

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

COUNTY COUNCIL
OF
HARFORD COUNTY, MARYLAND

Resolution No. 027-20

Legislative Session Day 20-29

November 10, 2020

Introduced by Council President Vincenti at
the request of the County Executive

A RESOLUTION providing for the approval of the Financial Assurance Plan, a copy of which is attached hereto, for the Harford County national pollutant discharge elimination system Phase I municipal separate storm sewer system permit and for submission of the Plan to the Maryland Department of the Environment for its review.

RESOLUTION NO. 027-20

1 WHEREAS, Harford County has been issued a national pollutant discharge elimination
2 system Phase I municipal separate storm sewer system permit (“Permit”) for discharges from its
3 storm drain outfalls; and

4 WHEREAS, the Annotated Code of Maryland, Environment Article, §4-202.1(j)(1)
5 requires that on or before July 1, 2016, and every 2 years thereafter on the anniversary of the date
6 of issuance of its Permit, a county must file a Financial Assurance Plan describing its projected
7 program for meeting permit requirements, including sources of revenue for the program; and

8 WHEREAS, the Annotated Code of Maryland, Environment Article, §4-202.1(j)(3)
9 provides that the Financial Assurance Plan may not be filed until the local governing body of the
10 county has held a public hearing and approved the Financial Assurance Plan.

11 NOW, THEREFORE, BE IT RESOLVED by the County Council of Harford County,
12 Maryland, that the Financial Assurance Plan is hereby approved and shall be submitted to the
13 Maryland Department of the Environment for its review.

ATTEST:

Mylia Dixon
Council Administrator

Patrick S. Vincenti
President of the Council

ADOPTED:

Harford County Financial Assurance Plan (November 2020)

MS4 Information	
Jurisdiction	Harford County
Contact Name	Christine Buckley
Phone	(410) 638-3217 extension 1176
Address	212 S. Bond Street
City	Bel Air
State	MD
Zip	21014
Email	cmbuckley@harfordcountymd.gov
Baseline Impervious Surface Untreated (Acres)	10,928
Permit Number	11-DP-3310
Reporting Year	FY2020

Harford County Financial Assurance Plan (November 2020)

Article 4-202.1(j)(1)(i)1: Actions that will be required of the county or municipality to meet the requirements of its National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

Untreated impervious surface (acres) or
baseline: 10,928

RESTORATION TYPE	CLASS	IMPERVIOUS ACRES	COST ^{1,2}	% ISRP COMPLETE	STATUS	PROJECTED YEAR ³
Operational Programs						
(SEPP) Septic Pumping	A	150	\$0	1.4%	Planning	FY20
(SEPP) Septic Pumping	A	150	\$0	1.4%	Planning	FY21
(SEPP) Septic Pumping	A	150	\$0	1.4%	Planning	FY22
(SEPP) Septic Pumping	A	150	\$0	1.4%	Planning	FY23
(SEPP) Septic Pumping	A	150	\$0	1.4%	Planning	FY24
(SEPP) Septic Pumping	A	150	\$0	1.4%	Planning	FY25
Average Operations Next Two Years (FY2021-FY2022) ⁵		150	\$0	1.4%		
Average Operations Next Five Years (FY2021-FY2025) ⁵		150	\$0	1.4%		
Average Operations All Years ⁵		154	\$0	1.4%		
Capital Projects						
(SEPC) Septic Connections to WWTP	A	1.6	\$18,000	0.0%	Complete ⁴	FY20
(SEPC) Septic Connections to WWTP	A	6.2	\$72,000	0.1%	Planning	FY21
(SEPC) Septic Connections to WWTP	A	30.8	\$360,000	0.3%	Planning	FY22
(SEPC) Septic Connections to WWTP	A	4	\$45,000	0.0%	Planning	FY23

