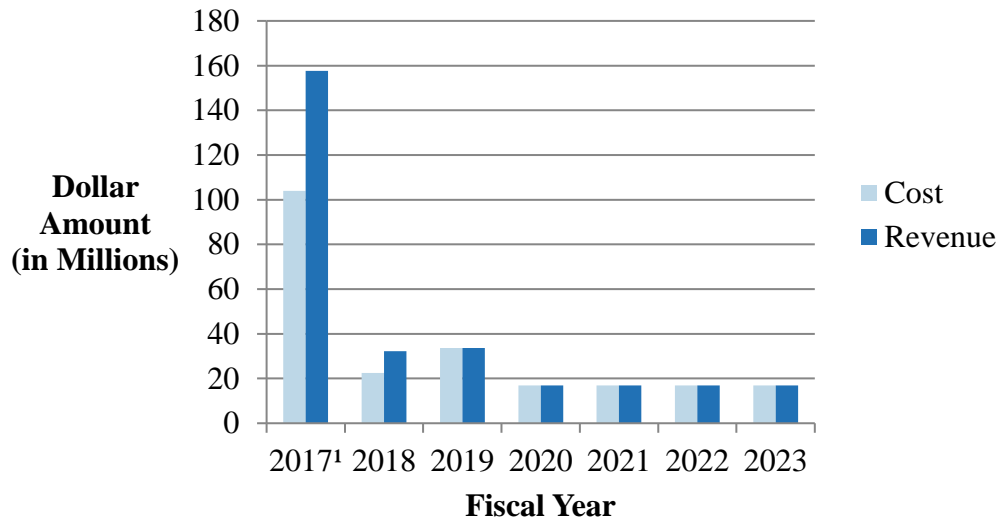
Impervious Acre Baseline: 6,036

Acres Restored: 3,504

Acres Remaining: 2,532

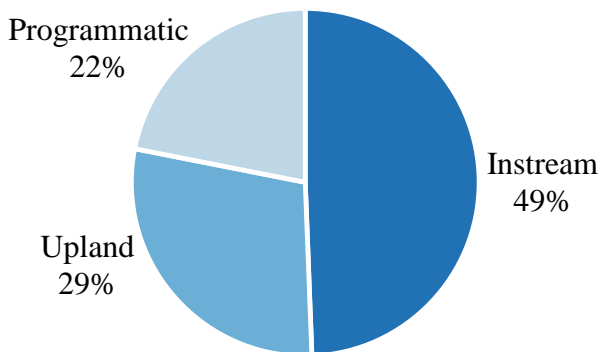
- Percent of restoration requirement met as of FY18: 58%
- Projected restoration cost for entire permit term (up to FY19): \$98,333,050
- Projected impervious acres restored by end of permit term (FY19): 6,064
- Projected impervious acre restoration requirement met by end of permit term (FY19): 100%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$50,662,449
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 100%

Impervious Surface Restoration Plan Cost and Revenue

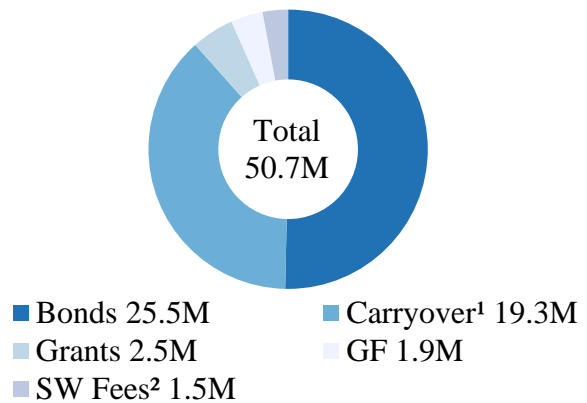


1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY14-19)



Sources of Funds (FY19-20)



1. Carryover from previous fiscal years.
2. Stormwater remediation fee (FY19 only).

Carroll County

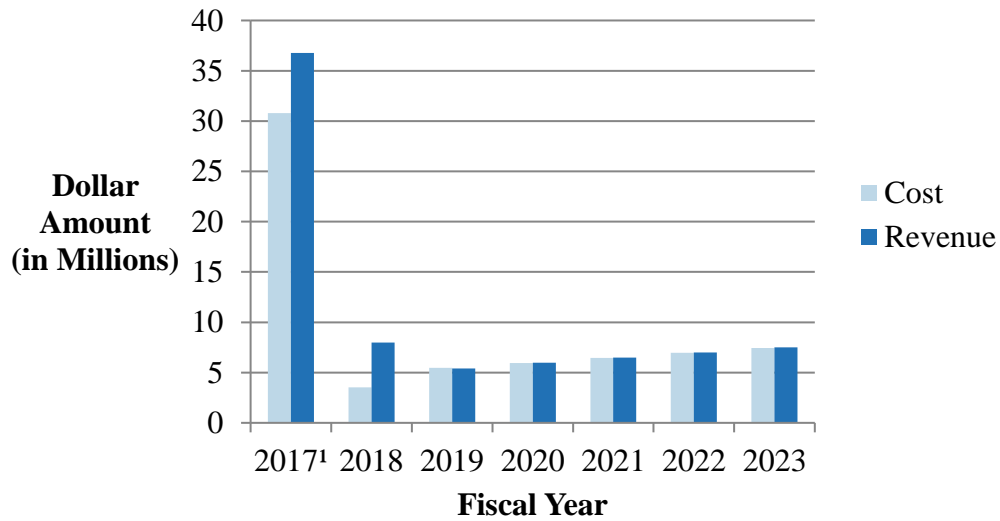
Impervious Acre Baseline: 1,614

Acres Restored: 1,491

Acres Remaining: 123

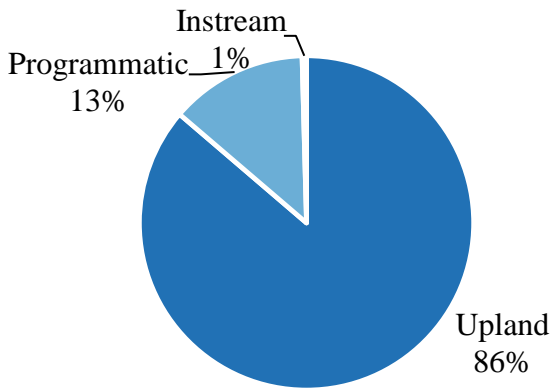
- Percent of restoration requirement met as of FY18: 92%
- Projected restoration cost for entire permit term (up to FY20): \$38,701,802
- Projected impervious acres restored by end of permit term (FY20): 2,322
- Projected impervious acre restoration requirement met by end of permit term (FY20): 144%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$11,398,254
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 100%

Impervious Surface Restoration Plan Cost and Revenue

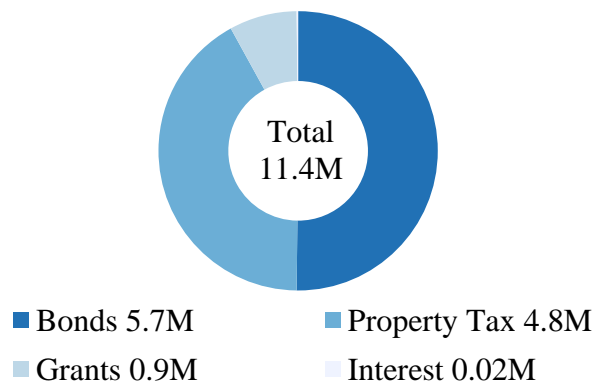


1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY15-20)



Sources of Funds (FY19-20)



Charles County

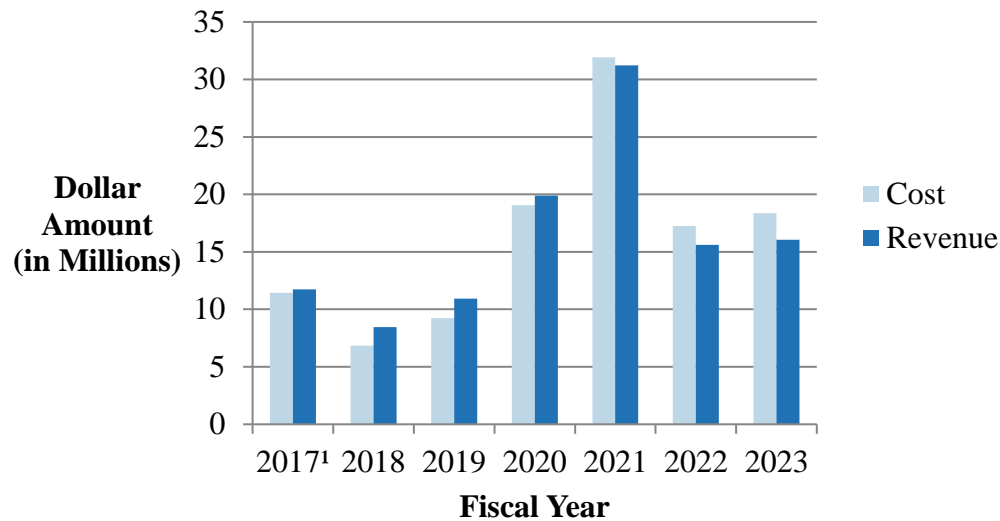
Impervious Acre Baseline: 1,577

Acres Restored: 679

Acres Remaining: 898

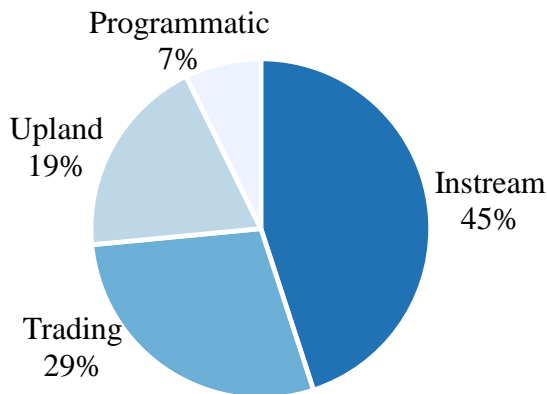
- Percent of restoration requirement met as of FY18 to date: 43%
- Projected restoration cost for entire permit term (up to FY20): \$31,487,491
- Projected impervious acres restored by end of permit term (FY20): 1,754
- Projected impervious acre restoration requirement met by end of permit term: 111%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$29,438,088
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 104%

Impervious Surface Restoration Plan Cost and Revenue

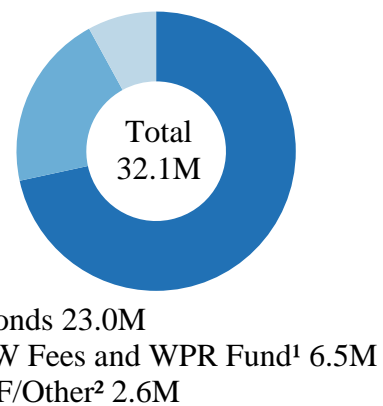


1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY15-20)



Sources of Funds (FY19-20)



1. Watershed Protection and Restoration Fund.
2. Other consists of erosion and sediment control fees, and stormwater maintenance fees.

Frederick County

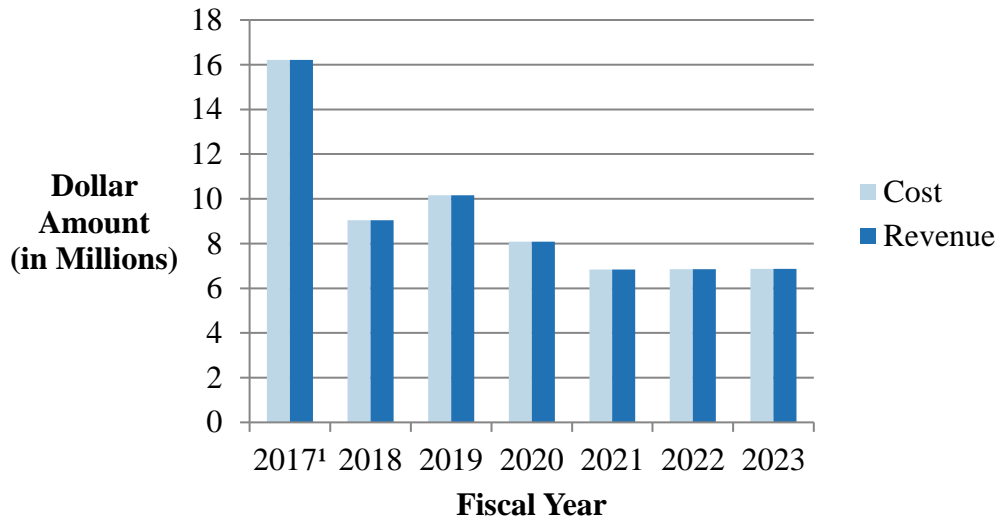
Impervious Acre Baseline: 1,270

Acres Restored: 563

Acres Remaining: 707

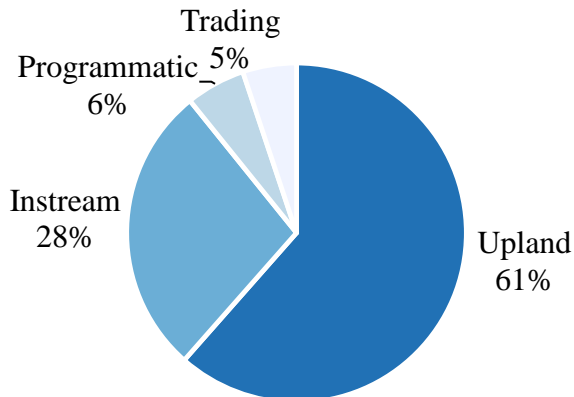
- Percent of restoration requirement met as of FY18: 44%
- Projected restoration cost for entire permit term (up to FY20): \$28,734,086
- Projected impervious acres restored by end of permit term (FY20): 1,270
- Projected impervious acre restoration requirement met by end of permit term (FY20): 100%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$18,242,260
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 100%

Impervious Surface Restoration Plan Cost and Revenue

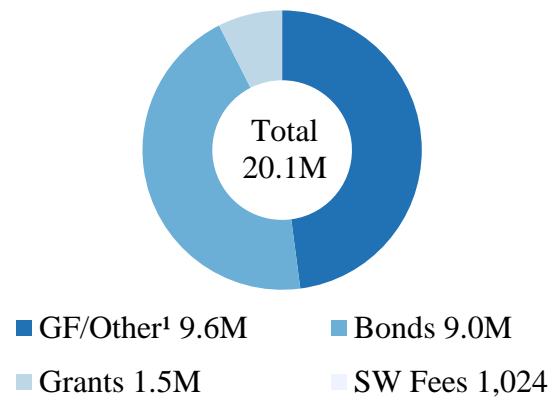


1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY15-20)



Sources of Funds (FY19-20)



