Heritage Complex
2662 Riva Road
Annapolis, MD 21401

Christopher J. Phipps, P.E.
Director

April 17, 2020

Ms. Jennifer Smith
Manager, Sediment, Stormwater and Dam Safety Program
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Dear Ms. Smith:

Thank you for the opportunity to provide Anne Arundel County's revisions to its updated Restoration Project Portfolio in response to Maryland Department of the Environment's (MDE) request, dated April 10, 2020. This package includes a revised Portfolio that addresses the items detailed in said request, as well a copy of MDE's *Evaluation of MEP Analysis* document, dated April 7, 2020, with the County's responses to questions and suggested changes and corrections. The County recognizes that MDE's request set April 15 as the due date for these items, however, this was not the original schedule discussed on April 9. The County made its best effort to supply MDE with the requested items as quickly as it could.

During the County's review of MDE's questions and comments on the Portfolio, the County did recognize the need to correct crediting for three projects that were part of the accounting for dealing with the County's unmet obligation from its previous permit. While one project changed by only a few acres the reduction of credit for the other projects was 157 and 39 acres, respectively. In order to make up for the shortfall, the County re-assigned 13 projects from the section accounting for credit under the next permit to the section accounting for credit toward the previous permit. These re-assigned projects are highlighted and commented on in the revised Portfolio.

Restoration Project Portfolio Caveats

The project credits calculated in this revised Restoration Portfolio reflect MDE's *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits* provided in December 2019, and *Maryland Department of the Environment Response to Comments Submitted by the MS4 Community on the 2019 Accounting Guidance* dated February 14, 2020. The County reserves the right to adjust these project credits if MDE provides new revisions, updates, or clarifications to either of these documents.

We believe this Restoration Project Portfolio fully addresses MDE's request and hope this additional information will assist MDE in its efforts to develop the County's fifth generation MS4 permit. If you have any additional questions, please contact me at pwmich20@aacounty.org or (410) 222-7520.

Sincerely,

Erik Michelsen, Administrator
Watershed Protection and Restoration Program

Enclosures

cc: Ginger Ellis, Planning Administrator, Watershed Protection and Restoration Program
Janis Markusic, Senior Planner, Watershed Protection and Restoration Program
Brenda Morgan, Engineer Manager, Watershed Protection and Restoration Program

Restoration Projects To Be Planned, Designed, and/or Constructed From The End Of 4th Generation Permit Through CY 2027

Color Coding of Restoration Portfolio Revisions - Submitted 04/17/20

Correction of error in Portfolio data

Reassignment of project from next permit to previous permit due to data corrections/credit changes