(SEPC) Septic Connections to WWTP	A	4	\$45,000	0.0%	Planning	FY24
(SEPC) Septic Connections to WWTP	A	4	\$45,000	0.0%	Planning	FY25
(SEPD) Installation of new BAT on existing septic Denitrification	A	5	N/A	0.0%	Complete ⁴	FY20
(SEPD) Installation of new BAT on existing septic Denitrification	A	5	N/A	0.0%	Planning	FY21
(SEPD) Installation of new BAT on existing septic Denitrification	A	5	N/A	0.0%	Planning	FY22
(SEPD) Installation of new BAT on existing septic Denitrification	A	5	N/A	0.0%	Planning	FY23
(SEPD) Installation of new BAT on existing septic Denitrification	A	5	N/A	0.0%	Planning	FY24
(SEPD) Installation of new BAT on existing septic Denitrification	A	5	N/A	0.0%	Planning	FY25
(FPU) Tree Plantings	A	1.5	\$45,000	0.0%	Planning	FY21
(FPU) Tree Plantings	A	1.5	\$45,000	0.0%	Planning	FY22
(FPU) Tree Plantings	A	1.5	\$45,000	0.0%	Planning	FY23
(FPU) Tree Plantings	A	1.5	\$45,000	0.0%	Planning	FY24
(FPU) Tree Plantings	A	1.5	\$45,000	0.0%	Planning	FY25
(STRE) Stream Restoration	A	36	\$1,100,000	0.3%	Complete ⁴	FY20
(PMED / PWED / WEDW / WSHW) Stormwater Retrofit	S	17.5	\$300,000	0.2%	Complete ⁴	FY20
(STRE) Stream Restoration	A	62.2	\$2,800,000	0.6%	Complete ⁴	FY20

(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	12.1	\$700,000	0.1%	Complete ⁴	FY20
(STRE) Stream Restoration	A	19.5	\$790,000	0.2%	Complete ⁴	FY21
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	2	\$320,000	0.0%	Design Complete	FY21
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	3	\$225,000	0.0%	Planning	FY22
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	3	\$225,000	0.0%	Planning	FY22
(STRE) Stream Restoration	A	43	\$1,600,000	0.4%	Under Design	FY22
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	3	\$300,000	0.0%	Under Design	FY22
(STRE) Stream Restoration	A	25	\$930,000	0.2%	Design Complete	FY22
(STRE) Stream Restoration	A	24	\$1,600,000	0.2%	Design Complete	FY22
(STRE) Stream Restoration	A	90	\$2,400,000	0.8%	Under Design	FY22
(STRE) Stream Restoration	A	50	\$2,700,000	0.5%	Under Design	FY22
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	1	\$320,000	0.0%	Under Design	FY22
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	1	\$320,000	0.0%	Under Design	FY22
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	3	\$460,000	0.0%	Under Design	FY22
(STRE) Stream Restoration	A	90	\$900,000	0.8%	Under Design	FY23
(STRE) Stream Restoration	A	54	\$1,200,000	0.5%	Under Design	FY23
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	5	\$400,000	0.0%	Under Design	FY23

(STRE) Stream Restoration	A	40	\$800,000	0.4%	Under Design	FY23
(STRE) Stream Restoration	A	45	\$930,000	0.4%	Under Design	FY23
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	125	\$6,300,000	1.1%	Planning	FY24
(STRE) Stream Restoration	A	80	\$6,000,000	0.7%	Planning	FY24
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	10	\$800,000	0.1%	Planning	FY24
(STRE) Stream Restoration	A	80	\$6,000,000	0.7%	Planning	FY25
(PMED / PWED /WEDW / WSHW) Stormwater Retrofit	S	10	\$800,000	0.1%	Planning	FY25
Subtotal Capital Next Two Years (FY2021-FY2022)		318	\$12,712,000	3%		
Subtotal Capital Next Five Years (FY2021-FY2025)		888	\$37,112,000	8%		
Subtotal Capital All Years		1,853	\$56,653,000	17%		
Other						
Nutrient Trading with WWTP		185	\$0	1.7%		
Subtotal Other Next Two Years (FY2021-FY2022)		0	\$0	0.0%		
Subtotal Other Next Five Years (FY2021-FY2025)		0	\$0	0.0%		
Subtotal Other All Years		185	\$0	1.7%		
Total Next Two Years (FY2021-FY2022)		468	\$12,712,000	4.3%		
Total Next Five Years (FY2021-FY2025)		1,038	\$37,112,000	9.5%		
Total All Years		2,192	\$56,653,000	20.0%		

¹ Cost is the total cost for the project including planning, design, and construction.