Harford County

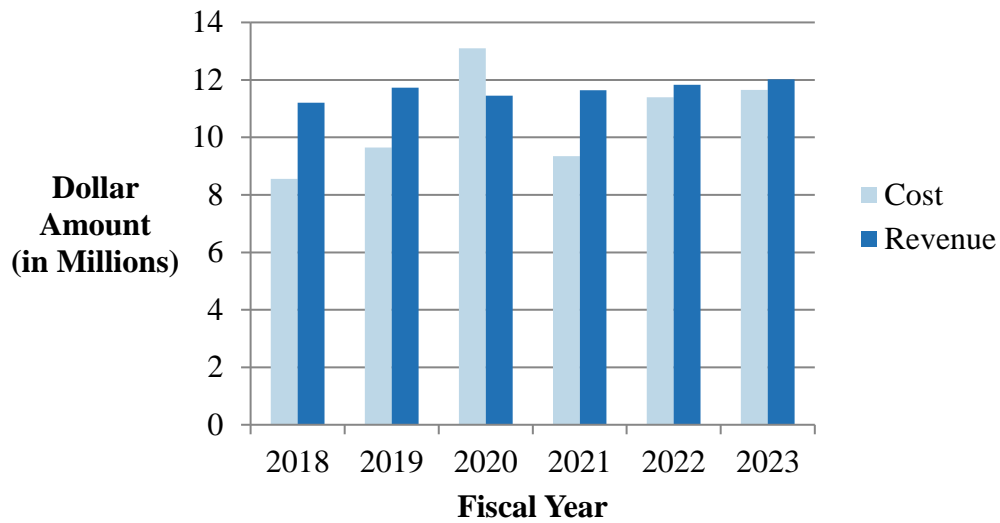
Impervious Acre Baseline: 2,218

Acres Restored: 504

Acres Remaining: 1,714

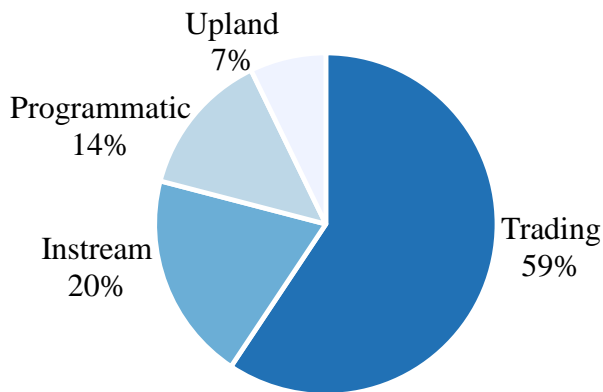
- Percent of restoration requirement met as of FY18: 23%
- Projected restoration cost for entire permit term (up to FY19): \$30,129,200
- Projected impervious acres restored by end of permit term (FY20): 2,243
- Projected impervious acre restoration requirement met by end of permit term (FY20): 101%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$23,180,000
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 102%

Impervious Surface Restoration Plan Cost and Revenue

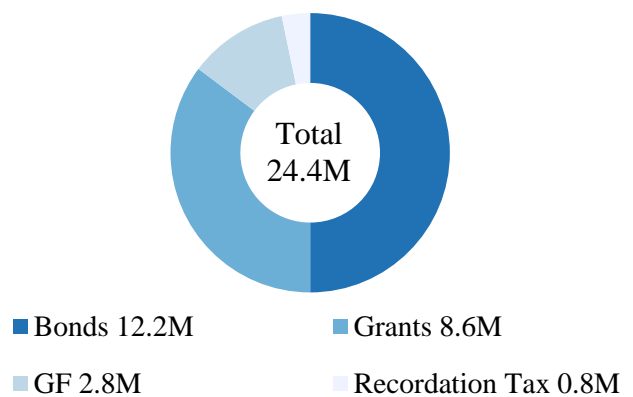


* No permit term cost and revenue data reported for past fiscal years up to FY17.

BMP Types Implemented During Permit Term (FY15-20)



Sources of Funds (FY19-20)



Howard County

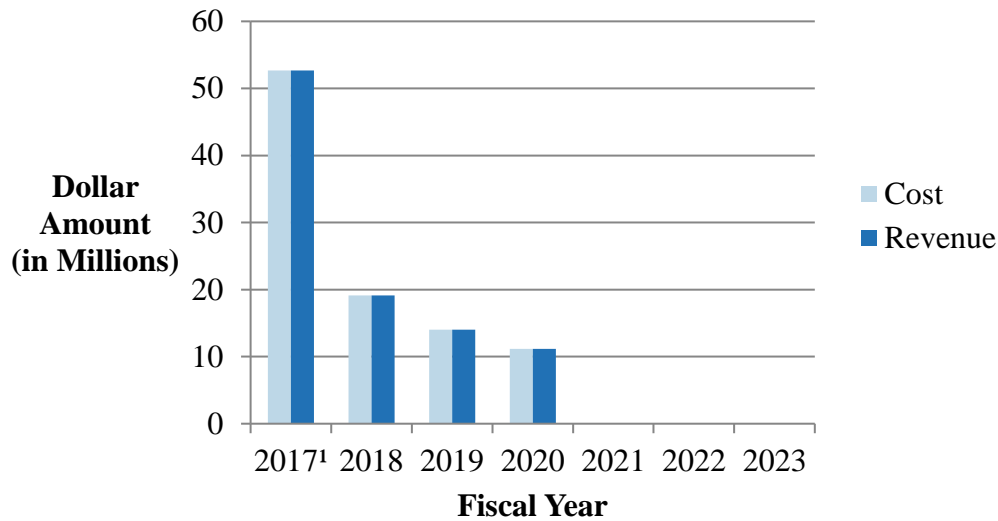
Impervious Acre Baseline: 2,262

Acres Restored: 1,858

Acres Remaining: 404

- Percent of restoration requirement met as of FY18: 82%
- Projected restoration cost for entire permit term (up to FY20): \$106,232,687
- Projected impervious acres restored by end of permit term (FY20): 2,618
- Projected impervious acre restoration requirement met by end of permit term (FY20): 116%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$49,109,778
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 180%

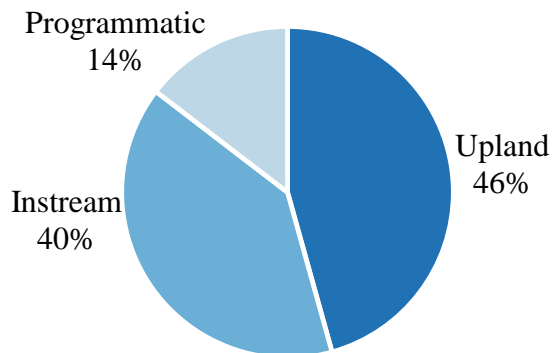
Impervious Surface Restoration Plan Cost and Revenue



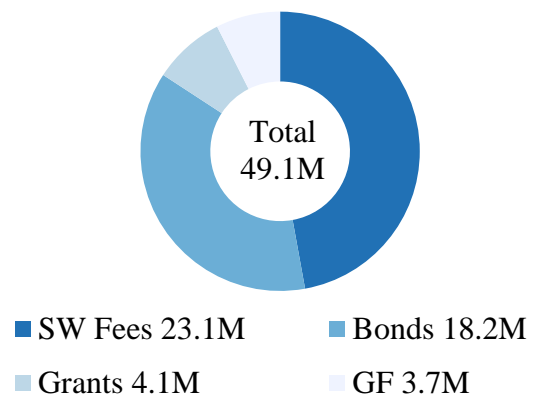
1. Cost and revenue for FY17 includes figures from previous fiscal years.

* No reported cost and revenue until ISRP requirements are established in the reissued MS4 permit.

BMP Types Implemented During Permit Term (FY15-20)



Sources of Funds (FY19-20)



Montgomery County

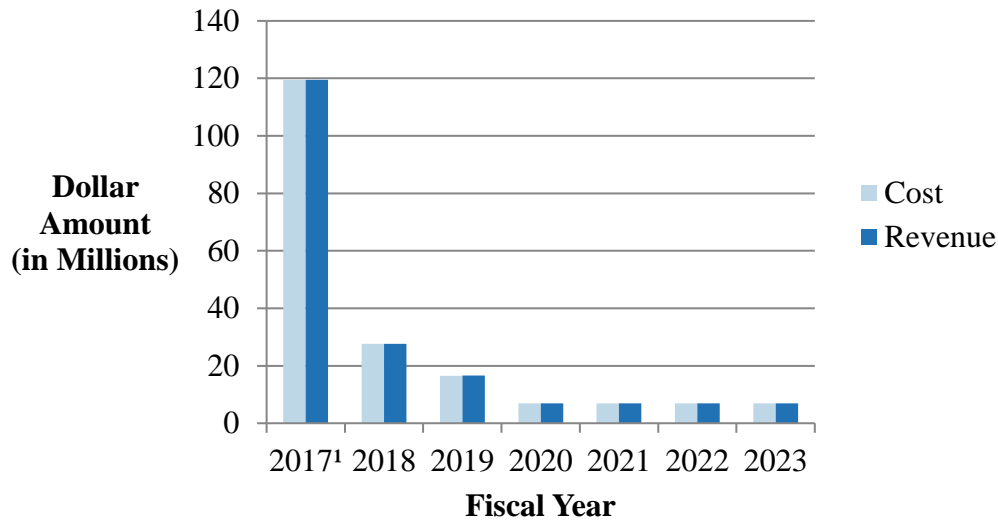
Impervious Acre Baseline: 3,778

Restored Acres: 3,782

Acres Remaining: 0

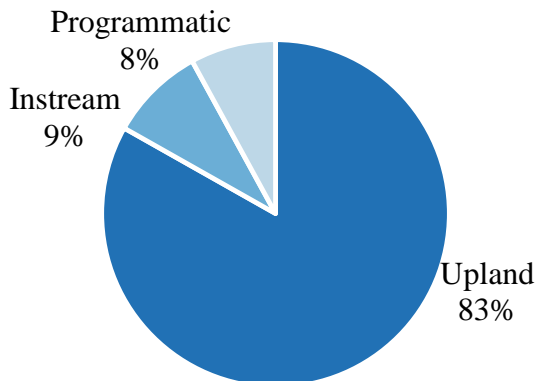
- Percent of restoration requirement met as of FY18: 100%
- Projected restoration cost for entire permit term: \$113,180,943
- Projected impervious acres restored by end of permit term: 3,782
- Projected impervious acre restoration requirement met by end of permit term: 100%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$23,530,014
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 100%

Impervious Surface Restoration Plan Cost and Revenue

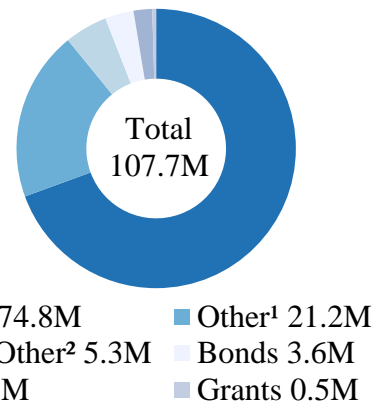


1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY14-19)



Sources of Funds (FY19-20)



1. Investment income, solid waste fund, and other departmental funds (Department of Transportation, Department of Permitting Services, and Department of General Services).
2. Bag tax revenue, stormwater management waiver fees, and miscellaneous.

Prince George's County

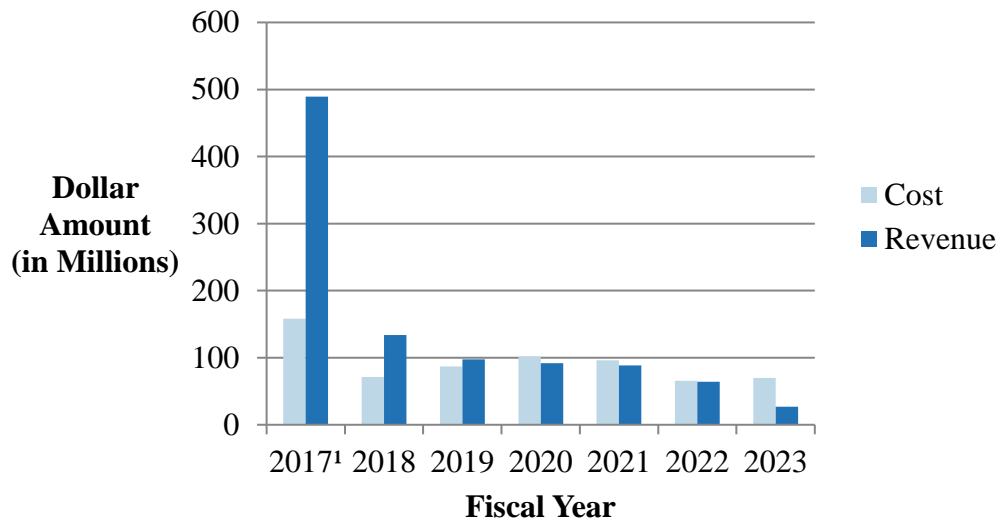
Impervious Acre Baseline: 6,105

Restored Acres: 2,217

Remaining Acres: 3,888

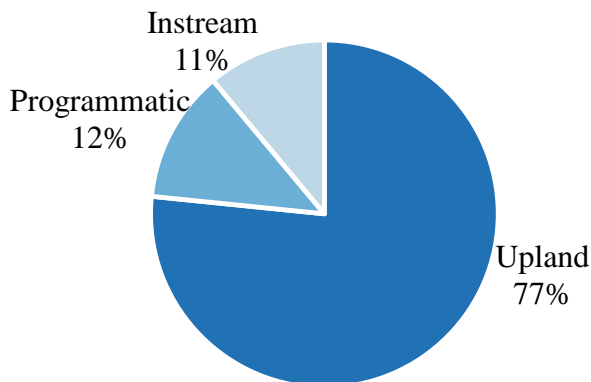
- Percent of restoration requirement met as of FY18: 36%
- Projected restoration cost for entire permit term (up to FY19): \$123,374,027
- Projected impervious acres restored by end of permit term (FY19): 2,387
- Projected impervious acre restoration requirement met by end of permit term (FY19): 39%
- Costs for funding the next two years (FY19-20) of the ISRP requirement: \$189,173,791
- Percentage of revenue budgeted to cover next 2-year (FY19-20) costs: 100%

Impervious Surface Restoration Plan Cost and Revenue

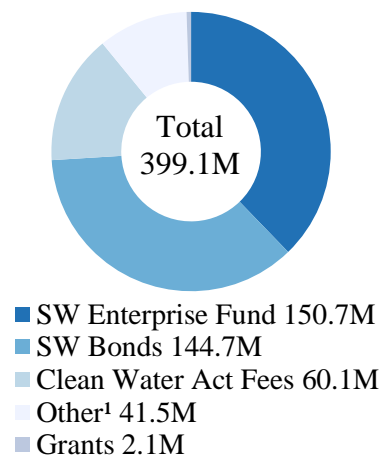


1. Cost and revenue for FY17 includes figures from previous fiscal years.

BMP Types Implemented During Permit Term (FY14-19)



Sources of Funds (FY19-20)



1. State funds and other debt service funds.

V. Watershed Protection and Restoration Program Annual Reports

- Stormwater remediation fees are optional for MS4 jurisdictions.
- Six MS4 jurisdictions reported having fees (seven if including Montgomery County which is not required to submit a WPRP annual report but does have a stormwater remediation fee); two obtain funds through taxes (see footnote 2 below); and one repealed its fee.
- Residential fees range from \$0.01 to \$170.
- For the jurisdictions that have a fee, the number of properties subject to fees range from 50,302 to 266,129.

Table 7: FY18 Sources of Funds for the WPRF

Jurisdiction	Properties Subject to a Stormwater Remediation Fee	Total Stormwater Remediation Fees	Total Additional Sources of Funds	Total
Anne Arundel County	212,980	\$20,796,211	\$2,311,963	\$23,108,173
Baltimore City	224,304	27,274,162	199,604	27,473,766
Baltimore County ¹	0	0	29,226,374	29,226,374
Carroll County ²	0	0	2,324,330	2,324,330
Charles County	50,302	2,831,120	81,257	2,912,377
Frederick County	51,177	512	0	512
Harford County ²	0	0	9,000,000	9,000,000
Howard County	107,186	9,628,850	0	9,628,850
Montgomery County ³	0	0	0	0
Prince George's County	266,129	14,547,725	0	14,547,725
Total	912,078	\$75,078,580	\$43,143,527	\$118,222,107

*For further details on the WPRP, refer to the WPRP Annual Reports on the department's website at mde.maryland.gov/programs/Water/StormwaterManagementProgram/Pages/WPRPFinancialAssurancePlans.aspx.