Clarification or addition of data requested by MDE

Remaining Unmet Restoration Obligation from	1,826

REST BMP ID	REST BMP TYPE[1]	BMP CLASS[1]	PERMA-NENT OR ANNUAL BMP	NUM BMP	DRAIN-AGE AREA (acres)	PE (inches)	LENGTH RESTORED (feet)/ LANE MILES (miles)/ MASS LOADING (lbs)	TP REDUCTION (lbs/year)	TSS REDUCTION (lbs/year)	TN[6] REDUCTION (lbs/year)	IMP ACRES (IA)	GREEN STORMWATER INFRASTRUC-TURE (GSI) CREDIT (IA X 0.35)	WATERSHED MANAGE-MENT (WM) CREDIT	TOTAL IMP ACRES (W/ GSI AND WM CREDITS)	Basis for Credit Calculation (incl. for STRE, SHST,and SPSC)	IMPLEMEN-TATION COST	IMPLEMEN-TATION STATUS[2]	PROJECTED IMPLEMEN-TATION YEAR	TMDL PARAMETER OR WQ OBJECTIVE ADDRESSED	GENERAL COMMENTS[7]
Remaining Unmet Restoration Obligations from Previous Permit																				
Annual Operational Programs (Unmet Obligations from Previous Permit)[3,4]																				
Street Sweeping	VSS	A	ANNUAL	0										0		$0.00				The County does not plan any additional street sweeping to meet its obligations under the previous permit.
Catch Basin Cleaning	CBC	A	ANNUAL	0										0		$0.00				The County does not plan any additional inlet cleaning to meet its obligations under the previous permit.
Septic Sytem Pumping	SEPP	A	ANNUAL	0										0		$0.00				The County does not plan any additional septic system pumping to meet its obligations under the previous permit.
Subtotal Operations[3]				0				0	0	0	0			0		$0.00				
Capital Projects (Unmet Obligations from Previous Permit Term)																				
AA18RST000028	FBIO	S	PERMANENT	1	10.0	1.0	N/A	4.3	8056.9	24.4	3.8	1.3	0.0	5.1		$762,773.72	Design	2019	Nutrient TMDL for the Baltimore Harbor	Flood Risk Mitigation
AA18RST000029	FBIO	S	PERMANENT	1	3.6	1.0	N/A	3.3	4086.2	17.0	1.7	0.6	0.0	2.3		$337,226.28	Design	2019	Nutrient TMDL for the Baltimore Harbor	Flood Risk Mitigation
AA16RST000047	IBAS	S	PERMANENT	1	12.4	0.6	N/A	4.4	4645.2	36.4	2.4	0.8	0.0	3.2		$416,504.00	Under Construction	2019	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
AA18RST000003	IBAS	S	PERMANENT	1	23.8	1.1	N/A	19.9	35041.9	85.3	3.8	1.3	0.0	5.2		$331,333.33	Under Construction	2019		
AA19RST000006	ITRN	S	PERMANENT	1	0.8	1.0	N/A	1.0	3388.3	4.8	0.7	0.0	0.0	0.7		$0.00	Under Construction	2019	Sediment TMDL for the Non-Tidal South River	
AA17RST000007	MIBR	S	PERMANENT	1	4.1	3.0	N/A	18.0	10750.4	116.6	3.6	1.3	0.0	4.9		$492,157.00	Design	2019	Nutrient TMDL for the Baltimore Harbor	
AA19RST000025	PWED	S	PERMANENT	1	13.6	1.3	N/A	16.2	50499.3	76.0	7.3	0.0	0.6	7.9		$175,000.00	Under Construction	2019	Sediment TMDL for the Non-Tidal South River	
AA19RST000026	PWED	S	PERMANENT	1	157.0	2.7	N/A	127.1	534847.3	634.4	109.0	0.0	0.0	109.0		$104,231.00	Under Construction	2019	Sediment TMDL for the Non-Tidal South River	Opti-Pond upgrade
AA18RST000019	PWET	S	PERMANENT	1	31.3	2.9	N/A	17.3	8387.7	125.0	2.0	0.0	1.0	3.0		$641,447.92	Design	2019		
AA16RST000065	SPSC	S	PERMANENT	1	13.8	3.6	N/A	9.2	14521.5	70.4	4.8	0.0	0.0	4.8	Protocol 4	$475,321.29	Design	2019	Nutrient TMDL for the Baltimore Harbor	
AA17RST000005	SPSC	S	PERMANENT	1	9.5	1.4	N/A	6.4	10089.9	48.7	3.4	0.0	0.0	3.4	Protocol 4	$840,768.00	Design	2019	Nutrient TMDL for the Baltimore Harbor	
AA17RST000011	SPSC	S	PERMANENT	1	44.9	1.0	N/A	145.7	82547.0	397.9	33.2	0.0	0.0	33.2	Protocol 4	$1,534,271.60	Design	2019		
AA18RST000008	SPSC	S	PERMANENT	1	50.4	0.1	N/A	8.7	11684.1	33.9	2.4	0.0	0.0	2.4	Protocol 4 and 5	$528,187.21	Under Construction	2019		
AA19RST000002	SPSC	S	PERMANENT	1	22.5	3.5	N/A	16.0	57520.8	109.1	6.9	0.0	0.0	6.9	Protocol 4	$921,816.98	Under Construction	2019		
AA19RST000005	SPSC	S	PERMANENT	1	6.6	0.6	N/A	134.4	10781.1	310.4	31.0	0.0	0.0	31.0	Protocol 4 and 5	$0.00	Under Construction	2019	Sediment TMDL for the Non-Tidal South River	
AA16RST000061	WEDW	S	PERMANENT	1	92.6	1.8	N/A	41.8	39210.8	338.4	22.2	0.0	4.4	26.6		$485,737.00	Under Construction	2019	Sediment TMDL for the Patapsco River Lower No	Flood Risk Mitigation
AA17RST000010	WPWS	S	PERMANENT	1	47.8	2.1	N/A	52.2	47209.2	255.7	18.6	6.5	0.0	25.2		$1,621,536.74	Under Construction	2019	Nutrient TMDL for the Baltimore Harbor	Flood Risk Mitigation
AA16RST000060	WSHW	S	PERMANENT	1	30.5	0.8	N/A	12.0	14456.3	100.9	9.0	3.1	0.0	12.1		$826,352.91	Under Construction	2019	Sediment TMDL for the Patapsco River Lower No	Flood Risk Mitigation
AA16RST000062	WSHW	S	PERMANENT	1	14.4	0.7	N/A	5.5	7191.4	46.5	4.5	0.0	0.0	4.5		$317,293.14	Under Construction	2019	Sediment TMDL for the Patapsco River Lower No	Flood Risk Mitigation
AA19RST000018	MSGW	E	PERMANENT	1	0.3	0.9	N/A	0.8	2179.0	5.1	0.3	0.1	0.0	0.4		$0.00	Design	2019		
AA19RST000019	MSGW	E	PERMANENT	1	3.6	0.7	N/A	5.1	8362.2	29.8	0.7	0.3	0.0	1.0		$0.00	Design	2019		
AA20APY000002	FPU	A	PERMANENT	1	N/A	N/A	N/A	3.9	666.5	27.1	2.7	0.0	0.0	2.7		$70,065.05	Under Construction	2019	Nutrient TMDL for the Baltimore Harbor	Energy Efficiency
AA20APY000003	IMPF	A	PERMANENT	1	N/A	N/A	N/A	0.7	1035.6	6.1	0.4	0.0	0.0	0.4		$14,689.01	Under Construction	2019	Nutrient TMDL for the Baltimore Harbor	Energy Efficiency