² Cost is not related to annual fiscal costs. Planning, design, and construction typically do not occur within a single fiscal year.

³ Projected year is the year the project is constructed.

⁴ Costs and impervious acres treated are preliminary.

Harford County Financial Assurance Plan (November 2020)

Article 4-202.1(j)(1)(i)2: Projected annual and 5-year costs for the county or municipality to meet the impervious surface restoration plan requirements of its National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

DESCRIPTION	THRU FY 2019 ¹	CURRENT YEAR FY 2020	PROJECTED YEAR 1 FY 2021	PROJECTED YEAR 2 FY 2022	PROJECTED YEAR 3 FY 2023	PROJECTED YEAR 4 FY 2024	PROJECTED YEAR 5 FY 2025	TOTAL COSTS
Operating Expenditures								
Street Sweeping Program								\$0
Inlet Cleaning								\$0
Support of Capital Projects		\$235,000	\$250,000	\$280,000	\$310,000	\$340,000	\$370,000	\$1,785,000
Debt Service Payment		\$758,000	\$1,022,063	\$1,200,000	\$1,400,000	\$1,600,000	\$1,800,000	\$7,780,063
Other								\$0
Capital Expenditures								
General Fund (Paygo)								\$0
WPR Fund (Paygo)		\$6,300,000	\$9,500,000	\$7,000,000	\$7,500,000	\$8,000,000	\$8,500,000	\$46,800,000
Debt Service								\$0
Grants & Partnerships		\$1,100,000	\$980,000	\$880,000	\$1,500,000	\$1,500,000	\$1,500,000	\$7,460,000
Other (support of capital projects)		\$125,000	\$250,000	\$300,000	\$350,000	\$400,000	\$450,000	\$1,875,000
Subtotal Operation and Paygo:		\$7,418,000	\$11,022,063	\$8,780,000	\$9,560,000	\$10,340,000	\$11,120,000	\$58,240,063
Total Expenditures:		\$8,518,000	\$12,002,063	\$9,660,000	\$11,060,000	\$11,840,000	\$12,620,000	\$65,700,063

Total ISRP² costs except debt service: \$57,920,000

Compare ISRP² costs (except debt service) / total ISRP² proposed actions: 102%

¹ Harford County has not provided this information because it is beyond the requirements of the statute.

² Impervious Surface Restoration

Harford County Financial Assurance Plan (November 2020)

Article 4-202.1(j)(1)(i)3: Projected annual and 5-year revenues or other funds that will be used to meet the cost for the county or municipality to meet the impervious surface restoration plan requirements under the National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

DESCRIPTION	PAST UP THRU FY 2019 ¹	CURRENT YEAR FY 2020	PROJECTED YEAR 1 FY 2021	PROJECTED YEAR 2 FY 2022	PROJECTED YEAR 3 FY 2023	PROJECTED YEAR 4 FY 2024	PROJECTED YEAR 5 FY 2025	TOTAL NEXT 2-YEARS FY 21-22	TOTAL
Annual Revenue Appropriated for ISRP ²		\$11,495,000	\$12,783,200	\$12,739,738	\$12,939,724	\$13,144,961	\$13,355,709	\$25,522,938	\$76,458,331
Annual Costs towards ISRP ²		\$8,518,000	\$12,002,063	\$9,660,000	\$11,060,000	\$11,840,000	\$12,620,000	\$21,662,063	\$65,700,063

Compare revenue appropriated / annual costs: 118%

WPRP 2020 Reporting Criteria: 100%

¹ Harford County has not provided this information because it is beyond the requirements of the statute.

² Impervious Surface Restoration

Subtotal Grants and Partnerships		\$ 4,000,000	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000	\$20,000,000
Total Annual Sources of Funds		\$12,100,000	\$13,456,000	\$13,410,250	\$13,620,763	\$13,836,801	\$14,058,641	\$68,382,454
Percent of Funds Directed Toward ISRP²		95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	

Compare total permit term paygo ISRP² costs / subtotal permit term paygo sources: 360%

Compare total permit term ISRP² costs / total permit term annual sources of funds: 84%

¹ Harford County has not provided this information because it is beyond the requirements of the statute.