1. Baltimore County's stormwater remediation fee was repealed effective 7/1/2018.
2. Carroll and Harford counties do not collect stormwater remediation fees but do obtain funds through a dedicated property tax or recordation tax, respectively.
3. Montgomery County was not required to report this information.

VI. Summary

Maryland’s MS4 permits and ISRP requirements are an integral part of the state’s strategy to ensure that all stormwater pollution control measures needed to restore the Chesapeake Bay are in place by 2025. Maryland’s 10 largest urban jurisdictions have been tasked with reducing their stormwater pollutant loads even as their communities continue to grow. Indeed, the restoration requirements in the MS4 permits have stretched these local jurisdictions to the fullest extent of their capabilities. Even so, Maryland’s MS4s in aggregate have completed 61% of their ISRP requirement and are projecting to meet 94% of the ISRP requirement by the end of their permits.



20,816

Total acres of restoration completed as of FY18.



31,966

Total Acres of restoration completed or projected to be completed during the permit terms for the 10 MS4s.



4,503

Equivalent acres of nutrient credits acquired or proposed.

\$448 million

Spent on the ISRP requirement as of FY18.

\$685 million

Projected to be spent on the ISRP requirement during the permit term.

\$596 million

Projected revenues for the next two years.

As MS4s continue to implement restoration practices, ISRP strategies are modified in accordance with a better understanding of what is and is not working. Additionally, with new MS4 permits in the future, planned restoration may need to be adjusted to effectively address goals while accounting for long-term bond obligations, and inspection and maintenance costs. All MS4s showed that they have the budgets necessary to fund at least 100% of the ISRP requirements over the next two state fiscal years (FY19 and FY20). The next FAP submittals to the department, due in FY21, must show how each jurisdiction can fund 100% of its ISRP requirement for the following two years.

VII. Definitions

Annual escalation: The practice of adjusting current values to account for future increases. Annual escalation can account for increases in value of labor and materials.

Appropriation: Authorization from the legislation to spend money from a specific funding source for the purposes allowed by law. Appropriations specify both the amount and funding source. Appropriations must be approved before a contract mechanism can be approved.

BMP: Best Management Practice; these include structural practices (e.g., filters, ponds, wetlands), ESD (e.g., grass swales, rain barrels, green roofs), and alternative practices (e.g., outfall stabilization, septic pumping, street sweeping, tree planting).

Budget: Plan or authorization for revenues and expenditures within a fixed period of time.

CIP: Capital improvement plan; A project must cost more than \$250,000 and be associated with a specific asset which will depreciate over time.

Debt service: Portion of capital expenditures which is paid using mechanisms to extend the payment over a specified period of time. Debt service mechanisms include bonds and loans, which include costs for administration and interest.

Encumbrance: Commitment of money to meet an obligation for goods and services. Once a contract or agreement is approved, the money is encumbered into the budget to secure those funds.

EPA: United States Environmental Protection Agency

ESD: Environmental site design (also referred to as Low Impact Development / LID), comprehensive strategy for maintaining pre-development runoff characteristics by integrating site design, natural hydrology, and smaller controls to capture and treat runoff at the source, like micro-bioretenion.

Expenditure: The amount of money that is actually spent.

FAP: Financial Assurance Plan; state required 5-year projection of funding and expenses related to the MS4 permit and impervious surface restoration requirements. These plans also require the reporting of specific actions and expenditures undertaken in previous fiscal years to meet impervious surface restoration requirements.

Fiscal year: July 1 to June 30

Grant: an amount of money given by an entity for a specific purpose, with no obligation of repayment. Grants can also be known as a gift. Grant agreements include matching commitments, either by cash or by in-kind services.

Impervious surface: a surface that does not allow stormwater to infiltrate into the ground. "Impervious surface" includes rooftops, driveways, sidewalks, or pavement.

ISRP: Impervious Surface Restoration Plan; can also mean MS4 WIP or implementation plan for qualitative controls. For the current MS4 permit, the impervious surface restoration requirement is 20% of the county's or municipality's total impervious area that has not already been treated or restored to the MEP.

Loan: A debt service mechanism in which a governing body receives money from an external source with a commitment to repay both the principal and interest within a specific time frame.

MDE: Maryland Department of Environment

MEP: Maximum Extent Practicable

MS4: Municipal Separate Storm Sewer System

NPDES: National Pollutant Discharge Elimination System

Nutrients: Total phosphorus and total nitrogen

Paygo: Portion of capital expenditures which is paid directly when the expenditure is incurred.

Public-private partnership (P3s): An agreement between one or more public and private entities to do something better together than could be done individually. In many of these agreements, the local government provides one or a combination of tax incentives, public assets, or financing assistance. The private entity may contribute land, capital investments, a commitment to provide local jobs, or development expertise and usually, but not always, assumes most of the financial risk for the ultimate project outcomes.

Qualitative Control: A system of practices that reduces or eliminates pollutants that might otherwise be carried by surface runoff. Design parameters include water quality volume and recharge volume. Water quality volume can be converted into equivalent acreage of impervious surface restored.

Quantitative Control: A system of practices that controls the increased volume and rate of surface runoff caused by man-made changes to the land. Design parameters include channel protection volume and flood protection volumes.

Reserve: Amount of revenue held to demonstrate ability to repay a debt service mechanism or to hedge against an unforeseen economic downturn.

Revenue: Cash received from external sources to supply specific funds.

Revenue bond: An official document authorized by a governing body to complete CIP projects using a debt service, with a specific enterprise fund used as collateral.

Request for Proposal: a document used by a company or organization to procure a good or service, typically through a bidding process.

Runoff: The portion of water during a storm that runs over the land instead of evaporating or being soaked through the ground surface.

SRLF: State revolving loan fund

TMDL: Total Maximum Daily Load, the maximum amount of a pollutant a water body can receive and still meet water quality standards; “pollution diet.” Developed when a substance exceeds water quality standards.

Watershed: An area of land that drains down slope to the lowest point, discharging to a river or other body of water

WIP: Watershed Implementation Plan; document that sets the way an agency will meet the regulatory requirements.

WPRP Fund: Watershed Protection and Restoration Program Fund.

WQA: Water Quality Analysis, developed when supplemental data indicates the water body is meeting water quality standards for that substance

*Some definitions obtained from Baltimore City Department of Public Works Glossary of Terms.

VIII. Appendices

Appendix A: MDE Reviews of Financial Assurance Plans



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUN 25 2019

Mr. Christopher J. Phipps, P.E., Director
Anne Arundel County Department of Public Works
2662 Riva Road
Annapolis, MD 21401

Dear Mr. Phipps:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt of Anne Arundel County's 2018 Financial Assurance Plan (FAP) on February 25, 2019 and the County's 2018 Watershed Protection and Restoration Program (WPRP) Annual Report, received on February 8, 2019, as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP is sufficient if it demonstrates that the County has dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Anne Arundel County's 2018 FAP, the Department has determined that the County has demonstrated that it has sufficient funding in its FAP. The Department has provided more detailed comments in an attachment for the County's information and use. The County's next WPRP Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Anne Arundel County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program
Erik Michelsen, Watershed Protection and Restoration Program

Attachment

**Maryland Department of the Environment's (MDE) Review of
Anne Arundel County's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
<p>Demonstration of Sufficient Funding</p>	<ul style="list-style-type: none"> • Annotated Code of Maryland ENV § 4-202.1(j) requires Phase I Municipal Separate Storm Sewer System (MS4) permitted jurisdictions to submit the Financial Assurance Plan (FAP) every 2 years on the anniversary date of MS4 permit issuance. Anne Arundel County submitted a draft FAP on February 8, 2019 and an approved FAP was submitted to MDE on February 25, 2019. • The County held a public hearing and approved the FAP on February 19, 2019; a copy of the County resolution was submitted with the FAP. • The County's permit expired on February 11, 2019. The County's FAP demonstrates sufficient funding to complete 100% of the projected two-year ISRP costs.
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • The plan included an Executive Summary and all required information in the MDE suggested table format. • The County's FAP reports that its impervious acre requirement, also known as the ISRP baseline, is 4,996 acres. However, in 2015 MDE approved a treatment requirement of 5,862 acres. For this review, the revised baseline requirement of 4,996 acres will be used. • The County reported completing 2,140 acres of restoration, and projected to complete a total of 2,681 acres of restoration by the end of the permit term (i.e., February 11, 2019). While this is only 54% of the revised baseline requirement, the FAP does not report completed nutrient trading for 2,607 acres (that brings the County's total permit term restoration to 4,996 acres or 100% of the requirement). • The County projects completing 1,871 acres of restoration from fiscal year (FY) 2019 to FY2020 and 6,208 acres by FY2023. These projections include BMPs that are proposed, in planning, and under construction. • All BMP types were correctly entered, including annual operational BMPs. All listed best management practices (BMPs) are approved in MDE's Guidance or by the Chesapeake Bay Program (CBP) and were realistic to perform in the allotted time. • The County reported BMPs completed between FY2012 and FY2018 on both the "All Actions" and Specific Actions worksheets. However, there was no double counting as the formulae on the "All Actions" worksheet only summed acreages and costs related to permit term BMPs once. Within the worksheet, all formulae and subtotals were used correctly and all required fields were populated. <p>It should be noted that while a majority of the completed BMPs were reported in both worksheets without discrepancies, there were some BMPs from Specific Actions that were not reported in the "All Actions" worksheet. For example, FY2015 and FY2016 shoreline stabilization</p>

MDE's Review of Anne Arundel County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
Actions to Meet Permit Requirements (cont.)	<p>reported in "All Actions" was approximately 78 acres and 66 acres, respectively. For the same years and BMP type in Specific Actions, the County reported credit for approximately 78 acres and 96 acres, respectively. For FY2014, the "All Actions" worksheet did not include shoreline stabilization while the Specific Actions worksheet included 70.4 acres.</p>
Annual and Projected Costs ("All Actions" and "ISRP Cost" worksheet)	<ul style="list-style-type: none"> • The total cost per acre for completed restoration efforts over the permit term (i.e., FY2014 to FY2019) was approximately \$25,795. Over the next two years (i.e., FY2019 to FY2020), the total cost per acre increases to approximately \$33,879. The total cost per acre decreases to \$30,528 when restoration costs for FY2014 to FY2023 are considered. • In the "ISRP Cost" table, costs were reported for all required fiscal years and all formulae were used correctly. • For the next two fiscal years (i.e., FY2019 to FY2020), the total ISRP cost is \$110.2 million.
Annual and Projected Revenues ("ISRP Revenue" worksheet)	<ul style="list-style-type: none"> • Revenues were reported for all required fiscal years and all formulae were used correctly. • Anne Arundel County's current permit expired on February 11, 2019 (i.e., the middle of FY2019). Accordingly, half of FY2019 and all of FY2020 are projections beyond the permit term. • The FAP demonstrates sufficient funding for 113% of the projected ISRP costs for FY2019 to FY2020 (revenues projected at \$124.7 million with a projected cost of \$110.2 million over the same period).
Funding Sources ("Fund Sources" worksheet)	<ul style="list-style-type: none"> • Funds were reported for all required fiscal years and all formulae were used correctly. • Sources of funds for the next two years include: <ul style="list-style-type: none"> ○ Revenue Bonds = \$70.0M ○ Stormwater Remediation Fees = \$44.3M ○ State Grants = \$4.3M ○ General Fund = \$3.8M ○ Capital Improvement Project Recoveries & Other Revenue = \$1.5M ○ Miscellaneous Fees = \$0.8M ○ Total Funding Sources = \$124.7M • On average for the next two fiscal years, the County projected that the majority of the annual funds for meeting permit requirements would be from revenue bonds (56%) and stormwater remediation fees (36%).

MDE's Review of Anne Arundel County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Specific Actions and Expenditures from Previous Fiscal Years ("Spec Actions" worksheet)</p>	<ul style="list-style-type: none"> • The County has reported actions that reflect restoration efforts completed from the expiration of its previous permit term up to the end of FY2018. • Actions and expenditures were reported for all required fiscal years and a majority of formulae were used correctly. The formula for total implementation cost of "Operational Programs" excluded costs for FY2014 and FY2015 street sweeping, and cost for FY2016 inlet cleaning. Including these missing costs increases the "Operational Programs" cost from \$2.2 million to \$2.9 million. This increases the total Specific Actions cost from \$41.5 million to \$42.2 million. • As reported by the County, the total cost per acre for Specific Actions completed up to FY2018 was approximately \$19,385 (average cost per acre = \$131,549, excluding \$0 BMPs). <p>If adjusting for the missing implementation costs for street sweeping and inlet cleaning, the total cost per acre for Specific Actions up to FY2018 increases to \$19,705. The total cost per acre for the permit term (calculated in the "All Actions" worksheet) would increase from \$25,795 to \$26,050.</p> <ul style="list-style-type: none"> • Some of the BMPs and associated acreage that the County implemented as of FY2018 include: 597 equivalent acres of shoreline stabilization; 247 equivalent acres of stream restoration; 222 equivalent acres of septic denitrification; 198 acres of wet ponds; 115 equivalent acres from step pool storm conveyances; and 9 acres of bio-swales.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

APR 10 2019

Mr. Rudolph S. Chow, P.E., Director
Baltimore City
Department of Public Works
200 Holliday Street
Baltimore, MD 21202

Dear Mr. Chow:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt, on December 27, 2018, of Baltimore City's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the City, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP, is sufficient if it demonstrates that the City has the dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the City's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Baltimore City's 2018 FAP, the Department has determined that the City has demonstrated that it has sufficient funding in its FAP. The Department has provided more detailed comments in an attachment for the City's information and use. The City's next WPRP Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Baltimore City on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program
Kimberly L. Grove, P.E., Chief, Office of Compliance and Laboratories

Attachment

**Maryland Department of the Environment's (MDE) Review of
Baltimore City's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
<p>Demonstration of Sufficient Funding</p>	<ul style="list-style-type: none"> • Annotated Code of Maryland ENV § 4-202.1(j) requires Phase I Municipal Separate Storm Sewer System (MS4) permitted jurisdictions to submit the Financial Assurance Plan (FAP) every 2 years on the anniversary of the date of issuance of its permit. Baltimore City submitted the FAP to MDE on December 27, 2018. • A public hearing was held on November 29, 2018. The City approved the FAP on December 18, 2018; a copy of the approval was submitted with the FAP. • The City's permit expired on December 26, 2018. The City's FAP demonstrates sufficient funding to complete 100% of the projected ISRP costs associated with the current (i.e., expired) permit.
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • The City reported completing 4,077.9 acres of restoration, and projected to complete a total of 4,314.8 acres of restoration by the end of the permit term (i.e., December 26, 2018). This is 23.8 acres more than the 4,291 acre Baseline Treatment Requirement approved by MDE in 2015. • As noted in the "All Actions" table, the City has completed 100.6% (4,314.8 acres) of the restoration requirement during the current permit term (12/27/2013 to 12/26/2018). • While not required, Baltimore City did provide projections for fiscal years (FY) 2020 to 2023. The City projects completing 4,865.2 acres of restoration from FY2019 to FY2020 and 5,188.2 by FY2023. These projections include both planned BMPs and BMPs under construction. • All best management practices (BMPs) listed are approved in MDE's Guidance or by the Chesapeake Bay Program (CBP) and were realistic to perform in the time allotted. • Baltimore City has not proposed using nutrient trading to meet restoration goals. • Baltimore City reported the BMPs completed between FY2014 and FY2018 on both the "All Actions" and "Specific Actions" tables. However, there was no double counting as the formulae on the "All Actions" table only summed acreages and costs related to the completed BMPs. Within the table, all formulas and subtotals were used correctly and all required fields were populated. All BMP types were correctly entered, including annual operational BMPs. • The plan included an Executive Summary and all required information in the MDE suggested table format.
<p>Annual and Projected Costs</p>	<ul style="list-style-type: none"> • In the "All Actions" table, only redevelopment, which is developer-funded, had no associated costs. • The total cost per acre for completed restoration efforts over the permit term (FY2014-FY2019) was approximately \$10,664 (average cost/acre = \$56,827). Over the next two years (FY2019 to FY2020), the total cost per