AA18ALN000011	SHST	A	PERMANENT	1	N/A	N/A	740	1.3	267670.2	22.0	12.1	0.0	0.0	12.1	Protocol	$247,928.00	Under Construction	2019	Sediment TMDL for the Non-Tidal South River	Climate Adaptation, Recreation
AA19ALN000028	SHST	A	PERMANENT	1	N/A	N/A	270	16.5	44280.0	23.2	5.4	0.0	0.0	5.4	Default Rate	$0.00	Under Construction	2019		Climate Adaptation, Recreation
AA17ALN000009	STRE	A	PERMANENT	1	646.3	N/A	3642	136.7	40932.0	1544.6	61.2	0.0	0.0	61.2	Protocol	$5,754,268.91	Under Construction	2019	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA18ALN000007	STRE	A	PERMANENT	1	143.9	N/A	475	31.7	117800.0	33.5	9.5	0.0	0.0	9.5	Planning Rate	$520,805.03	Design	2019		Healthy Watersheds, Flood Risk Mitigation
AA16RST000063	FSND	S	PERMANENT	1	13.9	0.8	N/A	13.9	17873.8	72.0	6.4	0.0	0.0	6.4		$475,321.29	Design	2020	Nutrient TMDL for the Baltimore Harbor	
AA19RST000023	IBAS	S	PERMANENT	1	7.9	2.7	N/A	11.3	33633.4	52.2	4.5	0.0	1.9	6.4		$309,900.00	Design	2020	Nutrient TMDL for the Baltimore Harbor	
AA17RST000002	ITRN	S	PERMANENT	1	4.1	1.0	N/A	1.9	3076.1	16.7	2.6	0.0	0.0	2.6		$659,333.63	Design	2020	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
AA17RST000003	ITRN	S	PERMANENT	1	7.0	1.0	N/A	3.1	3674.6	25.8	2.7	0.0	0.0	2.7		$700,166.59	Design	2020	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
AA19RST000010	PWED	S	PERMANENT	1	62.4	2.6	N/A	72.9	89635.3	374.3	32.6	0.0	13.2	45.9		$592,000.00	Design	2020	Nutrient TMDL for the Baltimore Harbor	
AA19RST000013	PWED	S	PERMANENT	1	59.1	2.5	N/A	72.5	166968.2	307.0	19.6	0.0	7.5	27.0		$375,025.33	Design	2020		
AA19RST000014	PWED	S	PERMANENT	1	192.3	1.8	N/A	216.9	415217.0	897.4	43.4	0.0	8.3	51.7		$446,053.33	Design	2020		
AA16RST000069	SPSC	S	PERMANENT	1	7.9	1.5	N/A	6.9	22458.8	46.8	3.5	0.0	0.0	3.5	Protocol 4	$1,114,289.92	Design	2020	Sediment TMDL for the Non-Tidal South River	
AA17RST000001	SPSC	S	PERMANENT	1	8.7	1.0	N/A	3.0	5437.5	37.7	3.6	0.0	0.0	3.6	Protocol 4	$995,071.28	Design	2020	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
AA18RST000014	SPSC	S	PERMANENT	1	91.8	0.7	N/A	2512.6	38241.4	5219.8	599.7	0.0	0.0	599.7	Protocol 4 and 5	$1,810,679.43	Design	2020	Sediment TMDL for the Little Patuxent River	
AA18RST000023	SPSC	S	PERMANENT	1	65.1	2.2	N/A	349.1	36713.9	510.7	63.3	0.0	0.0	63.3	Protocol 4 and 5	$1,654,214.49	Design	2020		
AA19RST000003	SPSC	S	PERMANENT	1	14.4	3.4	N/A	2.6	8632.5	18.1	1.3	0.0	0.0	1.3	Protocol 4	$550,000.00	Design	2020	Sediment TMDL for the Non-Tidal South River	
AA19RST000004	SPSC	S	PERMANENT	1	3.7	0.5	N/A	39.7	12689.7	102.5	8.4	0.0	0.0	8.4	Protocol 4 and 5	$536,190.20	Design	2020	Nutrient TMDL for the Baltimore Harbor	
AA18RST000002	WEDW	S	PERMANENT	1	12.3	0.7	N/A	9.9	23043.4	44.1	2.4	0.8	0.0	3.2		$307,094.22	Design	2020		Flood Risk Mitigation
AA20APY000001	IMPP	A	PERMANENT	1	N/A	N/A	N/A	0.0	211.8	0.2	0.0	0.0	0.0	0.0		$0.00	Under Construction	2020		Energy Efficiency
AA17ALN000018	SHST	A	PERMANENT	1	N/A	N/A	1640	4.2	186764.0	69.3	10.0	0.0	0.0	10.0	Protocol	$2,879,500.00	Under Construction	2020	Nutrient TMDL for the Baltimore Harbor	Climate Adaptation, Recreation
AA18ALN000003	SHST	A	PERMANENT	1	N/A	N/A	1600	6.8	1206856.0	103.1	55.0	0.0	0.0	55.0	Protocol	$4,511,312.12	Under Construction	2020	Sediment TMDL for the Other West Chesapeake E	Climate Adaptation, Recreation
AA18ALN000012	SHST	A	PERMANENT	1	N/A	N/A	911	5.3	280580.0	87.7	14.5	0.0	0.0	14.5	Protocol	$363,963.60	Design	2020		Climate Adaptation, Recreation
AA19ALN000027	SHST	A	PERMANENT	1	N/A	N/A	410	20.5	24206.4	32.4	8.2	0.0	0.0	8.2	Default Rate	$1,606,000.00	Design	2020	Nutrient TMDL for the Baltimore Harbor	Climate Adaptation, Recreation
AA19ALN000043	SHST	A	PERMANENT	1	N/A	N/A	2500	152.5	410000.0	197.8	50.0	0.0	0.0	50.0	Default Rate	$0.00	Design	2020	Sediment TMDL for the Other West Chesapeake E	Climate Adaptation, Recreation
AA17ALN000011	STRE	A	PERMANENT	1	284.5	N/A	1462	48.5	76400.0	621.0	22.2	0.0	0.0	22.2	Protocol	$3,373,173.61	Under Construction	2020		Healthy Watersheds, Flood Risk Mitigation
AA18ALN000005	STRE	A	PERMANENT	1	31.6	N/A	380	8.5	6980.0	104.5	3.7	0.0	0.0	3.7	Protocol	$482,405.49	Design	2020		Healthy Watersheds, Flood Risk Mitigation
AA18ALN000026	STRE	A	PERMANENT	1	704.1	N/A	1500	102.0	372000.0	112.5	30.0	0.0	0.0	30.0	Planning Rate	$1,007,289.06	Design	2020		Healthy Watersheds, Flood Risk Mitigation
AA19ALN000006	STRE	A	PERMANENT	1	208.0	N/A	3590	592.5	63180.0	2103.6	153.4	0.0	0.0	153.4	Protocol	$378,487.00	Design	2020	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
AA19RST000024	IBAS	S	PERMANENT	1	23.5	2.5	N/A	33.0	78123.3	146.7	9.4		3.6	13.0		$309,900.00	Design	2020	Nutrient TMDL for the Baltimore Harbor	
AA17ALN000008	SHST	A	PERMANENT	1	N/A	N/A	1375	6.2	168027.0	102.4	10.1	0.0	0.0	10.1	Protocol	$2,013,797.04	Design	2020		Climate Adaptation, Recreation
AA17ALN000017	SHST	A	PERMANENT	1	N/A	N/A	1630	0.0	247141.0	0.0	10.6	0.0	0.0	10.6	Protocol	$1,670,947.55	Design	2020	Nutrient TMDL for the Baltimore Harbor	Climate Adaptation, Recreation