² Impervious Surface Restoration

³ Grants anticipated

³ Funding includes programs or portions of programs required by the MS4 in addition to ISR such as illicit discharge.

Harford County Financial Assurance Plan (November 2020)

Article 4-202.1(j)(1)(i)5: Specific actions and expenditures that the county or municipality implemented in the previous fiscal years to meet its impervious surface restoration plan requirements under its National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

Baseline Acres: 10,928

Requirement: 20%

RESTORATION ID	TYPE	CLASS	NUMBER	IMP ¹ ACRES	BUILT DATE	COST	% ISRP ² Complete	STATUS ²	COMMENTS
Operational Programs									
Septic Pumping	SEPP	A	4,972	149.2	FY19	\$0	1.4%	Complete	
Septic Pumping	SEPP	A	5,031	150.9	FY18	\$0	1.4%	Complete	
Septic Pumping	SEPP	A	4,970	149.1	FY17	\$0	1.4%	Complete	
Septic Pumping	SEPP	A	5,176	155.3	FY16	\$0	1.4%	Complete	
Septic Pumping	SEPP	A	4,718	141.5	FY15	\$0	1.3%	Complete	
Septic Pumping	SEPP	A	5,053	151.6	FY14	\$0	1.4%	Complete	
Septic Pumping	SEPP	A	4,767	143.0	FY13	\$0	1.3%	Complete	
Septic Pumping	SEPP	A	5,252	157.5	FY12	\$0	1.4%	Complete	
Septic Pumping	SEPP	A	6,425	192.8	FY11	\$0	1.8%	Complete	
Septic Pumping	SEPP	A	6,300	189.0	FY10	\$0	1.7%	Complete	
Septic Pumping	SEPP	A	4,220	126.6	FY09	\$0	1.2%	Complete	

Average Operations Complete To Date ⁴			5,171	155.1		\$0	1.4%		
Capital Projects									
Stream restoration	STRE	A	1	96.9	FY20	\$650,000	0.9%	Complete	
Tree planting	FPU	A	1	1.3	FY20	\$9,000	0.0%	Complete	
Stream restoration	STRE	A	1	8.9	FY20	\$97,000	0.1%	Complete	
New bioretention facility	FBIO	S	1	1.6	FY19	\$131,000	0.0%	Complete	
Stream restoration	STRE	A	1	92.5	FY19	\$2,100,000	0.8%	Complete	
Stream restoration	STRE	A	2	131.1	FY18	\$2,000,000	1.2%	Complete	
Retrofit of existing stormwater pond	WPWS	S	4	8.42	FY18	\$130,000	0.1%	Complete	
New bioretention facility	FBIO	S	1	0.1	FY18	\$96,000	0.0%	Complete	
Permeable Pavers	APRP	A	1	0.1	FY18	\$68,000	0.0%	Complete	
New bioretention facility	FBIO	S	1	0.2	FY18	\$120,000	0.0%	Complete	
Retrofit of existing stormwater pond	IBAS	S	1	3.0	FY18	\$178,000	0.0%	Complete	
Tree planting	FPU	A	1	0.5	FY18	\$32,000	0.0%	Complete	
New mirccobioretention	MMBR	S	1	0.2	FY18	\$11,000	0.0%	Complete	
Stream restoration	STRE	A	1	110.3	FY18	\$1,090,000	1.0%	Complete	