MDE's Review of Baltimore City's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Annual and Projected Costs (Cont.)</p> <p>("All Actions" and "ISRP Cost" worksheet)</p>	<p>acre increases to approximately \$12,462 (average cost/acre = \$58,102). The total cost per acre increases to \$33,554 (average cost/acre = \$83,475) when restoration costs for FY2014 to FY2023 are considered.</p> <ul style="list-style-type: none"> • The City initially addressed restoration requirements through street sweeping and storm drain vacuuming; estimating combined restoration credits to be 3,955 impervious acres per year for FY2019 to FY2023. However, the City projects future restoration efforts to increase from 4,314.8 acres at the end of the permit term to 5,188.2 acres by the end of FY2023. The difference in restoration achieved is attributed to a combination of structural practices, green infrastructure, and alternative BMPs (e.g., stream restoration). These practices are more expensive, hence the increases in total and average costs per acre. • In the "ISRP Cost" table, costs were reported for all required fiscal years and all formulas were used correctly.
<p>Annual and Projected Revenues</p> <p>("ISRP Revenue" worksheet)</p>	<ul style="list-style-type: none"> • Revenues were reported for all required fiscal years and all formulas were used correctly. • Baltimore City's current permit expired on December 26, 2018 (i.e., the middle of FY2019). Accordingly, half of FY2019 and all of FY2020 are projections beyond the permit term. • The City reported that revenue for FY2019 (\$47,885,242) is less than costs toward the ISRP (\$79,874,107). However, for FY 2020, the revenue (\$29,135,433) is marginally more than the annual costs (\$27,364,218). The combined revenues (\$77,020,675) is \$30,217,650 less than (or 71.8% of) the combined annual costs (\$107,238,325).
<p>Funding Sources</p> <p>("Fund Sources" worksheet)</p>	<ul style="list-style-type: none"> • Funds were reported for all required fiscal years and all formulas were used correctly. • Sources of funds for the next two years include: <ul style="list-style-type: none"> ○ Stormwater Remediation Fee = \$40.3M ○ State Revolving Loan Fund = \$30.6M ○ Revenue Bonds = \$5.6M ○ Water/Wastewater Utility Fund = \$4.0M ○ Environmental Impact Bond = \$3.2M ○ Miscellaneous Fees = \$0.2M ○ Total Funding Sources = \$83.9M • On average for the next two fiscal years, the City projected that the majority of the annual funds for meeting permit requirements would be from the stormwater remediation fees (48%) and from State Revolving Loans (36%). However, the State Revolving Loans are only being used in FY2019. • The City is reported using \$28,696,247 in bonds, grants, and/or loans through the end of FY2018 (i.e., the majority of the permit term). Additionally, the City projects using \$39,426,689 for FY2019. However, the City has reported no use of bonds, loans, or grants beyond FY2019.

MDE's Review of Baltimore City's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
Specific Actions and Expenditures from Previous Fiscal Years ("Spec Actions" worksheet)	<ul style="list-style-type: none">• The City has reported actions that reflect restoration efforts completed by the end of FY2018. The City has also reported actions for the first half of FY2019 that, when added to the completed restoration activities, show that the City will meet the permit's restoration requirements.• The County reported BMPs completed since the expiration of its previous permit term.• Actions and expenditures were reported for all required fiscal years and all formulas were used correctly.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUN 16 2019

Mr. David V. Lykens, Acting Director
Baltimore County Government
Department of Environmental Protection and Sustainability
11 West Chesapeake Avenue, Room 400
Towson, MD 21204

Dear Mr. Lykens:

This letter acknowledges the Maryland Department of the Environment's (the Department) receipt, on December 21, 2018, of Baltimore County's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP is sufficient if it demonstrates that the County has dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Baltimore County's 2018 FAP, the Department has determined that the County has demonstrated that it has sufficient funding in its FAP. The Department has provided more detailed comments in an attachment for the County's information and use. The County's next WPRP Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Baltimore County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program

Attachment

**Maryland Department of the Environment's (MDE) Review of
Baltimore County's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
<p>Demonstration of Sufficient Funding</p>	<ul style="list-style-type: none"> • MDE received the County's FAP on December 27, 2018 (the cover letter was dated December 21, 2018). • The County provided a certification that indicates the following information: <ul style="list-style-type: none"> ○ A public hearing was held on the FAP on December 11, 2018. ○ The submission was certified (signed) by the County Executive on December 17, 2018. • The County's permit expired on December 22, 2018 (i.e., the middle of FY2019). The FAP demonstrates sufficient funding for the projected impervious surface restoration plan (ISRP) costs for FY2019-FY2020 (revenues projected at \$50,662,449 with a projected cost of \$50,662,449 over the same period).
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • Baltimore County included an executive summary with its FAP. This summary indicates the actions required to meet permit conditions as required by the Annotated Code of Maryland, Environment Article § 4-202.1(j)(1)(i)1. • Projected BMPs have been reported in the "All Actions" worksheet. • Most of the cell formulas appear to be correct; for Operational Programs, each alternative BMP should be averaged separately rather than the combined total being averaged. (Due to the values for each year being identical, the end result is the same.) • Sum totals for two-years, five-years (permit term), and permit term plus projected years have been correctly calculated. • According to the proposed actions detailed in the "All Actions" worksheet, assuming all projects planned for FY2019 proceed to completion, the County estimates restoration of approximately 4,860 acres, or 80.5% of the County's impervious surface restoration program (ISRP) requirement during the permit term (FY2014-FY2019). If assuming all projects planned up to FY2021 proceed to completion, the County estimates that it would meet the ISRP requirement in FY2021. The FAP also demonstrates that there are sufficient funds to cover 100% of the cost for these projects. • MDE notes that the County has several stream restoration projects (totaling 1,249 acres) with a projected implementation year of FY2019. MDE acknowledges that the County has enhanced the specificity of the implementation phase of several of these projects, noting that 1,044 acres are in the "design" phase and 205 acres are under construction, and that this was the case at the time of FAP preparation. Still, MDE notes that the amount of stream restoration projects scheduled for implementation in FY2019 considerably exceeds the rate of completed stream restoration projects in previous years of this permit term. For example, while the County projected to complete 1,249 acres of stream restoration in FY2019, it reports that 256 acres were implemented in FY2018, and has averaged approximately 99 acres per year for the permit term.

MDE's Review of Baltimore County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Annual and Projected Costs</p> <p>("All Actions" and "ISRP Cost" worksheet)</p>	<ul style="list-style-type: none"> • The County reported capital and operating costs for the past, current, and projected fiscal years as required. • As of the end of FY2018, the County reports a restoration total of approximately 3,504 acres at a cost of \$19,250 per acre within the current permit term, an increase over the \$9,467 per acre reported in 2016. • Over the next two years, the County projects a restoration of 2,329 acres at a cost of \$19,951 per acre, a difference of <1%. • In the "All Actions" worksheet, the County indicates that the cost for the next two years is \$46.5 million; conversely, the "ISRP Cost" worksheet indicates a two-year cost of \$52.5 million. The County's response to comments explained that this discrepancy is due to "All Actions" reporting cost for all implemented BMPs during that period versus "ISRP Cost" documenting cost for the years in which they are incurred. • The County listed several BMPs, such as outfall stabilization, forest buffers and tree planting, with a \$0 associated cost; it has been noted in the comments that implementation was either done by private sector volunteers or its cost was already factored into another project (e.g., stream restoration). Other practices being implemented for a \$0 associated cost included septic pumping, tree and rain barrel sales or redevelopment. The County should continue to provide outreach and promote these volunteer efforts and BMPs for additional restoration credit and cost savings.
<p>Annual and Projected Revenues</p> <p>("ISRP Revenue" worksheet)</p>	<ul style="list-style-type: none"> • Baltimore County's current permit expired on December 23, 2018 (i.e., the middle of FY2019). Accordingly, half of FY2019 and all of FY2020 are projections beyond the permit term. • Revenues for the ISRP have been reported for FY2018-FY2023 as required by Annotated Code of Maryland, Environment Article § 4-202.1(j)(1)(i)3. • Entries and formulas have been entered correctly. • The reported two-year (i.e., FY2019 and FY2020) revenue is \$50.7 million. • The County's reported annual sources of funds matches the percentage of funds directed toward the ISRP. The reported revenue for the next two fiscal years meets 100% of the projected cost, demonstrating that the County has sufficient funding to meet its impervious surface restoration requirement.
<p>Funding Sources</p> <p>("Fund Sources" worksheet)</p>	<ul style="list-style-type: none"> • The County reported sources of funds for previous years of the permit term, fiscal year 2018, and projected fiscal years 2019-2023. • The required fields in the sources of funds worksheet are complete. • Formulae have been entered and calculated correctly. • Sources of funds for the next two years include: <ul style="list-style-type: none"> ○ Bonds = \$25.5M ○ Carryover from previous fiscal years = \$19.3M ○ State and Federal Grants = \$2.5M ○ General Fund = \$1.9M ○ Stormwater Remediation Fees = \$1.5M ○ Total Funding Sources = \$50.7M

MDE's Review of Baltimore County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
Funding Sources (cont.)	<ul style="list-style-type: none"> The largest sources of two-year funds were \$20 million in revenue (utility bonds) and \$5.5 million in general obligation bonds. Another large source was \$19.3 million in “[c]arry over from previous fiscal years”. The sum of the County’s funding sources for the current fiscal year and the projected years exceed the County’s costs, demonstrating sufficient funding for the next 5 years.
Specific Actions and Expenditures from Previous Fiscal Years (“Spec Actions” worksheet)	<ul style="list-style-type: none"> The County reported completed BMPs in the Specific Actions (“Spec Actions”) worksheet. The formulas for calculating the total costs have been entered correctly. The County reported costs of BMPs for completed projects in sufficient detail. One of the BMPs listed under “Capital Projects”, a shoreline management project, has a built date in 1991, outside of the current permit term. The 19.2 acres listed for this project should not be counted towards the ISRP total. Several BMPs listed have a built date prior to FY2014, although these BMPs were still constructed after the conclusion of the previous permit term (and thus are permitted to be counted towards the ISRP). It is unclear whether the County is counting all restoration completed between FY2011 and FY2013, specifically since the amount of restoration being reported is 3,504 acres, or 58% of the ISRP total. In the Capital Projects category, the County included 10 instances of illicit discharge detection and elimination (IDDE) totaling 504 acres, which is not an approved alternative BMP for impervious surface restoration credit. Excluding these acres (in addition to the 19.2 acres for the 1991 shoreline management project) yields a total of 2,980 acres, or 49% of the ISRP total. The County calculated a total of approximately 3,504 acres of completed and projected ISRP restoration; including BMPs projected for completion in FY2019, the total becomes 4,860 acres (as reported in the “All Actions” table). This number differs from the amount calculated in Table 10-52 of the County’s annual report, which totals 5,610 acres when FY2011-FY2018 restoration efforts and the annual BMP average are added. MDE requests that the County clarify this discrepancy. Excluding the 19 acres of ISRP treatment from the 1991 shoreline management project and the 504 acres from IDDE yields a total permit term ISRP treatment of 4,336 acres. This meets 72% of the ISRP requirement. If including the planned projects for FY2020, the total ISRP treatment up to FY2020 would be 4,837 acres or 80% of the requirement.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

APR 10 2019

Mr. Tom Devilbiss, Deputy Director
Department of Land Use, Planning, and Development
Carroll County Government
225 North Center Street
Westminster MD 21157-5194

Dear Mr. Devilbiss:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt, on December 18, 2018, of Carroll County's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP, is sufficient if it demonstrates that the County has the dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Carroll County's 2018 FAP, the Department has determined that the County has demonstrated that it has sufficient funding in its FAP. The Department has provided more detailed comments in an attachment for the County's information and use. The County's next WPRP Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Carroll County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program
Gale Engles, Chief, Bureau of Resource Management, Carroll County

Attachment

**Maryland Department of the Environment's (MDE) Review of
Carroll County's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
<p>Demonstration of Sufficient Funding</p>	<ul style="list-style-type: none"> • Annotated Code of Maryland ENV § 4-202.1(j) requires Phase I Municipal Separate Storm Sewer System (MS4) permitted jurisdictions to submit the Financial Assurance Plan (FAP) every 2 years on the anniversary of the date of issuance of its permit. Carroll County submitted the FAP to the Maryland Department of the Environment (MDE) on December 18, 2018. • The FAP was introduced to the Board of County Commissioners of Carroll County (County) on November 8, 2018. A public hearing was held on November 29, 2018 and the County approved the FAP on the same day; a copy of the minutes was submitted with the FAP. • The County's MS4 permit expires on December 28, 2019, approximately the middle of fiscal year (FY) 2020. The FAP demonstrates sufficient funding for 99.8% of the projected Impervious Surface Restoration Plan (ISRP) costs for the next two-year period (i.e., FY2019 to FY2020).
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • The plan included an Executive Summary and all required information in the MDE suggested table format. As requested, the County reported BMPs under construction or planned in the "All Actions" worksheet. • The County's FAP reports that its impervious acre requirement, also known as the ISRP baseline, is 1,614 acres. However, in 2017 MDE approved a Treatment Requirement of 2,032 acres. • The County reported completing 1,635 acres of restoration in the Specific Actions worksheet, and projected to complete a total of 2,467 acres of restoration by the end of the permit term (i.e., December 28, 2019). This is 435 acres more than the MDE approved requirement of 2,032 acres. • This projected permit term total includes 832 acres of restoration from FY2019 to FY2020. These projections include both planned BMPs and BMPs under construction. • While not required, Carroll County did provide projections for FY2021 to FY2023, projecting to complete a total of 2,829 acres by FY2023. • The majority of best management practices (BMPs) listed are approved in MDE's Guidance or by the Chesapeake Bay Program (CBP) and were realistic to perform in the time allotted. • For FY2019 to FY2020, the County projects to obtain treatment credit for 27 acres of grass buffer easements and 6 acres of forest buffer easements. MDE has not approved the use of forest and grass buffers easements for restoration credit. As stated in MDE's previous FAP review, until more monitoring data or justification can be provided for the use of this BMP, the County should explore all currently approved stormwater BMP options for meeting the ISRP requirement. • The County projects to complete one dry pond (BMP code "XDPD") in FY2022 that will provide a total ISRP treatment of 52 acres. MDE does not accept impervious acres treated by dry ponds because they provide little if

MDE's Review of Carroll County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Actions to Meet Permit Requirements (Cont.)</p>	<p>any water quality treatment; this BMP should be removed from the County's ISRP.</p> <ul style="list-style-type: none"> Carroll County has not proposed using nutrient trading to meet restoration goals.
<p>Annual and Projected Costs ("All Actions" and "ISRP Cost" worksheet)</p>	<ul style="list-style-type: none"> In the "All Actions" table, only grass buffer easements and forest buffer easements, which are acquired through the development process, had no associated costs. Over the next two years (FY2019 to FY2020), the total cost per acre for projected restoration (excluding \$0 BMPs) is approximately \$24,506 (average cost per acre = \$22,515). This is an increase from the total and average cost per acre for completed projects (\$23,850 and \$55,845, respectively). The permit term (FY2015-FY2020) total cost per acre for completed and projected restoration efforts (excluding \$0 BMPs) is approximately \$24,168 (average cost per acre = \$51,300). The total cost per acre increases to \$24,878 (average cost per acre = \$49,367) when restoration costs for FY2015 to FY2023 are considered. In the "ISRP Cost" table, costs were reported for all required fiscal years and all formulas were used correctly.
<p>Annual and Projected Revenues ("ISRP Revenue" worksheet)</p>	<ul style="list-style-type: none"> Revenues were reported for all required fiscal years and all formulas were used correctly. Carroll County's current permit expires on December 28, 2019 (i.e., the middle of FY2020). Accordingly, half of FY2020 is a projection beyond the permit term. The County reported that revenue for FY2019 (\$5,407,270) is less than costs toward the ISRP (\$5,472,380). However, for FY2020, the revenue (\$5,990,984) is marginally more than the annual costs (\$5,945,876). The combined revenues (\$11,398,254) is approximately \$20,000 less than (or 99.8% of) the combined annual costs (\$11,418,256).
<p>Funding Sources ("Fund Sources" worksheet)</p>	<ul style="list-style-type: none"> Funds were reported for all required fiscal years and all formulas were used correctly. Sources of funds for the next two years include: <ul style="list-style-type: none"> General Obligation Bonds = \$5.7M Property Tax = \$4.8M Municipalities = \$0.9M Interest = \$0.02M Total Funding Sources = \$11.4M For the next two fiscal years, the County projected that the majority of the annual funds for meeting permit requirements would be from general obligation bonds (50%) and from property taxes (42%). The County is reported using \$18,165,633 in general obligation bonds through the end of FY2018 (i.e., the majority of the permit term).