AA18ALN000006	STRE	A	PERMANENT	1	17.3	N/A	236	16.0	58528.0	17.7	4.7	0.0	0.0	4.7	Planning Rate	$878,526.27	Under Construction	2020	Sediment TMDL for the Patuxent River Upper Wa	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000008	STRE	A	PERMANENT	1	77.4	N/A	879	68.9	7388.2	317.3	19.4	0.0	0.0	19.4	Protocol	$1,915,000.00	Design	2020	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000020	STRE	A	PERMANENT	1	48.8	N/A	1300	122.4	209550.9	344.0	40.6	0.0	0.0	40.6	Protocol	$564,000.00	Design	2020	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000022	STRE	A	PERMANENT	1	507.7	N/A	6255	22.7	8854.6	444.6	14.2	0.0	0.0	14.2	Protocol	$5,270,000.00	Design	2020	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
AA19RST000007	SPSC	S	PERMANENT	1	32.1	0.2	N/A	6.9	12023.1	30.4	2.1	0.0	0.0	2.1	Protocol 4 and 5	$165,531.47	Design	2021		
AA19RST000008	SPSC	S	PERMANENT	1	14.1	3.9	N/A	461.9	5462.5	1009.4	88.2	0.0	0.0	88.2	Protocol 4 and 5	$163,892.76	Design	2021		
AA19RST000009	WEDW	S	PERMANENT	1	46.0	0.5	N/A	3.9	16433.5	19.5	1.8	0.0	0.0	1.8		$302,225.38	Design	2021		Flood Risk Mitigation
AA19ALN000005	SHST	A	PERMANENT	1	N/A	N/A	300	18.3	49200.0	25.8	6.0	0.0	0.0	6.0	Default Rate	$1,523,415.36	Design	2021		Climate Adaptation, Recreation
AA17RST000022	SPSC	S	PERMANENT	1	17.5	0.9	N/A	5.5	10044.4	69.8	6.7	0.0	0.0	6.7	Protocol 4	$508,374.00	Design	2021	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
AA16RST000064	FSND	S	PERMANENT	1	23.4	0.7		8.7	9092.4	71.5	4.7	0.0	0.0	4.7		$375,599.92	Design	2021	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
AA19RST000011	FSND	S	PERMANENT	1	43.2	1.1		18.2	26028.9	157.3	20.7	0.0	0.5	21.2		$213,662.78	Design	2021	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
AA16ALN000008	STRE	A	PERMANENT	1	59.0	N/A	450	30.6	111600.0	33.8	9.0	0.0	0.0	9.0	Planning Rate	$1,400,201.62	Design	2021		Healthy Watersheds, Flood Risk Mitigation
	SHST	A	PERMANENT	1	N/A	N/A	972	59.3	159408.0	83.6	19.4	0.0	0.0	19.4	Default Rate	$298,868.00	Planning	2021		Climate Adaptation, Recreation
Subtotal Capital				67				5,979.6	6,119,220.1	18,554.2	1,771.3	16.2	40.9	1,828.4		$60,121,126.86				
Other (Unmet Obligations from Previous Permit Term)																				
	OTH	A	ANNUAL	1	N/A	N/A	N/A	2769.3032	8287751.36	23403.0524	1,444			1,444		$0.00	Planning	2019		Nutrient Credit Trading with County WWTPs - to be replaced by capital projects listed below. As these credits will be replaced by permanent practices, they are not included in the for Total of Remaining Obligations from The Previous Permit.
	OTH	A	ANNUAL	1	N/A	N/A	N/A	303.0	906,831.5	2,560.7	158			158		$0.00	Planning	2020		Nutrient Credit Trading with County WWTPs - to be replaced by capital projects listed below. As these credits will be replaced by permanent practices, they are not included in the for Total of Remaining Obligations from The Previous Permit.
Subtotal Other				2				3,072.3	9,194,582.9	25,963.8	1,602.0	N/A	N/A	1602		$0.00				
Total of Remaining Obligations from				**67**				**5,980**	**6,119,220**	**18,554**	**1,771**	**16**	**41**	**1,828**		**$60,121,126.86**				
Obligations from Previous Permit That Must Be Continued																				
Annual Operational Programs Required to be Maintained from Previous Permit[9,4]																				
Street Sweeping	VSS	A	ANNUAL	N/A	N/A	N/A	256.0	86.9	473259.8	178.8	37.6			37.6		$292,293.00	Design	2020		County will continue to sweep an annual average of 256 lane miles, every 2 weeks, to maintain 169 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on program maturity (FY16-FY18). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on per mile/acre swept methodology in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (December 2019).
Street Sweeping	VSS	A	ANNUAL	N/A	N/A	N/A	256.0	86.9	473259.8	178.8	37.6			37.6		$301,062.00	Planning	2021		County will continue to sweep an annual average of 256 lane miles, every 2 weeks, to maintain 169 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on program maturity (FY16-FY18). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on per mile/acre swept methodology in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (December 2019).
Street Sweeping	VSS	A	ANNUAL	N/A	N/A	N/A	256.0	86.9	473259.8	178.8	37.6			37.6		$310,094.00	Planning	2022		County will continue to sweep an annual average of 256 lane miles, every 2 weeks, to maintain 169 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on program maturity (FY16-FY18). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on per mile/acre swept methodology in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (December 2019).
Street Sweeping	VSS	A	ANNUAL	N/A	N/A	N/A	256.0	86.9	473259.8	178.8	37.6			37.6		$319,397.00	Planning	2023		County will continue to sweep an annual average of 256 lane miles, every 2 weeks, to maintain 169 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on program maturity (FY16-FY18). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on per mile/acre swept methodology in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (December 2019).