Retrofit existing stormwater pond	WPWS	S	2	8.8	FY18	\$320,000	0.1%	Complete	
Stream restoration	STRE	A	1	31.7	FY18	\$1,140,000	0.3%	Complete	
Outfall Stabilization	OUT	A	1	0.8	FY18	\$30,000	0.0%	Complete	
Retrofit of existing stormwater pond	WPWS	S	1	3.7	FY17	\$530,000	0.0%	Complete	
Stream restoration	STRE	A	1	41.8	FY17	\$900,000	0.4%	Complete	
New pocket wetland	WPWS	S	1	0.3	FY17	\$13,000	0.0%	Complete	
Retrofit of existing stormwater pond	WPWS	S	1	8.7	FY16	\$580,000	0.1%	Complete	
Retrofit of existing stormwater pond	PMED	S	1	12.0	FY16	\$390,000	0.1%	Complete	
Retrofit of existing stormwater pond	MSGW	S	1	0.8	FY16	\$82,000	0.0%	Complete	
New bioretention facility	FBIO	S	1	0.6	FY15	\$100,000	0.0%	Complete	
Stream restoration	STRE	A	1	24.6	FY15	\$550,000	0.2%	Complete	
Stream restoration	STRE	A	1	24.3	FY14	\$570,000	0.2%	Complete	
Retrofit of existing stormwater pond	WEDW	S	1	3.8	FY14	\$240,000	0.0%	Complete	
Retrofit of existing stormwater pond	WEDW	S	1	4.8	FY14	\$320,000	0.0%	Complete	
Stream restoration	STRE	A	1	21.8	FY13	\$320,000	0.2%	Complete	
Retrofit of existing stormwater pond	WPWS	S	1	11.7	FY12	\$520,000	0.1%	Complete	
Stream restoration	STRE	A	1	14.0	FY12	\$220,000	0.1%	Complete	

New bioretention facility	FBIO	S	1	0.9	FY11	\$160,000	0.0%	Complete	
New bioretention facility	STRE	A	1	0.6	FY11	\$180,000	0.0%	Complete	
Stream restoration	STRE	A	1	50.4	FY11	\$380,000	0.5%	Complete	
New bioretention facility	FBIO	S	1	0.6	FY11	\$110,000	0.0%	Complete	
Demolition of townhouse community	IMPP	A	1	2.1	FY11	N/A	0.0%	Complete	Costs not available
Tree planting	FPU	A	2	0.8	FY16	\$19,000	0.0%	Complete	
Tree planting	FPU	A	2	1.2	FY15	\$26,000	0.0%	Complete	
Tree planting	FPU	A	3	1.8	FY15	\$50,000	0.0%	Complete	
Tree planting	FPU	A	4	3.2	FY14	\$81,000	0.0%	Complete	
Tree planting	FPU	A	4	1.8	FY14	\$56,000	0.0%	Complete	
Tree planting	FPU	A	1	0.8	FY13	\$24,000	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	11	4.3	FY20	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	6	2.3	FY19	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	9	3.5	FY18	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	8	3.1	FY17	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	9	3.5	FY16	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	3	1.2	FY15	N/A	0.0%	Complete	

Septic Connection to WWTP	SEPC	A	2	0.8	FY14	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	1	0.4	FY13	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	10	3.9	FY12	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	9	3.5	FY11	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	9	3.5	FY10	N/A	0.0%	Complete	
Septic Connection to WWTP	SEPC	A	11	4.3	FY09	N/A	0.0%	Complete	
Installation of new BAT on existing septic Denitrification	SEPD	A	18	4.7	FY19	N/A	0.0%	Complete	
Installation of new BAT on existing septic Denitrification	SEPD	A	18	4.7	FY18	N/A	0.0%	Complete	
Installation of new BAT on existing septic Denitrification	SEPD	A	41	10.7	FY17	N/A	0.1%	Complete	
Installation of new BAT on existing septic Denitrification	SEPD	A	69	17.9	FY16	N/A	0.2%	Complete	
Installation of new BAT on existing septic Denitrification	SEPD	A	56	14.6	FY15	N/A	0.1%	Complete	
Installation of new BAT on existing septic Denitrification	SEPD	A	41	10.7	FY14	N/A	0.1%	Complete	
Subtotal Capital Complete To Date			388	831		\$14,623,000	7.51%		
Other									
Nutrient Trading with WWTP			1	1,215		\$0	11.1%	Complete	

Subtotal Other Complete To Date			1	1,215		\$0	11.1%		
Total Complete to Date			5,560	2,201		\$14,623,000	20.0%		

¹ Impervious

² Impervious Surface Restoration

Harford County NPDES Phase 1 MS4 Financial Assurance Plan

November 2020

As required by the Annotated Code of Maryland ENV §4-202.1(j), Harford County has prepared the following Financial Assurance Plan (“FAP”) which demonstrates the County’s projected strategy for addressing the County’s NPDES Phase I MS4 permit. By its nature, the FAP is a planning document. The County expressly reserves the right to make future changes to the FAP based on new or additional information or based on available funding consistent with an adaptive management approach.