MDE's Review of Carroll County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Specific Actions and Expenditures from Previous Fiscal Years</p> <p>("Spec Actions" worksheet)</p>	<ul style="list-style-type: none"> • Actions and expenditures were reported for all required fiscal years and all formulas were used correctly. • The County has reported actions that reflect restoration efforts completed between the expiration of its previous permit term and the end of FY2018. The County has also reported actions for the first half of FY2019. This total completed restoration is 1,634.8 acres. • The County reported FY2018 treatment credit for 165 acres of grass buffer easements and 204 acres forest buffer easements (or a total of 369 acres). As mentioned above, MDE has not approved the use of forest and grass buffer easements for restoration credit. Until more monitoring data or justification can be provided for the use of this BMP, the County should explore all currently approved stormwater BMP options for meeting the ISRP requirement. • The County is also claiming 144 acres of restoration credit for BMPs implemented during the previous permit term that ended in July 2010. Some of these BMPs are an outfall stabilization project (completed in 2006), an infiltration trench (completed in 2007), and sand filters (constructed in 2008 and 2009). The County's 2018 MS4 annual report states that a previous permit requirement of implementing 10% restoration was completed in 2005 and that activity following that year may be claimed as restoration. The Department requests clarification on the County's use of these BMPs for restoration credit. <p>If excluding these 144 acres of restoration from previous permit term BMPs, the County's total completed and projected permit term restoration decreases from 2,467 acres to 2,323 acres (or 291 acres greater than the MDE approved baseline treatment requirement).</p>



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUN -6 2019

Mr. Jason Groth, Planning Director
Charles County Department of Planning & Growth Management
P.O. Box 2150
200 Baltimore Street
La Plata, MD 20646

Dear Mr. Groth:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt, on December 20, 2018, of Charles County's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP is sufficient if it demonstrates that the County has dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing the County's 2018 FAP, the Department has determined that there is insufficient data to complete its review. Specifically, the County's ISRP rate of implementation does not meet its MS4 permit's 20% restoration requirement. Meeting the 20% restoration requirement in the five-year permit term is crucial in the analysis of the County's FAP. Because restoration implementation data are missing, the Department requests that the County submit an updated FAP by June 30, 2019 that demonstrates sufficient ISRP implementation and funding. More detailed comments on the County's FAP are provided in an attachment for your information and use.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Charles County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program
Charles Rice, Charles County
Karen Wiggen, Charles County

Attachment

**Maryland Department of the Environment's (MDE) Review of
Charles County's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
<p>Demonstration of Sufficient Funding</p>	<ul style="list-style-type: none"> • Annotated Code of Maryland ENV § 4-202.1(j) requires Phase I Municipal Separate Storm Sewer System (MS4) permitted jurisdictions to submit the Financial Assurance Plan (FAP) every 2 years on the anniversary of the date of issuance of its permit. Charles County submitted the FAP to the Maryland Department of the Environment (MDE) on December 20, 2018. • A public hearing was held on June 7, 2016. County Commissioners voted to approve the FAP in Resolution No. 2016-18 on June 28, 2016. A copy of the resolution was submitted with the FAP. • The "ISRP Revenue" table showed that in FY 2019 and FY 2020, annual revenue appropriated for restoration efforts would cover the annual cost for the remainder of the permit term (which ends on December 25, 2019, or halfway through FY 2020). However, the County's impervious surface restoration plan (ISRP) rate of implementation does not meet its MS4 permit's 20% restoration requirement. Meeting the 20% restoration requirement in the five-year permit term is crucial in the analysis of the County's FAP. Because restoration implementation data are missing, the Department requests that the County submit an updated FAP by June 30, 2019 that demonstrates sufficient ISRP implementation and funding.
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • The County projected to complete a total 892 acres (12.1%) of restoration by the end of the permit term, short of the 1,577 acres required (20%). The County noted in the Executive Summary that while the first FAP proposed a temporary nutrient trade with the Mattawoman Waste Water Treatment Plant, that option is no longer being considered as part of the restoration plan because the plant is unable to generate credits, and that "other trading options may be explored". Nutrient credit trading was not specifically included in the FY 2018 FAP tables as a planned activity to meet the restoration requirement. • In the MS4 Information table, the Baseline Treatment Requirement (Acres) was listed as 7,402 acres. It has since been updated to 7,887 acres. This slightly reduces the acres restored to date and the acres expected to be restored using the information submitted in the FAP. As noted in the "Spec Actions" table, the County has completed 9.1% of the restoration requirement (673 acres); using the updated baseline, the portion is 8.6%. The County's expected 892 acres of restoration is listed as 12.1% of the requirement; using the updated baseline, the portion is approximately 11.3%. • All best management practices (BMPs) listed are approved in MDE's Guidance or by the Chesapeake Bay Program (CBP) and were realistic to perform in the time allotted. • In the "All Actions" and "Spec Actions" tables, the implementation cost was indicated as \$0 for septic denitrification, septic connections, rain barrel

MDE’s Review of Charles County’s 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Actions to Meet Permit Requirements (Cont.)</p>	<p>installation, and private shoreline stabilization. The Watershed Protection and Restoration Program tables submitted with the County’s 2018 stormwater program annual report indicated that septic denitrification activity in FY 2018 was funded through a grant provided by the Maryland Department of Health (MDH). Future FAPs should indicate in the “All Actions” and “Fund Sources” tables if funding for this activity will come from the grant provided by MDH. Additionally, the County should indicate the source of funding for any other activity or specify that the activity has no cost, e.g., volunteer activity.</p> <ul style="list-style-type: none"> • Within the table, all formulas and subtotals were used correctly and all required fields were populated. All BMP types were correctly entered, including annual operational BMPs. • The plan included an Executive Summary and all required information in the MDE suggested table format. • The County documented both planned BMPs and BMPs under construction for the projected FYs 2021-2023, beyond the permit term.
<p>Annual and Projected Costs (“All Actions” and “ISRP Cost” worksheet)</p>	<ul style="list-style-type: none"> • The “ISRP Cost” table indicated that the budget for street sweeping is approximately \$110,000 annually, but the “All Actions” table estimated the cost at \$50,000 annually. In the next FAP, the County should correct these numbers or provide an explanation. • The average cost per acre for completed restoration efforts was approximately \$30,750. • The County planned to install a diverse mixture of BMP types through the end of the permit term. • In the “ISRP Cost” table, costs were reported for all required fiscal years and all formulas were used correctly.
<p>Annual and Projected Revenues (“ISRP Revenue” worksheet)</p>	<ul style="list-style-type: none"> • Revenues were reported for all required fiscal years and all formulas were used correctly. • For the next two fiscal years, the projected annual revenue exceeds the cost (109%) and exceeds the percent of funds directed toward annual restoration activities.
<p>Funding Sources (“Fund Sources” worksheet)</p>	<ul style="list-style-type: none"> • Funds were reported for all required fiscal years and all formulas were used correctly. • Sources of funds for the next two years include: <ul style="list-style-type: none"> ○ Bonds = \$22.96M ○ Stormwater Fees, Miscellaneous Fees, and Watershed Protection and Restoration Fund Balance = \$6.55M ○ General Fund = \$1.10M ○ Erosion and Sediment Control Fees = \$0.76M ○ Stormwater Maintenance Fees = \$0.70M

MDE's Review of Charles County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Funding Sources (Cont.)</p>	<ul style="list-style-type: none"> ○ Total Funding Sources = \$32.1M ● On average for the next two fiscal years, the County projected that the majority of the annual funds for meeting permit requirements would be from general obligation bonds (72%) but a significant portion would be funded by the stormwater utility fee (19%). ● No grant or loan sources were reported.
<p>Specific Actions and Expenditures from Previous Fiscal Years (“Spec Actions” worksheet)</p>	<ul style="list-style-type: none"> ● The baseline was listed in the table as 7,402 acres. As noted regarding the “MS4 Information table”, it has since been updated to 7,887 acres. Therefore, the actual completed restoration is 8.6% (listed as 9.1% in the table). ● The County reported BMPs completed since the expiration of its previous permit term. ● Actions and expenditures were reported for all required fiscal years and all formulas were used correctly.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Crumbles, Secretary
Horacio Tablada, Deputy Secretary

AUG 21 2019

Jason Groth, Planning Director
Charles County Department of Planning & Growth Management
P.O. Box 2150
200 Baltimore Street
La Plata, Maryland 20646

Dear Mr. Groth:

The Maryland Department of the Environment (Department) conducted a review of Charles County's 2018 Financial Assurance Plan (FAP), received on December 20, 2018, and determined that there was insufficient data to complete its review. The Department's June 6, 2019 correspondence to you described the deficiencies and requested that the County submit an updated FAP that demonstrates sufficient implementation and funding for the impervious surface restoration plan (ISRP). The County submitted a revised 2018 FAP on June 30, 2019.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second FAP is sufficient if it demonstrates that the County has dedicated revenues, funds, or sources of funds for the 2-year period immediately following the filing date of the FAP to meet 100% of the projected cost to comply with the ISRP requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Charles County's revised 2018 FAP, the Department has determined that the County has demonstrated that it has sufficient funding as described in its FAP. This determination is contingent upon official approval of the FAP by the Charles County Commissioners. The Department requests that the County notify the Department when a public hearing has been scheduled to approve this updated FAP. Below are several key findings based on the Department's review.

- The County proposed treating 500 acres of impervious area (approximately 32% of its ISRP requirement) by acquiring credits temporarily through the Maryland Water Quality Trading Program and replacing the credits with constructed stormwater projects by 2023. The FAP indicated that the credits would be acquired at no cost. The Department supports nutrient trading; however, the current permit must be modified accordingly. A permit modification has been initiated and a public hearing was held on July 31, 2019.

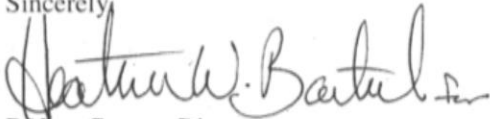
Jason Groth, Planning Director
Page 2

- The updated FAP listed the County's most current timelines for installation, including best management practices that are projected to be completed sooner than anticipated in the previously submitted FAP.
- The County projects to complete 1,754 acres of restoration (or 111% of the required 1,577 acre ISRP requirement) by the end of the permit term.

The County's next Watershed Protection and Restoration Program (WPRP) Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report. The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Charles County on this very important environmental program for improving local water resources and Chesapeake Bay.

If you have any questions regarding this review, please contact me at 410-537-3567, or Ms. Jennifer M. Smith at 410-537-3561 or jenniferm.smith@maryland.gov.

Sincerely,



D. Lee Currey, Director
Water and Science Administration

cc: Charles Rice, Program Manager, Charles County Environmental Program
Karen Wigger, Planner, Charles County Department of Planning & Growth Management
Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater, & Dam Safety Program



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUN 6 2019

Ms. Shannon Moore, Manager
Sustainability & Environmental Resources
Community Development Division
Frederick County
30 North Market Street
Frederick, Maryland 21701

Dear Ms. Moore:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt, on December 28, 2018, of Frederick County's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP is sufficient if it demonstrates that the County has dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing the County's 2018 FAP, the Department has determined that there is insufficient data to complete its review. Specifically, the County's ISRP rate of implementation does not meet its MS4 permit's 20% restoration requirement. Meeting the 20% restoration requirement in the five-year permit term is crucial in the analysis of the County's FAP. Because restoration implementation data are missing, the Department requests that the County submit an updated FAP by June 30, 2019 that reflects updates to Chesapeake Bay Program efficiencies and demonstrates sufficient ISRP implementation and funding. More detailed comments on the County's FAP are provided in an attachment for your information and use.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Frederick County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program

Attachment

**Maryland Department of the Environment's (MDE) Review of
Frederick County's 2018 Financial Assurance Plan (FAP)**

FAP Condition	MDE Assessment and Recommendations
<p>Demonstration of Public Participation and Sufficient Funding</p>	<ul style="list-style-type: none"> • Frederick County's Financial Assurance Plan (FAP) was received by the Maryland Department of the Environment (MDE) on December 28, 2018, prior to the December 31, 2018 due date. • A public hearing and approval from the County Council occurred on October 16, 2018. • The FAP demonstrates that at least 100% of the projected Impervious Surface Restoration Plan (ISRP) costs will be funded for fiscal years (FY) 2019-2020. However, the County's ISRP rate of implementation does not meet its MS4 permit's 20% restoration requirement. Meeting the 20% restoration requirement in the five-year permit term is crucial in the analysis of the County's FAP. Because restoration implementation data are missing, the Department requests that the County submit an updated FAP by June 30, 2019 that reflects updates to Chesapeake Bay Program efficiencies and demonstrates sufficient ISRP implementation and funding.
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • The FAP included an executive summary that outlined the necessary actions and costs required to meet the County's current Municipal Separate Storm Sewer System (MS4) permit and ISRP. • In the MS4 Information table, the Baseline Treatment Requirement (Acres) was listed as 1,328 acres. However, the MDE determined baseline treatment requirement (or ISRP requirement) is 2,620 acres. This reduces the acres restored to date and the acres expected to be restored. • The "All Actions" worksheet contains projects that are either in the planning stages, under construction, or complete. For example, the FY2012 tree planting should be reported under "Spec Actions", not "All Actions". In future reports, completed projects must be reported in the "Spec Actions" worksheet. • The total restored impervious acres identified in the "Spec Actions" worksheet were transferred to the "All Actions" worksheet. However, a number of completed BMPs reported in the Specific Actions worksheet were also reported in the "All Actions" worksheet. The permit term sub totals for "All Actions" only accounted for these BMPs once and thus did not cause double counting. • The County's "All Actions" and "Specific Actions" worksheets report 9 acres of treatment for BMP's implemented prior to the expiration date of the previous permit term (March 11, 2007). For example, a bioswale (BMP code MSWB) completed in FY2002 was claimed for 3 acres of treatment and tree planting (BMP code FPU) completed in FY2005 was claimed for 0.4 acres. <p>The "All Actions" worksheet summed the acreage for septic pumping reported under "Operational Programs". Additionally, FY2019-2020 septic pumping credit for 29 and 56 acres was reported under "Other" projects and</p>