Street Sweeping	VSS	A	ANNUAL	N/A	N/A	N/A	256.0	86.9	473259.8	178.8	37.6			37.6		$328,979.00	Planning	2024		County will continue to sweep an annual average of 256 lane miles, every 2 weeks, to maintain 169 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on program maturity (FY16-FY18). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on per mile/acre swept methodology in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (December 2019).
Street Sweeping	VSS	A	ANNUAL	N/A	N/A	N/A	256.0	86.9	473259.8	178.8	37.6			37.6		$338,848.00	Planning	2025		County will continue to sweep an annual average of 256 lane miles, every 2 weeks, to maintain 169 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on program maturity (FY16-FY18). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on per mile/acre swept methodology in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (December 2019).
Catch Basin Cleaning	CBC	A	ANNUAL	N/A	N/A	N/A	174.5	115.2	157059.0	717.2	37.5			37.5		$633,409.00	Design	2020		County will continue to remove an annual average of 174.5 tons of material through catch basin cleaning to maintain 70 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY17-FY18 (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on mass-loading methodology in MDE's WLA and impervious crediting guidance (December 2019). The material removed is assumed to be 50% organic and 50% inorganic.
Catch Basin Cleaning	CBC	A	ANNUAL	N/A	N/A	N/A	174.5	115.2	157059.0	717.2	37.5			37.5		$652,411.00	Planning	2021		County will continue to remove an annual average of 174.5 tons of material through catch basin cleaning to maintain 70 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY17-FY18 (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on mass-loading methodology in MDE's WLA and impervious crediting guidance (December 2019). The material removed is assumed to be 50% organic and 50% inorganic.
Catch Basin Cleaning	CBC	A	ANNUAL	N/A	N/A	N/A	174.5	115.2	157059.0	717.2	37.5			37.5		$671,984.00	Planning	2022		County will continue to remove an annual average of 174.5 tons of material through catch basin cleaning to maintain 70 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY17-FY18 (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on mass-loading methodology in MDE's WLA and impervious crediting guidance (December 2019). The material removed is assumed to be 50% organic and 50% inorganic.
Catch Basin Cleaning	CBC	A	ANNUAL	N/A	N/A	N/A	174.5	115.2	157059.0	717.2	37.5			37.5		$692,144.00	Planning	2023		County will continue to remove an annual average of 174.5 tons of material through catch basin cleaning to maintain 70 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY17-FY18 (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on mass-loading methodology in MDE's WLA and impervious crediting guidance (December 2019). The material removed is assumed to be 50% organic and 50% inorganic.
Catch Basin Cleaning	CBC	A	ANNUAL	N/A	N/A	N/A	174.5	115.2	157059.0	717.2	37.5			37.5		$712,908.00	Planning	2024		County will continue to remove an annual average of 174.5 tons of material through catch basin cleaning to maintain 70 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY17-FY18 (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on mass-loading methodology in MDE's WLA and impervious crediting guidance (December 2019). The material removed is assumed to be 50% organic and 50% inorganic.