Background

The Clean Water Act, significantly revised in 1972, established the National Pollutant Discharge Elimination System program (“NPDES”) for facilities that discharge pollutants into navigable waters. Before discharging pollutants from a point source (for example, a pipe or outfall), a facility must apply for and receive an NPDES permit.

The 1987 Clean Water Act amendments updated the law to require permits for discharges from certain Municipal Separate Storm Sewer Systems (“MS4s”). Per federal regulations, MS4s serving a population over 100,000 were required to submit a two-phase application for an individual five-year NPDES MS4 permit. This group of MS4s is called Phase I MS4s.

Maryland has been delegated the authority to administer the NPDES program by the U.S. Environmental Protection Agency (“EPA”). The Maryland Department of the Environment (“MDE”) is the state agency that oversees this delegated authority. Harford County received its first MS4 permit on May 17, 1994 and received reissued permits on August 13, 1999, November 1, 2004 and December 30, 2014. MDE administratively extended the County’s current permit which expired December 29, 2019.

Maryland House Bill 987, *“Stormwater Management – Watershed Protection and Restoration Program”*, was approved in 2012 and codified into State law. This bill required all counties and municipalities subject to a Phase I MS4 permit to establish a stormwater remediation fee to fund the implementation of each jurisdiction’s MS4 permit. Maryland Senate Bill 863, *“Watershed Protection and Restoration Programs – Revisions”*, was approved in 2015 and codified into State law. This bill amended the Environment Code by (1) removing the requirement for each jurisdiction subject to a Phase I MS4 permit to establish a stormwater remediation fee and (2) adding the requirement for each jurisdiction to file a financial assurance plan.

Introduction

Harford County recognizes the need to improve water quality in the Chesapeake Bay and in impaired local Harford County streams. We also recognize through the NPDES MS4 permitting program, the responsibility of local governments to participate in the restoration of our waters.

Harford County, however, reiterated throughout the permit issuance process leading to the December 30, 2014 reissuance of our MS4 permit, that the permit requirements exceeded Harford County's maximum extent practicable ("MEP"), considering both limited financial capabilities and short timeframes for implementation. MEP is the legal compliance standard for MS4s established by the Clean Water Act. This FAP should be read in the context of the County's continuing concern that its current MS4 permit demands a level of effort beyond legal requirements. The County expressly reserves its right to an MS4 permit that imposes no more than an MEP level of effort.

Program Capacity

Since the reissuance of Harford County's MS4 permit, the County has increased both staff and financial capacity for the implementation of the MS4 program.

The MS4 program is administered through the Department of Public Works, Office of Watershed Protection and Restoration, with support from other departments throughout the County government, and supplemental staff from consultants. Additionally, Harford County utilizes various partnerships with outside agencies such as Maryland Department of Natural Resources and U.S. Geological Survey to accomplish permit requirements.

In addition to increased staff capacity, Harford County continues to utilize and expand the use of open-end contracts for design and design / build in order to complete watershed restoration projects as quickly as is practicable. Focusing watershed restoration projects on County-owned properties has likewise assisted in this regard.

In March 2015, the County Council passed Resolution 005-15 to dedicate a portion of the County's recordation tax in the amount of \$1.10 per \$1,000 of consideration beginning with fiscal year 2016 ("FY2016") to be dedicated to the implementation of watershed protection and restoration projects. Most of the dedicated funds will be used to pay debt services for future bonds.

Prior to FY2016, the County had no dedicated funding source for the implementation of capital improvement projects for the MS4 program. With the establishment of a dedicated funding source in 2015 and a commitment to issue bonds, a systematic strategy for addressing the requirements of the MS4 program and more specifically the watershed restoration component

of the MS4 permit is in place. This level of dedicated funding also allows for the design and construction of larger scale restoration projects that can benefit from economies of scale to maximize restoration benefits per cost.

A summary of the capital budgets for the implementation of the MS4 permit for approved FY2020 and FY2021 and proposed FY2022 is listed below.