MDE's Review of Frederick County's 2018 FAP

FAP Condition	MDE Assessment and Recommendations
<p>Actions to Meet Permit Requirements (Cont.)</p>	<p>was also summed. The "Other" section of the Specific Actions worksheet contained 155 acres of cumulative septic pumping credit for FY2015-2018 that was included in the permit term totals. The sum of improperly claimed septic pumping for FY2015-2020 equals 239 acres (154.7+28.8+55.5). Septic pumping is an annual practice and should not be summed. These credits have been moved to "Operational Programs" and included in the averages.</p> <p>By averaging these BMPs, the adjusted treatment credit for FY2019-2020 Operational BMPs is 53 acres, thus reducing the total restoration credit for the next two years. The permit term subtotal for "Operational Programs" was reduced from 87 acres to 75 acres (or a decrease of 12 acres). Removing the 239 acres of septic pumping and 9 acres of treatment from the previous permit term, and accounting for the decrease of 12 acres for the permit term average of Operational Programs, the total claimed permit restoration should be reduced by 260 acres.</p> <ul style="list-style-type: none"> • The County did not document sufficient BMPs to meet the ISRP requirement during the current permit term. The County's FAP reported that it would meet the restoration requirement of 1,328 acres; however, a review of the submitted data only accounts for 1,068 acres (80% of the claimed 1,328 acre requirement, or 40% of the MDE determined ISRP requirement). • The County proposed 170 acres of treatment, or 13% of the claimed ISRP requirement, to be completed by improving the performance of publicly owned treatment works (POTWs) to achieve equivalent pollutant reductions. Water Quality Trading Program regulations, Code of Maryland Regulations (COMAR) 26.08.11, became effective on July 16, 2018. <p>The Department supports nutrient trading with the wastewater sector to achieve restoration goals; however, the current permit must be modified accordingly. The permit modification process will require time and effort; the Department recommends that the County initiate this process as soon as possible so that the trading option may be added to the County's MS4 permit before the end of the term in December 2019.</p> <ul style="list-style-type: none"> • While the County has indicated a desire to engage in nutrient trading, the Executive Summary of the current FAP indicates this may not be possible. • MDE requests that the County review the data discrepancies described above and provide clarifications in its next FAP submittal.
<p>Annual and Projected Costs ("All Actions" and "ISRP Costs")</p>	<ul style="list-style-type: none"> • The reported Specific Actions cost per acre is \$35,018. The adjusted cost per acre, reflecting MDE's corrections and excluding catch basin cleaning, is \$41,547. The reported cost per acre for completed and projected projects for the permit term, including POTW crediting, is \$30,737. MDE's corrected cost per acre for this period, excluding \$0 BMPs and catch basin cleaning, is \$36,036. If calculating permit term cost per acre for each BMP

MDE's Review of Frederick County's 2018 FAP

FAP Condition	MDE Assessment and Recommendations
Annual and Projected Costs (Cont.)	<p>(not including BMPs with \$0 in costs and excluding catch basin cleaning), the average cost per acre is \$52,765. This is an increase from the average cost per acre for completed BMPs (i.e., \$40,703).</p> <ul style="list-style-type: none"> • In the ISRP Costs worksheet, annual costs have been reported for previous years up to FY2017. Projected costs have been reported in the document for FY2018 through FY2023. • In future submittals, please limit the use of cost estimates for completed restoration efforts. For FY15-FY18, septic pumping activities were reported as costing \$10,833 per acre. This cost is far higher than the other septic pumping activities. Comparing the cost for septic pumping, the cost/acre for completed SEPP is \$10,833 per acre while the cost for projected SEPP is \$325 per acre (for the SEPP reported in Capital Projects) and \$2,500 per acre (for the SEPP reported under Operational Programs). • On the "All Actions" worksheet, catch basin cleaning (CBC) has been included but no impervious area credits were provided for this specific BMP in the worksheet. These practices can help the County meet its restoration goals, reduce program cost, and should be proposed for credit. Until credits are claimed for these practices, no ISRP costs should be reported in the FAP because doing so increases the total costs of restoration. • All discrepancies noted above shall be more fully explained or corrected in future FAP submittals.
Annual and Projected Revenues ("ISRP Revenue" worksheet)	<ul style="list-style-type: none"> • The values for revenue were obtained by using a formula that makes the reported ISRP revenue equal the reported costs. The County should re-examine how revenues were calculated and provide clarification in its next FAP submittal. • The County's reported annual sources of funds exceeds the reported ISRP revenue, demonstrating that the County has more than sufficient funding to meet the reported cost for its ISRP requirement. • For the next two fiscal years (FY2019-2020), the total projected fund sources (\$21.8 M) exceeds the projected costs (\$20.1M). This is equivalent to 108%, exceeding the 100% requirement.
Funding Sources ("Fund Sources" worksheet)	<ul style="list-style-type: none"> • The required fields for funding sources are complete and the formulas appear to be correct. • Sources of funds for the next two years include: <ul style="list-style-type: none"> ○ General Fund = \$20.3M ○ Stormwater Remediation Fee = \$1,024 ○ State Grants = \$1.5M ○ Total Funding Sources = \$21.8M
Specific Actions and Expenditures from Previous	<ul style="list-style-type: none"> • As required, completed BMPs for specific projects were included in the "Spec Actions" worksheet. However, a number of practices identified as "Funded" were also included. The County is reminded to include only "Completed" BMP's for specific projects.

MDE's Review of Frederick County's 2018 FAP

FAP Condition	MDE Assessment and Recommendations
<p>Fiscal Years (“Spec Actions” worksheet)</p>	<ul style="list-style-type: none"> • A majority of the formulas were correct. The County did not average impervious acres from Operational Programs and instead used a sum of the most recent year of implementation. Additionally, septic pumping activities claimed under “Other” BMPs were summed instead of averaged. • The Specific Actions worksheet includes BMPs that were implemented prior to the expiration date of the previous permit term. Only BMPs implemented after the expiration date of the previous permit term (March 11, 2007) should be claimed for restoration credit. • The only annual BMPs accounted for on the “Spec Actions” worksheet under Operational Programs are street sweeping, septic pumping, and catch basin cleaning. Of the activities listed, one BMP does not provide any quantities of restored acreage (i.e., catch basin cleaning). As stated in MDE’s previous review, these practices can help the County meet its restoration goals, reduce program cost, and should be proposed for credit. Until restoration credit is claimed, the costs for these BMPs should not be reported in the FAP.
<p>Future WPRP and FAP Reporting</p>	<ul style="list-style-type: none"> • Frederick County’s next Watershed Protection and Restoration Program (WPRP) Annual Report will be due in coordination with the County’s next MS4 Annual Report. • The County’s next FAP will be due in coordination with its 2020 Annual Report.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Crumbles, Secretary
Horacio Tablada, Deputy Secretary

AUG 23 2019

Shannon Moore, Manager
Sustainability & Environmental Resources
Community Development Division
Frederick County
30 North Market Street
Frederick, Maryland 21701

Dear Ms. Moore:

The Maryland Department of the Environment (Department) conducted a review of Frederick County's 2018 Financial Assurance Plan (FAP), received on December 28, 2018, and determined that there was insufficient data to complete its review. The Department's June 6, 2019 correspondence to you described the deficiencies and requested that the County submit an updated FAP demonstrating sufficient implementation and funding for the impervious surface restoration plan (ISRP). The County submitted a revised 2018 FAP on June 28, 2019. Following this submission, the Department and County discussed outstanding issues during an August 13, 2019 conference call. An updated 2018 FAP was submitted by the County on August 15, 2019. The Department reviewed this updated submission and offers the following:

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed. The first plan, filed in 2016, demonstrated sufficient funding for the 2-year period immediately following its filing date. The second plan is sufficient if it demonstrates that the County has dedicated revenues, funds, or sources of funds for the 2-year period immediately following the filing date to meet 100% of the projected cost to comply with the ISRP requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

The Department has determined that the County has demonstrated sufficient funding as described in its FAP. This determination is contingent upon the approval of the County's impervious area analysis by the Department and the official approval of the FAP by the Frederick County Council. The Department requests that the County notify the Department when a public hearing has been scheduled to approve this updated FAP. Below are several key findings based on the Department's review:

- The County's impervious area analysis indicated that there are 6,350 impervious acres in the County with little or no stormwater management. The County's permit requires that 20% of that area, or 1,270 impervious acres, be restored during the course of its permit term. The Department's review of the impervious area analysis is pending at this time.
- The updated FAP listed the County's most current timelines for project implementation.

Shannon Moore, Manager
Page 2

- The County proposed treating 65 acres of impervious area (approximately 5% of its ISRP requirement) by acquiring credits temporarily through the Maryland Water Quality Trading Program. The FAP indicated that the credits would be acquired at no cost. The Department supports nutrient trading; however, the current permit must be modified accordingly. A permit modification has been initiated and a public hearing was held on July 29, 2019.
- The County projects to complete approximately 1,270 acres of restoration (or 100% of the proposed 1,270 acre ISRP requirement) by the end of the permit term.

The County's next Watershed Protection and Restoration Program (WPRP) Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report. The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Frederick County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567, or Jennifer M. Smith at 410-537-3561 or JenniferM.Smith@Maryland.gov.

Sincerely,



D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater, and Dam Safety Program



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

APR 10 2019

Mr. Joseph J. Siemek, P.E.
Director of Public Works
Harford County
212 South Bond Street, 3rd Floor
Bel Air, MD 21014

Dear Mr. Siemek:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt, on December 20, 2018, of Harford County's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP, is sufficient if it demonstrates that the County has the dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Harford County's 2018 FAP, the Department has determined that the County has demonstrated that it has sufficient funding in its FAP. The Department has provided more detailed comments in an attachment for the County's information and use. The County's next WPRP Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Harford County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater, and Dam Safety Program
Christine Buckley, Harford County Department of Public Works

Attachment

**Maryland Department of the Environment's (MDE) Review of
Harford County's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
Demonstration of Sufficient Funding	<ul style="list-style-type: none"> • The County submitted its FAP to MDE on December 20, 2018 satisfying State reporting requirements. • Harford County held the required public hearing on October 9, 2018. • The County also submitted to MDE County Council Resolution NO. 013-18, providing approval of the County's FAP. • The County's FAP demonstrates sufficient funding for the projected ISRP costs for the next two-year period. The County's revenue represents 102% of the costs (i.e., \$23.18M in revenue versus \$22.75M in cost).
Actions to Meet Permit Requirements ("All Actions" worksheet)	<ul style="list-style-type: none"> • Harford County provided a narrative that included capital budget projections for implementing the Municipal Separate Storm Sewer System (MS4) permit, impervious surface information, and staff costs. • The County's impervious surface baseline is 11,094 impervious acres with little or no water quality treatment. The County's current permit requires that 20% of that area, or 2,218 impervious acres, be restored during the course of its permit term. The 2,218 impervious acre requirement is also known as the Impervious Surface Restoration Plan (ISRP) requirement. • The County provided specific types of best management practices (BMPs) in the "All Actions" worksheet. The worksheet includes projects completed in Fiscal Year (FY) 2018 and those that are expected to be completed between FY2019 and FY2023. All BMPs chosen by the County are approved in MDE's Accounting Guidance. • The County applied restoration implemented beginning in FY2009, the year the previous permit expired, to the ISRP requirement. Accordingly, the County revised its worksheet to designate FY2010–FY2020 as the permit term. This change is acceptable. • The County proposed that it will meet its ISRP requirement, assuming that 1,331 acres of treatment (i.e., 60% of the restoration requirement) is achieved by trading with its wastewater treatment plants (WWTPs) in an amount equivalent to the impervious surface pollutant reductions. The County stated that trading will be temporary while the County continues to complete restoration projects. • Water Quality Trading Program regulations, Code of Maryland Regulations (COMAR) 26.08.11, became effective on July 16, 2018. The Department supports nutrient trading with the wastewater sector to achieve restoration goals; however, the current permit must be modified accordingly. The permit modification process will require time and effort; the Department recommends that the County initiate this process as soon as possible so that the trading option may be added to the County's MS4 permit before the end of the term in December 2019. • The County expects to have completed stream restorations for 441 acres of impervious surface restoration by the end of the current permit term. From FY2010–FY2017, the County completed seven stream restoration projects to

MDE's Review of Harford County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Actions to Meet Permit Requirements (Cont.)</p>	<p>restore 94 acres of impervious surface, and three stream restorations for 86 acres in FY2018. The County expects to complete 12 stream restorations within the next two years to restore an additional 262 acres. One project is currently under construction, designs are complete for four, and seven projects are currently under design.</p> <ul style="list-style-type: none"> • MDE again suggests that the County consider the practicality of relying heavily on stream restoration within a short time period. Numerous factors (e.g., monitoring requirements, weather, stream closures) may impact the construction process. • From FY2010 to FY2017, the County completed 11 retrofits of stormwater facilities for 54 acres of impervious surface restoration. In FY2018, the County completed three projects to restore six acres and in FY2019–FY2020, the County plans to complete seven additional projects to restore 29 acres. Past implementation demonstrates that the County expects to complete restoration projects at an accelerated rate in FY2019/FY2020. • Retrofit projects scheduled for completion from FY2019 onward are noted as a general stormwater retrofit category. The County should provide a specific BMP type when this information is available. • Annual BMPs are properly accounted for under Operational Programs. The County included an average permit term credit of 308 impervious acres per year for septic pumping, or 14% of its ISRP requirement. The County calculated acres based on the average annual volume of 10 million gallons delivered to the WWTP per year by septic haulers. Based on MDE's MS4 Accounting Guidance, 308 acres represents 10,266 individual septic systems pumped every year. • As stated in the 2016 FAP review, the County must provide specific locations of the systems pumped according to MDE's MS4 geodatabase as verification of these credits. The estimated loads transferred by septic haulers will not be sufficient to receive credit. The County should be prepared to provide additional BMPs should the level of septic pump-out implementation fall short of annual projections. • In the "All Actions" worksheet, \$0 cost was reported for septic pumping. If a project has no reported cost, the County needs to include the reason (e.g., property owner expense, grant funded). • All required fields have been populated. The County added additional "Status" categories (i.e., Under Design, Design Complete). • Formulas for two-year, five-year (or permit term), and all-year sum totals are correct. • The five-year (or permit term) and all-year subtotals in the "All Actions" worksheet include the correct subtotals for impervious acres restored from the Specific Actions ("Spec Actions") worksheet.