Catch Basin Cleaning	CBC	A	ANNUAL	N/A	N/A	N/A	174.5	115.2	157059.0	717.2	37.5			37.5		$734,296.00	Planning	2025		County will continue to remove an annual average of 174.5 tons of material through catch basin cleaning to maintain 70 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on the mass loading approach in MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY17-FY18 (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Street sweeping frequency twice monthly. Crediting provided here is based on mass-loading methodology in MDE's WLA and impervious crediting guidance (December 2019). The material removed is assumed to be 50% organic and 50% inorganic.
Septic Sytem Pumping	SEPP	A	ANNUAL	6,214	N/A	N/A	N/A	0	0	0	124.28			124.3		$0.00	Design	2020		County will continue to document pumping of an annual average of 6,214 septic tanks to maintain 287 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY16-FY18 data (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Credit provided here is based on based on MDE's WLA and impervious crediting guidance (December 2019).
Septic Sytem Pumping	SEPP	A	ANNUAL	6,214	N/A	N/A	N/A	0	0	0	124.28			124.3		$0.00	Planning	2021		County will continue to document pumping of an annual average of 6,214 septic tanks to maintain 287 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY16-FY18 data (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Credit provided here is based on based on MDE's WLA and impervious crediting guidance (December 2019).
Septic Sytem Pumping	SEPP	A	ANNUAL	6,214	N/A	N/A	N/A	0	0	0	124.28			124.3		$0.00	Planning	2022		County will continue to document pumping of an annual average of 6,214 septic tanks to maintain 287 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY16-FY18 data (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Credit provided here is based on based on MDE's WLA and impervious crediting guidance (December 2019).
Septic Sytem Pumping	SEPP	A	ANNUAL	6,214	N/A	N/A	N/A	0	0	0	124.28			124.3		$0.00	Planning	2023		County will continue to document pumping of an annual average of 6,214 septic tanks to maintain 287 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY16-FY18 data (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Credit provided here is based on based on MDE's WLA and impervious crediting guidance (December 2019).
Septic Sytem Pumping	SEPP	A	ANNUAL	6,214	N/A	N/A	N/A	0	0	0	124.28			124.3		$0.00	Planning	2024		County will continue to document pumping of an annual average of 6,214 septic tanks to maintain 287 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY16-FY18 data (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Credit provided here is based on based on MDE's WLA and impervious crediting guidance (December 2019).
Septic Sytem Pumping	SEPP	A	ANNUAL	6,214	N/A	N/A	N/A	0	0	0	124.28			124.3		$0.00	Planning	2025		County will continue to document pumping of an annual average of 6,214 septic tanks to maintain 287 acres of impervious credit. Attainment of the County's 20% ISR goal, from its 4th Generation MS4 Permit is based on MDE's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance (August 2014). Credit averages are based on FY16-FY18 data (program maturity). The County will demonstrate the same level of programmatic effort to show compliance in maintenance of these credits. Credit provided here is based on based on MDE's WLA and impervious crediting guidance (December 2019).
Subtotal Operations[3]				N/A				202	630,319	896	199.4			199.4		$5,987,825.00				
Capital Projects (Proposed to Replace Annual Obligations)																				
				0										0						The County plans to maintain its annual operation programs (and associated credits) at current levels and does not propose replacement with capital projects at this time.
Subtotal Capital				0				0	0	0	0	0	0	0		$0.00				
Other (Proposed to Replace Annual Obligations)																				
				0										0						The County plans to maintain its annual operation programs (and associated credits) at current levels and does not propose replacement with capital projects at this time.
Subtotal Other				0				0	0	0	0	0	0	0		$0.00				
Total of Obligations from Previous Permit That Must Be Continued				**N/A**				**202.1**	**630,318.8**	**896.0**	**199.4**	**0.0**	**0.0**	**199.4**		**$5,987,825.00**				
Proposed Restoration for the Next Permit																				