	Approved FY2020	Approved FY2021	Proposed FY2022
Paygo ¹	\$0.45 M	\$0.7 M	\$0.45 M
Future Bonds ²	\$6.15 M	\$6.65 M	\$6.75 M
Proposed Grants	\$4 M	\$4 M	\$4 M
Total	\$10.6 M	\$11.35 M	\$11.2 M

Footnotes:

¹ Source of funding is recordation tax

² Debt services on future bonds to be paid from recordation tax

The budgets discussed above do not include the full costs to implement the MS4 permit. Many of the programs required under the MS4 permit exist within other county departments and divisions such as property management, pollution prevention, and litter and floatables, to mention a few. In addition, future grants have not been secured but are rather estimates of grant awards based projected availability.

Impervious Area Assessment

In December 2015, as required in Part IV E.2.a. of the MS4 permit, the County submitted an impervious surface area assessment consistent with the methods described in the MDE document *“Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits”* (MDE, June 2014).

The County submitted updates to the impervious surface area assessment on August 1, 2016 and April 29, 2020. MDE has approved the requested credits and set the baseline for untreated impervious surfaces at 10,928 acres.

	Acres
Untreated impervious surfaces	11,094
Watershed restoration (through 2009)	-141
Existing grass swales	-25
Adjusted untreated impervious surfaces	10,928

For the purposes of this financial assurance plan, Harford County has used 10,928 acres of impervious surfaces as untreated. Additional baseline reductions are being investigated such as existing disconnection of impervious surfaces.

Watershed Restoration

Through FY2020, Harford County completed watershed restoration for 847 acres of impervious surfaces through design and construction of capital improvement projects including upgrading existing stormwater management facilities, constructing new stormwater management facilities, constructing stream restorations, and planting trees. The following table provides a summary for implementation of these projects:

	Acres
Watershed Restoration (2009 through FY2019)	612
Watershed Restoration (FY2020)	235
Watershed Restoration (FY2021)	22
Watershed Restoration (FY2022)	246
Total	1,115

Septic Systems

Harford County has also proposed alternative impervious surface restoration credits for connecting septic systems to the wastewater treatment plant and upgrading septic systems for denitrification. These programs are administered by the Harford County Health Department or Harford County Division of Water and Sewer. A portion of these projects are funded with Bay Restoration Funds. The Office of Watershed Protection and Restoration also provides funding for the connection of septic systems to the wastewater treatment plant. The following table provides a summary for implementation of these projects.

	Acres
Septic connections and upgrades (2009 through FY2019)	30
Septic connections and upgrades (FY2020)	6
Septic connections and upgrades (FY2021)	6
Septic connections and upgrades (FY2022)	31
Total	73

Additionally, Harford County has listed the annual practice of septic system pumping for 150 impervious acres. This represents an average annual volume of 7 million gallons delivered to the wastewater treatment plant from septic haulers.

Nutrient Trading

In 2018, MDE adopted the Maryland Water Quality Trading Program regulations, which includes guidelines for MS4s to participate in nutrient trading to comply with impervious surface restoration permit requirements. One scenario includes trading with the County's wastewater treatment plant (WWTP). The trade would be temporary until the County is able to complete

the watershed restoration. MDE's draft of the next MS4 permit includes provisions to complete, by the end of the next permit term, all watershed restoration traded with the WWTP.

Harford County recently completed a nutrient trade for the MS4 permit using credits generated from the WWTP.

Summary

As of the end of the MS4 permit term, December 29, 2019, Harford County completed a capital improvement program which addresses watershed restoration for 6.6% of the untreated impervious surface. An additional 0.9% was achieved from septic upgrades or connection to the wastewater treatment plant and 1.4% from annual septic pumping. The additional 11% has been provided through nutrient trading with the County's wastewater treatment plant. Enclosed are the spreadsheets developed by MDE for submittal of the financial assurance plan. It should be noted that Harford County's MS4 permit expired on December 30, 2019 and has been administratively extended. This financial assurance plan has been prepared assuming no additional watershed restoration will be included in the County's next permit. The watershed restoration documented works toward replacing the nutrient credits borrowed from the WWTP.