MDE's Review of Harford County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
<p>Annual and Projected Costs</p> <p>("All Actions" and "ISRP Cost" worksheet)</p>	<ul style="list-style-type: none"> • The data are complete for annual and projected costs for FY2018 through FY2023. All cost formulas for two-year, five-year (or permit term), and all-year sum totals are correct. • The restoration cost per acre for completed operational and capital projects (FY2010–FY2017) is \$14,389. The County's cost of projected capital and operational projects in FY2019 and FY2020 is \$30,510 per acre (i.e., a 112% increase over FY2010–FY2017 costs) and for FY2010 through FY2020 is \$33,045 per acre. Taking the cost saving option of nutrient trading into account, restoration cost per acre for the permit term (i.e., FY2010–FY2020) is \$13,434 per acre. • The five-year (or permit term) and all-year subtotals in the "All Actions" worksheet include the correct subtotals for costs from the Specific Actions worksheet. • The "All Actions" cost for FY2019–2020 is \$18,608,000 while the reported ISRP Cost for the same period is \$22,750,000.
<p>Annual and Projected Revenues</p> <p>("ISRP Revenue" worksheet)</p>	<ul style="list-style-type: none"> • The data are complete for annual and projected revenues for FY2018 through FY2023 and the worksheet formulas are correct. • The reported ISRP revenue equals the percent of funds directed toward the ISRP. • The reported revenue for the next two fiscal years exceeds the reported cost for the next two fiscal years (i.e., 102% of the cost).
<p>Funding Sources</p>	<ul style="list-style-type: none"> • The data are complete for applicable sources of funds for FY2018–FY2023 and the worksheet formulas are correct. • Sources of funds for the next two years include: <ul style="list-style-type: none"> ○ General Obligation Bonds = \$12.2M ○ State Grants = \$7.7M ○ General Funds = \$2.8M ○ Federal Grants = \$0.9M ○ Recordation Tax = \$0.8M ○ Total Funding Sources = \$24.4M • The largest sources of funds are general obligation bonds and state funded grants. For FY2018–FY2020, \$18M and \$12.8M were reported for bonds and State and federal grants, respectively. For FY2021–FY2023, \$19.05M and \$12M were reported for bonds and grants, respectively. No loans were reported. • The total funds for each fiscal year exceed the annual revenue appropriated for ISRP (i.e., appropriated annual ISRP revenue is 95% of the funding source or \$23,180,000).

MDE's Review of Harford County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
Specific Actions and Expenditures from Previous Fiscal Years ("Spec Actions" worksheet)	<ul style="list-style-type: none">• The reported actions reflect completed restoration projects and the BMP codes represent MDE approved BMPs.• The reported BMPs are site specific as required and the formulas in this worksheet are correct. BMPs are not duplicated in the "All Actions" worksheet.• In the Specific Actions worksheet, \$0 cost was reported for septic pumping. If a project has no cost, the County needs to include the reason (e.g., property owner expense, grant funded). The County provided this information for septic system upgrades.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUL 26 2019

Mr. Mark Richmond, P.E.
Chief, Stormwater Management Division
Department of Public Works
Howard County Government
6751 Columbia Gateway Drive, Suite 514
Columbia, MD 21046-3145

Dear Mr. Richmond:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt of Howard County's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP, is sufficient if it demonstrates that the County has the dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Howard County's 2018 FAP, the Department has determined that the County has demonstrated that it has sufficient funding in its FAP. The Department has provided more detailed comments in an attachment for the County's information and use. The County's next WPRP Annual Report will be due in coordination with its next MS4 Annual Report, and its FAP will be due in coordination with the 2020 MS4 Annual Report.

The Department recognizes the substantial effort required in developing these FAPs and WPRP Annual Reports, and looks forward to working with Howard County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Suzanne Dorcey, Assistant Secretary, Maryland Department of the Environment
Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater, and Dam Safety Program
Christine Lowe, P.E., Howard County Bureau of Environmental Services

Attachment

**Maryland Department of the Environment's (MDE) Review of
Howard County's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
<p>Demonstration of Sufficient Funding</p>	<ul style="list-style-type: none"> • Annotated Code of Maryland ENV § 4-202.1(j) requires Phase I Municipal Separate Storm Sewer System (MS4) permitted jurisdictions to submit a Financial Assurance Plan (FAP) every 2 years on the anniversary date of its MS4 permit issuance. The first FAP was submitted in July 2016. Howard County submitted a draft of its second FAP to the Maryland Department of the Environment (MDE) on December 18, 2018. • A public hearing was held for the FAP on April 22, 2019. The Resolution was adopted by the County Council on May 6, 2019, and the FAP was approved by the County Executive on May 13, 2019. MDE received a copy of the signed FAP certification and resolution on May 20, 2019. • The County's MS4 permit expires on December 17, 2019, approximately the middle of fiscal year (FY) 2020. The FAP demonstrates sufficient funding for the projected Impervious Surface Restoration Plan (ISRP) costs for the next two-year period (i.e., FY2019-FY2020).
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • The plan included an Executive Summary and all required information in the MDE suggested table format. As requested, the County reported BMPs under construction or planned in the "All Actions" worksheet. • The County's FAP reports that its impervious acre requirement, also known as the ISRP baseline, is 2,008 acres. However, in 2017 MDE approved a Treatment Requirement of 2,460 acres. The County proposed the amount of 2,008 acres as part of the MS4 reapplication process. The proposed baseline is currently under review and has not been approved. For this FAP review, the approved baseline will be used. • The County reported completing 1,871 acres of restoration in the Specific Actions worksheet, and projected to complete a total of 2,632 acres of restoration by the end of the permit term (i.e., December 17, 2019). This is 172 acres more than the MDE approved requirement and 624 acres greater than the revised ISRP requirement. • The total projected restoration for the permit term includes 1,091 acres of restoration from FY2019 to FY2020 that would be achieved through BMPs that are planned or currently under construction. • The County did not provide BMP projections for FY2021-FY2023. • The majority of best management practices (BMPs) listed are approved in MDE's Guidance or by the Chesapeake Bay Program (CBP) and are realistic to perform in the allotted time. • The County projects to complete one dry pond (BMP type "XDPD") in FY2019 that will provide a total ISRP treatment of 26 acres. MDE does not accept impervious acres treated by dry ponds because they provide little if any water quality treatment; this BMP should be removed from the County's ISRP. Alternatively, if this is a retrofit project, the County may claim credits but should identify the new BMP type. • The County is claiming cumulative credit for 40 equivalent acres septic

MDE's Review of Howard County's 2018 FAP

<p>Actions to Meet Permit Requirements (cont.)</p>	<p>pumping (BMP type "SEPP") to be implemented in FY2019 and FY2020.</p> <ul style="list-style-type: none"> Howard County has not proposed using nutrient trading to meet restoration goals.
<p>Annual and Projected Costs ("All Actions" and "ISRP Cost" worksheet)</p>	<ul style="list-style-type: none"> In the "All Actions" worksheet, 45 acres of projected restoration has no associated costs. The associated BMPs include dry wells, micro-bioretentions, and rain gardens. Over the next two fiscal years (FY2019-FY2020), the total cost per acre for projected restoration (excluding \$0 BMPs) is approximately \$36,198. This is a decrease from the total cost per acre for completed projects (\$42,957). The permit term (FY2011-FY2020) total cost per acre for completed and projected restoration efforts (excluding \$0 BMPs) is approximately \$46,028. In the "ISRP Cost" table, costs were reported for fiscal years within the permit term and all formulae were used correctly. The County did not project costs for FY2021-FY2023. The "ISRP Cost" worksheet indicates that the cost for the next two-years is \$27.4 million.
<p>Annual and Projected Revenues ("ISRP Revenue" worksheet)</p>	<ul style="list-style-type: none"> Revenues were reported for all required fiscal years and all formulae were used correctly. Howard County's current permit expires on December 17, 2019 (i.e., the middle of FY2020). Accordingly, half of FY2020 is a projection beyond the permit term. The County did not project revenues for FY2021-FY2023. The County reported that revenue for FY2019 and FY2020 (\$25.2 million) is equal to the projected ISRP costs (\$25.2 million). However, as mentioned above, the "ISRP Cost" worksheet indicates that the two-year costs is \$27.4 million. Reported ISRP costs for the projected two years is \$25.2 million if excluding the two-year operating expenditures (i.e., \$2.2 million) for street sweeping, inlet cleaning, and debt service. The two-year ISRP Cost with those activities included is \$27.4 million. <p>Additionally, the "Fund Sources" worksheet indicates that 100% of the projected funds for FY2019 and FY2020 (i.e., \$49.1 million) will be directed toward the ISRP. The two-year fund sources is substantially higher than the two-year ISRP Cost. Therefore, whether using the reported revenues and costs from the "ISRP Revenue" worksheet or using the reported amounts from the "Fund Sources" and "ISRP Cost" worksheets, the County's FAP shows sufficient funding to cover the two-year cost of the ISRP.</p>
<p>Funding Sources ("Fund</p>	<ul style="list-style-type: none"> Funds were reported for previous fiscal years and for FY2019-FY2020. All formulae were used correctly. The County did not provide projections for FY2021-FY2023. Sources of funds for the next two fiscal years include:

MDE's Review of Howard County's 2018 FAP

<p>Sources” worksheet)</p>	<ul style="list-style-type: none"> ○ Stormwater Remediation Fees = \$23.1M ○ Stormwater Revenue (Utility) Bonds = \$18.2M ○ State Funded Grants = \$4.1M ○ General Fund = \$3.7M ○ Total Funding Sources = \$49.1M <ul style="list-style-type: none"> • For the next two fiscal years, the County projected that the majority of the annual funds for meeting permit requirements would be from stormwater remediation fees (47%) and from stormwater revenue (utility) bonds (37%). • The County is reported using \$26.1 million in general obligation bonds through the end of FY2018 (i.e., the majority of the permit term).
<p>Specific Actions and Expenditures from Previous Fiscal Years (“Spec Actions” worksheet)</p>	<ul style="list-style-type: none"> • Actions and expenditures were reported for all required fiscal years and all formulae were used correctly. • The County has reported actions that reflect restoration efforts completed between the expiration of its previous permit term and the end of FY2018. The total completed restoration is 1,871 acres and has a total cost per acre of \$42,957 (calculated without acres from \$0 BMPs). • The County reported treatment for 594 equivalent acres of stream restoration completed between FY2011 and FY2018. • The County is claiming cumulative credit for 159 equivalent acres of septic pumping (BMP type “SEPP”) completed between FY2014 and FY2018. • The County reported credit for two dry ponds completed in FY2013 and FY2015 that will provide a total ISRP treatment of one acre. MDE does not accept impervious acres treated by dry ponds because they provide little if any water quality treatment; these BMPs should be removed from the County’s ISRP. Alternatively, if these are retrofit projects, the County may claim credits but should identify the new BMP types. • One acre of credit is claimed for a FY2015 underground storage (UGS) facility and an additional 13 acres of credit is claimed for a FY2017 UGS. This a non-water quality BMP and the County may not claim credit for this practice. Removing these 14 acres of treatment from the UGS facilities reduces the completed restoration to 1,858 acres and the projected permit term restoration to 2,618 acres.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUN 25 2019

Mr. Adam Ortiz, Director
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, MD 20850

Dear Mr. Ortiz:

This letter acknowledges the Maryland Department of the Environment's (Department) receipt, on February 15, 2019, of Montgomery County's 2018 Financial Assurance Plan (FAP) as required by the Annotated Code of Maryland.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016 by the County, was found to demonstrate sufficient funding for the 2-year period immediately following the filing date of the FAP. The second and subsequent FAP is sufficient if it demonstrates that the County has dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the FAP, 100% of the projected costs of compliance with the impervious surface restoration plan (ISRP) requirements of the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

After reviewing Montgomery County's 2018 FAP, the Department has determined that the County has demonstrated that it has sufficient funding in its FAP. The Department has provided more detailed comments in an attachment for the County's information and use. The County's next FAP will be due in coordination with its 2020 MS4 Annual Report.

The Department recognizes the substantial effort required in developing these FAPs, and looks forward to working with Montgomery County on this very important environmental program for improving local water resources and Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or by email at jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Lee Currey".

D. Lee Currey
Director, Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program
Amy Stevens, Section Chief, Watershed Planning and Monitoring

Attachment

**Maryland Department of the Environment's (MDE) Review of
Montgomery County's 2018 Financial Assurance Plan (FAP)**

FAP Condition	MDE Assessment and Recommendations
<p>Demonstration of Public Participation and Sufficient Funding</p>	<ul style="list-style-type: none"> • Montgomery County held a public hearing on its Financial Assurance Plan (FAP) on January 29, 2019, and the FAP was approved by the County Council on February 5, 2019. A signed certification by the County Executive was provided on March 1, 2019. • The County submitted its FAP to the Maryland Department of the Environment (MDE) on February 15, 2019 satisfying State reporting requirements. • The County's FAP demonstrates sufficient funding for 100% of the projected Impervious Surface Restoration Plan (ISRP) costs for the fiscal year (FY) 2019-FY2020 period (\$23,530,014 in revenue versus \$23,471,563 in cost), meeting the requirement for funding of 100% of the ISRP.
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • Montgomery County included with its FAP an executive summary that indicated the actions required to meet permit conditions and the ISRP. • The total restored impervious acres from the "Spec Actions" worksheet correspond correctly with the restored impervious acres indicated on the "All Actions" worksheet. • The County is reporting a total of 3,781 acres restored through FY2019, or 100.1% of its ISRP. • The two-year and five-year sum totals have also been calculated correctly. • The County has documented general categories of best management practices (BMPs) to meet the 20% ISRP requirement. • The County grouped two projects together and reported them as structural type "GABION". These grouped projects were also reported in Appendix J of the County's FY2018 Municipal Separate Storm Sewer System (MS4) Annual Report, under "Outfall Stabilization".
<p>Annual and Projected Costs ("All Actions" and "ISRP Costs" worksheet)</p>	<ul style="list-style-type: none"> • Montgomery County reported capital and operating costs for the current and projected fiscal years as required. • Worksheet entries and formulas have been entered correctly. • About 479 acres are scheduled to be completed through FY2020 at a cost of \$18,056,784; this averages out to \$37,664 per acre. The County's average cost per acre for the permit term was \$29,928. • Under the Specific Actions worksheet, the County reported its total expenditures for FY2010-FY2019 to be \$112,408,436 (Total Complete To Date) and the total impervious acres restored to be 3,781 acres. The amount of acreage reported is consistent with what is reported in the "All Actions" worksheet; however, the cost is not (a total cost of \$113,180,143 is reported in the "All Actions" table under "Total Permit Term").