Operational Programs[4]																			
		A	ANNUAL	0															The County does not plan any additions to its operations programs to meet its obligations under the previous permit.
Subtotal Operations (up to 2027)[5]				0				0	0	0	0			0		$0.00			
Capital Projects																			
AA19RST000012	WEDW	S	PERMANENT	1	21.8	1.1	N/A	23.2	24416.8	116.2	9.1	0.0	0.1	9.2		$680,845.81	Design	2021	Nutrient TMDL for the Baltimore Harbor	Flood Risk Mitigation
AA18RST000018	WPWS	S	PERMANENT	1	137.4	0.2	N/A	19.3	31923.7	171.3	14.0	0.0	0.0	14.0		$507,930.06	Design	2021	Sediment TMDL for the Patapsco River Lower No	Flood Risk Mitigation
AA17ALN000010	STRE	A	PERMANENT	1	2559.4	N/A	1690	61.3	10252.8	700.3	26.6	0.0	0.0	26.6	Protocol	$2,052,373.49	Design	2021	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA18ALN000015	STRE	A	PERMANENT	1	108.5	N/A	1893	128.7	469464.0	142.0	37.9	0.0	0.0	37.9	Planning Rate	$1,287,601.14	Design	2021	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000021	STRE	A	PERMANENT	1	238.1	N/A	2118	124.4	18582.8	759.3	33.6	0.0	0.0	33.6	Protocol	$500,000.00	Design	2021	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000023	STRE	A	PERMANENT	1	89.6	N/A	1300	898.6	737286.8	2519.0	303.1	0.0	0.0	303.1	Protocol	$1,805,160.66	Design	2021	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000029	STRE	A	PERMANENT	1	75.8	N/A	1433	265.7	137606.9	697.7	93.1	0.0	0.0	93.1	Protocol	$1,031,064.80	Design	2021	Sediment TMDL for the Little Patuxent River	Healthy Watersheds, Flood Risk Mitigation
AA18RST000016	SPSC	S	PERMANENT	1	36.7	1.5	N/A	16.6	12308.1	107.6	9.3	0.0	0.0	9.3	Protocol 4	$3,191,311.32	Design	2022	Sediment TMDL for the Patuxent River Upper Watershed	
AA18RST000045	SPSC	S	PERMANENT	1	15.6	0.8	N/A	6.4	4726.7	41.4	3.6	0.0	0.0	3.6	Protocol 4	$1,089,716.06	Design	2022	Sediment TMDL for the Patuxent River Upper Watershed	
AA18RST000046	SPSC	S	PERMANENT	1	17.1	0.3	N/A	5.4	4012.0	35.2	3.0	0.0	0.0	3.0	Protocol 4	$560,425.40	Design	2022	Sediment TMDL for the Patuxent River Upper Watershed	
AA19RST000001	SPSC	S	PERMANENT	1	112.4	0.2	N/A	21.6	33721.9	163.6	11.3	0.0	0.0	11.3	Protocol 4	$296,739.32	Design	2022	Nutrient TMDL for the Baltimore Harbor	
AA18ALN000001	STRE	A	PERMANENT	1	871.6	N/A	2379	76.8	359800.0	617.1	38.5	0.0	0.0	38.5	Protocol	$2,821,352.82	Design	2022		Healthy Watersheds, Flood Risk Mitigation
AA18ALN000002	STRE	A	PERMANENT	1	59.4	N/A	1371	113.4	876200.0	653.3	66.8	0.0	0.0	66.8	Protocol	$259,200.02	Design	2022		Healthy Watersheds, Flood Risk Mitigation
AA18ALN000016	STRE	A	PERMANENT	1	125.8	N/A	1650	95.7	2013.0	726.5	28.0	0.0	0.0	28.0	Protocol	$2,950,339.99	Design	2022		Healthy Watersheds, Flood Risk Mitigation
AA18ALN000018	STRE	A	PERMANENT	1	255.5	N/A	2518	69.1	68064.0	421.7	42.4	0.0	0.0	42.4	Protocol	$1,090,932.06	Design	2022	Sediment TMDL for the Patuxent River Upper Wa	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000001	STRE	A	PERMANENT	1	516.0	N/A	3893	142.1	22010.4	1669.5	62.5	0.0	0.0	62.5	Protocol	$5,150,314.93	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000002	STRE	A	PERMANENT	1	949.5	N/A	6608	121.7	18540.5	1019.7	45.1	0.0	0.0	45.1	Protocol	$5,139,503.58	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000007	STRE	A	PERMANENT	1	630.6	N/A	1665	91.7	90842.4	94.9	33.3	0.0	0.0	33.3	Planning Rate	$2,453,561.70	Design	2022	Sediment TMDL for the Little Patuxent River	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000030	STRE	A	PERMANENT	1	4376.0	N/A	3124	140.5	88286.4	1077.3	58.1	0.0	0.0	58.1	Protocol	$3,880,298.07	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000031	STRE	A	PERMANENT	1	198.0	N/A	944	18.1	32842.8	211.8	11.5	0.0	0.0	11.5	Protocol	$1,086,290.05	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000032	STRE	A	PERMANENT	1	119.0	N/A	639	19.5	31190.4	148.8	10.3	0.0	0.0	10.3	Protocol	$919,795.95	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000033	STRE	A	PERMANENT	1	1143.0	N/A	392	2.5	2415.6	10.5	1.0	0.0	0.0	1.0	Protocol	$86,569.03	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000034	STRE	A	PERMANENT	1	378.0	N/A	2173	39.9	7516.8	628.8	21.0	0.0	0.0	21.0	Protocol	$1,020,272.40	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000035	STRE	A	PERMANENT	1	84.0	N/A	1735	13.9	2570.4	337.5	9.7	0.0	0.0	9.7	Protocol	$477,757.69	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000036	STRE	A	PERMANENT	1	224.0	N/A	516	21.3	25837.2	205.0	11.1	0.0	0.0	11.1	Protocol	$927,916.60	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000037	STRE	A	PERMANENT	1	144.0	N/A	633	14.5	44434.8	143.4	10.9	0.0	0.0	10.9	Protocol	$1,081,229.53	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000038	STRE	A	PERMANENT	1	18.0	N/A	499	4.6	11905.2	47.5	3.2	0.0	0.0	3.2	Protocol	$135,153.69	Design	2022	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
AA19ALN000042	STRE	A	PERMANENT	1	341.0	N/A	3048	226.2	178680.0	1653.0	74.1	0.0	0.0	74.1	Protocol	$1,711,985.00	Design	2022		Healthy Watersheds, Flood Risk Mitigation
AA20ALN000006	SHST	A	PERMANENT	1	N/A	N/A	1,340	128.7	235572.5	217.9	33.4	0.0	0.0	33.4	Protocol	$702,925.00	Design	2023	Sediment TMDL for the Non-Tidal South River	Climate Adaptation, Recreation
AA20ALN000007	SHST	A	PERMANENT	1	N/A	N/A	473	128.7	235572.5	217.9	33.4	0.0	0.0	33.4	Protocol	$702,925.00	Design	2023	Sediment TMDL for the Non-Tidal South River	Climate Adaptation, Recreation
AA20ALN000008	SHST	A	PERMANENT	1	N/A	N/A	240	0	23000	0	1	0.0	0.0	1.0	Protocol	$751,385.72	Design	2023	Sediment TMDL for the Non-Tidal South River	Climate Adaptation, Recreation
AA20ALN000001	STRE	A	PERMANENT	1	12.7	N/A	350	23.8	86800.0	26.3	7.0	0.0	0.0	7.0	Planning Rate	$1,730,000.00	Planning	2023	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
AA20ALN000009	STRE	A	PERMANENT	1	224.0	N/A	625	61.2	6552.0	226.2	16.0	0.0	0.0	16.0	Protocol	$751,385.72	Design	2023	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
AA20ALN000010	STRE	A	PERMANENT	1	42.0	N/A	126	4.3	468.0	43.4	1.7	0.0	0.0	1.7	Protocol	$751,385.72	Design	2023		Healthy Watersheds, Flood Risk Mitigation
	IMPF	A	PERMANENT	1	0.2	N/A	N/A	0.0	13.9	0.2	0.0	0.0	0.0	0.0		$9,589.50	Planning	2024		Energy Efficiency
	SEPC	A	PERMANENT	1	N/A	N/A	N/A	0.0	0.0	0.0	33.9	0.0	0.0	33.9		$510,142.73	Design	2024		
	SEPC	A	PERMANENT	1	N/A	N/A	N/A	0.0	0.0	0.0	39.0	0.0	0.0	39.0		$586,889.87	Design	2024	Sediment TMDL for the Patapsco River Lower North Branch Watershed; Nutrient TMDL for the Baltimore Harbor	
	SHST	A	PERMANENT	1	N/A	N/A	760	46.4	124640.0	65.4	15.2	0.0	0.0	15.2	Default Rate	$50,000.00	Planning	2024	Sediment TMDL for the Non-Tidal West River	Climate Adaptation, Recreation
	STRE	A	PERMANENT	1	N/A	N/A	900	61.2	223200.0	67.5	18.0	0.0	0.0	18.0	Planning Rate	$4,616,121.00	Planning	2024	Sediment TMDL for the Non-Tidal South River	Healthy Watersheds, Flood Risk Mitigation
	SPSC	S	PERMANENT	1	16.9	0.8	N/A	74.3	11022.7	344.1	36.0	0.0	0.0	36.0	Protocol 4 and 5	$629,500.00	Planning	2025		
	SEPC	A	PERMANENT	1	N/A	N/A	N/A	0.0	0.0	0.0	2.0	0.0	0.0	2.0	Protocol 4	$30,096.92	Design	2025	Nutrient TMDL for the Baltimore Harbor	
	SEPC	A	PERMANENT	1	N/A	N/A	N/A	0.0	0.0	0.0	38.6	0.0	0.0	38.6	Protocol 4	$580,870.48	Design	2025	Nutrient TMDL for the Baltimore Harbor	
	SHST	A	PERMANENT	1	N/A	N/A	338	26.6	145097.5	160.8	13.2	0.0	0.0	13.2	Protocol	$1,507,791.50	Design	2025		Climate Adaptation, Recreation
	SHST	A	PERMANENT	1	N/A	N/A	1100	108.4	235353.5	1040.7	47.5	0.0	0.0	47.5	Protocol	$1,507,791.50	Design	2025	Sediment TMDL for the Other West Chesapeake E	Climate Adaptation, Recreation
	STRE	A	PERMANENT	1	345.8	N/A	790	44.1	70531.2	54.5	15.8	0.0	0.0	15.8	Planning Rate	$1,395,000.00	Planning	2025	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$1,550,000.00	Planning	2020		Annual Operations & Maintenance Costs
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$8,117,000.00	Planning	2020		Stormwater/flood control projects not eligible for water quality credit (includes culvert and closed storm drain rehabilitation; emergency storm drain repairs; and stormwater management or infrastructure projects designed to relieve ponding or flooding). Climate Adaptation, Flood Risk Mitigation
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$120,492.29	Design	2020	Bacteria	Planning activites and monitoring related to bacteria TMDLs.
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$100,000.00	Design	2020	PCBs	Planning activities and monitoring related to PCB TMDLs.
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$1,550,000.00	Planning	2021		Annual Operations & Maintenance Costs
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$8,117,000.00	Planning	2021		Stormwater/flood control projects not eligible for water quality credit (includes culvert and closed storm drain rehabilitation; emergency storm drain repairs; and stormwater management or infrastructure projects designed to relieve ponding or flooding). Climate Adaptation, Flood Risk Mitigation
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$119,699.97	Planning	2021	Bacteria	Planning activites and monitoring related to bacteria TMDLs. Pet waste outreach campaign.
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$100,000.00	Planning	2021	PCBs	Planning activities and monitoring related to PCB TMDLs.
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$1,550,000.00	Planning	2022		Annual Operations & Maintenance Costs
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$8,117,000.00	Planning	2022		Stormwater/flood control projects not eligible for water quality credit (includes culvert and closed storm drain rehabilitation; emergency storm drain repairs; and stormwater management or infrastructure projects designed to relieve ponding or flooding). Climate Adaptation, Flood Risk Mitigation
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$114,699.97	Planning	2022	Bacteria	Planning activites and monitoring related to bacteria TMDLs.
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$100,000.00	Planning	2022	PCBs	Planning activities and monitoring related to PCB TMDLs.
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$1,550,000.00	Planning	2023		Annual Operations & Maintenance Costs
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$8,117,000.00	Planning	2023		Stormwater/flood control projects not eligible for water quality credit (includes culvert and closed storm drain rehabilitation; emergency storm drain repairs; and stormwater management or infrastructure projects designed to relieve ponding or flooding). Climate Adaptation, Flood Risk Mitigation
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$1,550,000.00	Planning	2024		Annual Operations & Maintenance Costs