**Maryland Department of the Environment's (MDE) Review of
Montgomery County's 2018 Financial Assurance Plan (FAP)**

FAP Condition	MDE Assessment and Recommendations
Annual and Projected Revenues ("ISRP Revenue" worksheet)	<ul style="list-style-type: none"> • Revenues for the ISRP have been reported for FY2018-FY2023. • Entries and formulas have been entered correctly. • Montgomery County's FAP shows a revenue drop from a high of \$27,629,934 in FY2018, decreasing to \$6,921,907 in FY2020 and remaining within the \$6.9 million range through FY2023. • The County projects revenues for the next two fiscal years to be \$23,530,014 and the total for the permit term and five-year projections to be \$191,459,671, a decrease from the \$381,605,657 projected in the 2016 FAP. • The costs listed in the "ISRP Revenue" worksheet correspond directly with the projected costs in the "ISRP Costs" worksheet. • The reported two-year ISRP revenue equals 100% of the funds needed toward the two-year ISRP costs and the total costs for the ISRP permit requirement.
Funding Sources ("Fund Sources" worksheet)	<ul style="list-style-type: none"> • The County did not indicate the percentage of funds directed toward the ISRP requirement. This data was also omitted from the County's last submittal in 2016. These data are important for assessing the County's ability to pay for its ISRP and shall be reported in the County's next FAP submittal. • All other formulas in this worksheet appear to be correct. • Sources of funds for the next two years include: <ul style="list-style-type: none"> ○ Water Quality Protection Charge = \$74.8M ○ Miscellaneous Income = \$21.2M ○ Miscellaneous Fees and Taxes = \$5.3M ○ Water Quality Protection Revenue Bonds = \$3.6M ○ State Revolving Loan Fund = \$2.3M ○ State Funded Grants = \$0.5M ○ Total Funding Sources = \$107.7M • For the next two fiscal years, the County projected that the majority of the annual funds for meeting permit requirements would be from its water quality protection charge (69%) and from the solid waste fund (11%).
Specific Actions and Expenditures from Previous Fiscal Years ("Spec Actions" worksheet)	<ul style="list-style-type: none"> • The reported actions and expenditures by Montgomery County correctly reflect the completed restoration activities. • The formulas calculating the total costs have been entered correctly. • The total restored impervious acres from the Specific Actions worksheet correspond with the total amount indicated in the "All Actions" worksheet. • The County included 8 restoration BMPs completed between the expiration date of the previous permit term (July 2006) and the beginning of the current permit term (February 2010), totaling 39 acres and costing \$1,028,349 (five projects have no associated cost reported). The County may take these credits. • The County identified two projects as structural type "GABION". One of these projects is described as "stream restoration through gabion walls",

**Maryland Department of the Environment's (MDE) Review of
Montgomery County's 2018 Financial Assurance Plan (FAP)**

FAP Condition	MDE Assessment and Recommendations
<p>Specific Actions and Expenditures from Previous Fiscal Years (cont.)</p>	<p>while the other is described as "stream bank stabilization through gabion walls". Both of these projects were also reported in Appendix J of the County's FY2018 Municipal Separate Storm Sewer System (MS4) Annual Report, under "Outfall Stabilization".</p> <ul style="list-style-type: none"> • The County reported "Facility Planning" under Capital Projects, categorized by year (from 2010 to 2018). Although these entries do not have associated impervious acreage, they do have a reported cost (\$7,149,301 total). • Under "Other", the County reported 933 total acres of "New BMPs Treating Existing Impervious Area", under the code "REDE" (Redevelopment). Further clarification of this term, including a breakdown of individual BMPs in this category, was provided by the County as Appendix J in the County's MS4 Annual Report. • The County reported a handful of dry extended detention ponds (BMP code "XDED") with a total of 482 impervious acres, which it counted toward its total impervious surface restoration requirement. After verification, it has been confirmed that these dry ponds either have a water quality treatment feature or are part of a larger stormwater management system in one of the Special Protection Areas. This policy is outlined in <i>Montgomery County's 2010-2015 MS4 Watershed Restoration Achievements</i> (2015), which MDE approved in August 2016.
<p>Future FAP Reporting</p>	<ul style="list-style-type: none"> • The County's next FAP will be due in coordination with its FY2020 Annual Report.



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Crumbles, Secretary
Horacio Tablada, Deputy Secretary

JAN - 2 2020

Joseph P. Gill, Director
Department of the Environment
Prince George's County
1801 McCormick Drive
Largo, MD 20774

Dear Mr. Gill:

This letter acknowledges the Maryland Department of the Environment's (the Department) receipt of Prince George's County's 2018 Financial Assurance Plan (FAP) and 2018 Watershed Protection and Restoration Program (WPRP) Annual Report as required by the Annotated Code of Maryland. The Department received the WPRP report on December 31, 2018 and the final FAP on August 5, 2019. This FAP submission includes information on the cost of compliance with the impervious surface restoration plan (ISRP) requirements outlined in the County's National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) permit.

Chapter 124 of the Acts of the General Assembly of 2015 requires the Department to make a determination regarding the sufficiency of funding in each FAP filed with the Department. The first FAP, filed in 2016, was found to demonstrate sufficient funding for the 2-year period immediately following that submittal. The second FAP is required to show adequate funding for the next 2-year period by demonstrating that the County has sufficient dedicated revenues, funds, or sources of funds to meet 100% of the projected 2-year cost to comply with the ISRP requirement outlined in the County's MS4 permit. The Department has determined that the County's 2018 FAP submittal provides the requisite documentation to demonstrate sufficient funding.

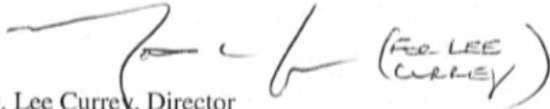
Annotated Code of Maryland ENV § 4-202.1(j) requires Phase I MS4 permitted jurisdictions to submit a FAP every 2 years on the anniversary date of the issuance of its permit. The County submitted the FAP to the Department on August 5, 2019. This was six months past the January 1, 2019 due date. Future submittals must be consistent with deadlines associated with State laws, or the County may be subject to a fine under State law.

The Department has provided additional review comments in an attachment for the County's information and use. Please provide a response to the Department's comments in subsequent FAPs and WPRP Annual Reports. The County's next WPRP Annual Report will be due in coordination with its next MS4 Annual Report; and the FAP will be due in coordination with its 2020 MS4 Annual Report.

Joseph P. Gill, Director
Page 2

The Department recognizes the substantial effort required to create the FAP and WPRP Annual Report. The County is commended for its effort in developing and implementing this very important environmental program for improving local water resources and restoring the Chesapeake Bay. If you have any questions regarding this review, please contact me at 410-537-3567 or Jennifer M. Smith at 410-537-3561, or by email at jenniferm.smith@maryland.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Lee Currey". To the right of the signature, the name "D. LEE CURREY" is printed in a smaller, sans-serif font, enclosed in parentheses.

D. Lee Currey, Director
Water and Science Administration

cc: Jennifer M. Smith, P.E., Program Manager, Sediment, Stormwater and Dam Safety Program

Attachment

**Maryland Department of the Environment's (MDE) Review of
Prince George's County's 2018 Financial Assurance Plan (FAP)**

Plan Condition	MDE Assessment and Recommendations
<p>Demonstration of Sufficient Funding</p>	<ul style="list-style-type: none"> • Annotated Code of Maryland ENV § 4-202.1(j) requires Phase I Municipal Separate Storm Sewer System (MS4) permitted jurisdictions to submit the Financial Assurance Plan (FAP) every 2 years on the anniversary of the date of issuance of its permit (i.e., January 2, 2014). • A public hearing was held on June 11, 2019. The County approved the FAP on July 9, 2019 and a copy of the County Resolution was submitted with the approved FAP. • Prince George's County submitted a PDF of the approved FAP to MDE on August 5, 2019 which was six months past the January 2, 2019 due date. An official letter with the approved FAP was received on August 29, 2019. A Microsoft Excel version of the approved FAP was submitted on September 24, 2019. Future submittals must be consistent with deadlines associated with State laws. Otherwise the County may be subject to a fine under State law. • The County's permit expired on January 1, 2019 (i.e., the middle of FY2019). The County's FAP demonstrates sufficient funding for 100% of the projected impervious surface restoration plan (ISRP) costs for the next two years (i.e., FY2019-FY2020). Projected revenues total \$189,173,791 while the projected cost is \$189,143,135.
<p>Actions to Meet Permit Requirements ("All Actions" worksheet)</p>	<ul style="list-style-type: none"> • Prince George's County included an executive summary and all requested information in the requested format with the FAP. This summary indicates the actions required to meet permit conditions as required by the Annotated Code of Maryland, Environment Article § 4-202.1(j)(1)(i)1. • The County projected that 2,744 acres of restoration would be completed by the end of the permit term (i.e., January 1, 2019). This level of treatment is 45% of the County's 6,105 acre ISRP requirement during the previous permit term (FY2014-FY2019). • While not required, the County did provide projections for future years through FY2023. The County projects completing 1,544 acres of restoration from FY2019-FY2020 and 6,614 acres by FY2023. These projections include both planned best management practices (BMPs) and BMPs under construction. If assuming all of these BMPs are completed, the County estimates that it would meet the current ISRP requirement in FY2023. • All BMPs listed are approved in MDE's Guidance or by the Chesapeake Bay Program (CBP). • The FAP does not include plans to use nutrient trading to meet restoration goals. • The County reported credits for regenerative vacuum street sweeping for a total of 318 acres. This is not consistent with past annual reports that

MDE’s Review of Prince George’s County’s 2018 FAP

Plan Condition	MDE Assessment and Recommendations
	<p>stated that the County was not taking credit for this practice. The County should clarify this inconsistency and provide calculations for all street sweeping credits for MDE review.</p>
<p>Annual and Projected Costs (“All Actions” and “ISRP Cost” worksheet)</p>	<ul style="list-style-type: none"> • The County reported capital and operating costs for the past, current, and projected fiscal years as required. • In the “All Actions” worksheet, some BMPs have an implementation cost of zero dollars. The County should provide a brief comment explaining why these BMPs do not have an associated cost. • The projected “All Actions” cost for completed restoration efforts over the permit term (FY2014-FY2019) was approximately \$123,374,027 which would result in 2,744 acres of restoration. The average cost per acre for implementation over the permit term is \$44,961. • In the “ISRP Cost” worksheet, costs were reported for all required fiscal years and all formulas were used correctly.
<p>Annual and Projected Revenues (“ISRP Revenue” worksheet)</p>	<ul style="list-style-type: none"> • Revenues were reported for all required fiscal years and all formulas were used correctly. • The County’s current permit expired on January 1, 2019 (i.e., the middle of FY2019). Accordingly, half of FY2019 and all of FY2020 are projections beyond the permit term. • Revenues for the ISRP have been reported for FY2018-FY2023 as required by Annotated Code of Maryland, Environment Article § 4-202.1(j)(1)(i)3. • The reported two-year (i.e., FY2019 and FY2020) revenue is \$189,173,791. • The County’s reported annual sources of funds for the next two years is 47% of the funds directed toward the ISRP, demonstrating that the County has sufficient funding to meet its impervious surface restoration requirement.
<p>Funding Sources (“Fund Sources” worksheet)</p>	<ul style="list-style-type: none"> • Funds were reported for all required fiscal years and all formulas were used correctly. • Sources of funds for the permit cycle include: <ul style="list-style-type: none"> ○ Stormwater Management (SWM) Enterprise Fund (5100) = \$150.7M ○ SWM Bonds = \$144.7M ○ WPR Fund (5200) Clean Water Act Fees = \$60.1M ○ Other = \$35.0M ○ State Funding = \$6.5M ○ Grants = \$2.1M ○ Total Funding Sources = \$399.1M • For the next two fiscal years, the County projected that the majority of the annual funds for meeting permit requirements would be from the SWM Enterprise Fund (38%) and SWM Bonds (36%). An additional 15% comes from WPR Fund Clean Water Act Fees. However, based on the percent of funds directed toward the ISRP, the County is not using the SWM

MDE's Review of Prince George's County's 2018 FAP

Plan Condition	MDE Assessment and Recommendations
Funding Sources (Cont.)	Enterprise Fund or the WPR Fund Clean Water Act Fees to help pay for the cost of the ISRP. <ul style="list-style-type: none"> • The total funding sources over the five-year permit term of \$1,145,483,873 exceeds the projected amount of money needed to fund permit term ISRP cost (which is \$316,412,870). If using the percent of funds directed toward the ISRP, the ISRP funding sources over the five-year permit term equals \$720,877,093. However, the implementation timeline indicates that projects will not be completed until FY2023 (noted in the "All Actions" worksheet). This means that funding is not a limitation to restoration implementation and that completion of projects is due to other time delays.
Specific Actions and Expenditures from Previous Fiscal Years ("Spec Actions" worksheet)	<ul style="list-style-type: none"> • The County has reported actions that reflect restoration efforts completed by the end of FY2018. • The County did not report BMPs completed since the expiration of its previous permit term. • Actions and expenditures were reported for all required fiscal years and all formulas were used correctly. The total completed restoration as of FY2018 is 2,215.8 acres.

Appendix B: Abbreviations and Classifications of BMPs

Table B-1: BMP Classes

Code	Code Description
A	Alternative BMP
E	ESD
S	Structural BMP

Table B-2: Alternative BMPs

Code	Code Description	Category
CBC	Catch Basin Cleaning	Programmatic
FPU	Planting Trees or Forestation on Previous Urban	Upland
IMPF	Impervious Surface Elimination (to forest)	Upland
IMPP	Impervious Surface Elimination (to pervious)	Upland
MSS	Mechanical Street Sweeping	Programmatic
OUT	Outfall Stabilization	In-Stream
SDV	Storm Drain Vacuuming	Programmatic
SEPC	Septic Connections to WWTP	Upland
SEPD	Septic Denitrification	Upland
SEPP	Septic Pumping	Programmatic
SHST	Shoreline Stabilization	In-Stream
SPSC	Step Pool Storm Conveyance	In-Stream
STRE	Stream Restoration	In-Stream
VSS	Regenerative/Vacuum Street Sweeping	Programmatic

Table B-3: Environmental Site Design (ESD) BMPs

Code	Code Description	Category
Alternative Surfaces		
AGRE	Green Roof – Extensive	Upland
AGRI	Green Roof – Intensive	Upland
APRP	Permeable Pavements	Upland
ARTF	Reinforced Turf	Upland
Micro-Scale Practices		
MENF	Enhanced Filters	Upland
MIBR	Infiltration Berms	Upland
MIDW	Dry Well	Upland
MILS	Landscape infiltration	Upland
MMBR	Micro-Bioretenion	Upland
MRNG	Rain Gardens	Upland
MRWH	Rainwater Harvesting	Upland
MSGW	Submerged Gravel Wetlands	Upland
MSWB	Bioswale	Upland
MSWG	Grass Swale	Upland
MSWW	Wet Swale	Upland
Nonstructural Techniques		
NDNR	Disconnection of Non-Rooftop Runoff	Upland
NDRR	Disconnection of Rooftop Runoff	Upland
NSCA	Sheetflow to Conservation Areas	Upland

Table B-4: Structural BMPs

Code	Code Description	Category
Filtering Systems		
FBIO	Bioretention	Upland
FORG	Organic Filter (Peat Filter)	Upland
FPER	Perimeter (Sand) Filter	Upland
FSND	Sand Filter	Upland
FUND	Underground Filter	Upland
Infiltration		
IBAS	Infiltration Basin	Upland
ITRN	Infiltration Trench	Upland
Open Channels		
ODSW	Dry Swale	Upland
OWSW	Wet Swale	Upland
Ponds		
PMED	Micropool Extended Detention Pond	Upland
PMPS	Multiple Pond System	Upland
PPKT	Pocket Pond	Upland
PWED	Extended Detention Structure, Wet	Upland
PWET	Retention Pond (Wet Pond)	Upland
Wetlands		
WEDW	Extended Detention - Wetland	Upland
WPKT	Pocket Wetland	Upland
WPWS	Wet Pond – Wetland	Upland
WSHW	Shallow Marsh	Upland
Other Practices		
XDED	Extended Detention Structure, Dry	Upland
XDPD	Detention Structure (Dry Pond)	Upland
XFLD	Flood Management Area	Upland
XOGS	Oil Grit separator	Upland
OTH	Other	Upland

Appendix C: Calculations

General

Impervious Acre Baseline = (total impervious acres not treated to the MEP jurisdiction-wide) * (20% MS4 permit restoration requirement)

Table 2

Restoration complete was determined by dividing the total acres restored (gathered from FY18 FAPs or MS4 Annual Reports) by the total updated impervious acre baseline.

Percent of project completion by the end of the 5-year permit term was determined by dividing the total acres completed and projected to be restored by the total updated impervious acre baseline.

Tables 3 and 4

Cost per Acre = Cost/Total Completed or Projected Permit Term Restoration

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