	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$8,117,000.00	Planning	2024		Stormwater/flood control projects not eligible for water quality credit (includes culvert and closed storm drain rehabilitation; emergency storm drain repairs; and stormwater management or infrastructure projects designed to relieve ponding or flooding). Climate Adaptation, Flood Risk Mitigation
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$1,550,000.00	Planning	2025		Annual Operations & Maintenance Costs
	N/A			N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0		$8,117,000.00	Planning	2025		Stormwater/flood control projects not eligible for water quality credit (includes culvert and closed storm drain rehabilitation; emergency storm drain repairs; and stormwater management or infrastructure projects designed to relieve ponding or flooding). Climate Adaptation, Flood Risk Mitigation
	STRE	A	PERMANENT	1	314.8	N/A	1024	4.8	763.2	84.5	2.7	0.0	0.0	2.7	Protocol	$397,723.91	Planning	2026	Nutrient TMDL for the Baltimore Harbor	Healthy Watersheds, Flood Risk Mitigation
	SPSC	S	PERMANENT	1	21.6	0.9	N/A	9.3	33167.5	62.8	4.0	0.0	0.0	4.0	Protocol 4	$336,195.00	Planning	2026	Nutrient TMDL for the Baltimore Harbor	
	SPSC	S	PERMANENT	1	11.6	1.1	N/A	8.8	31328.7	59.3	3.8	0.0	0.0	3.8	Protocol 4	$417,740.00	Planning	2026	Nutrient TMDL for the Baltimore Harbor	
	SPSC	S	PERMANENT	1	22.6	0.6	N/A	81.8	22666.4	204.5	17.0	0.0	0.0	17.0	Protocol 4 and 5	$176,047.39	Planning	2026		
	STRE	A	PERMANENT	1	538.7	N/A	7328	420.9	98000.0	2655.9	116.8	0.0	0.0	116.8	Protocol	$7,048,937.48	Planning	2026		Healthy Watersheds, Flood Risk Mitigation
	STRE	A	PERMANENT	1	59.0	N/A	176	12.0	2657.6	13.2	2.2	0.0	0.0	2.2	Protocol	$177,054.06	Planning	2026		Healthy Watersheds, Flood Risk Mitigation
	PWED	S	PERMANENT	1	59.0	0.6	N/A	58.3	121391.5	254.9	11.0	0.0	0.0	11.0		$557,002.50	Planning	2026		
	PWED	S	PERMANENT	1	1.9	48.3	N/A	1.2	2020.7	5.0	0.2	0.0	0.1	0.3		$12,920.16	Planning	2026		
	PWED	S	PERMANENT	1	82.0	4.3	N/A	36.0	151383.3	179.6	22.5	0.0	11.3	33.8		$1,509,266.22	Planning	2026		
	SPSC	S	PERMANENT	1	18.2	1.6	N/A	11.1	39472.9	70.8	4.7	0.0	0.0	4.7	Protocol 4	$1,204,813.00	Planning	2026		
	STRE	A	PERMANENT	1	1339.7	N/A	9935	597.5	576972.0	1906.5	200.0	0.0	0.0	200.0	Protocol	$14,347,462.27	Planning	2027	Sediment TMDL for the Little Patuxent River	Healthy Watersheds, Flood Risk Mitigation
Subtotal Capital (up to 2025)				45				3,490.4	4,745,276.1	17,584.4	1,423.7	-	0.1	1,423.8		$119,666,334.07				
Other																				
				0										0						
Subtotal Other (up to 2025)				0				0	0	0	0	0	0	0		$0.00				
Total for Next Permit (up to 2025)				**45**				**3,490.4**	**4,745,276.1**	**17,584.4**	**1,423.7**	**0.0**	**0.1**	**1,423.8**		**$119,666,334.07**				
Total for Next Permit and Projected Years				**56**				**4,732.0**	**5,825,099.9**	**23,081.6**	**1,808.6**	**0.0**	**11.5**	**1,820.1**		**$ 145,851,496.06**				
Total for Remaining Obligations from The Previous Permit, Continued Obligations, and Proposed Activities for The Next Permit (up to 2025)				**112**				**9,469.9**	**10,864,496.3**	**36,138.6**	**3,195.0**	**16.2**	**41.0**	**3,252.2**		**$185,775,285.92**				
Total for Remaining Obligations from The Previous Permit, Continued Obligations, and Proposed Activities for The Next Permit (up to 2027)				**123**				**10,711.6**	**11,944,320.0**	**41,635.8**	**3,579.9**	**16.2**	**52.4**	**3,648.5**		**$211,960,447.91**				

BMP Class	
Code	**Code Description**
A	Alternative BMP
E	ESD
S	Structural BMP

BMP Classification	BMP Type Code	BMP Type
Alternative Surfaces (A)		
E	AGRE	Green Roof – Extensive
E	AGRI	Green Roof – Intensive
E	APRP	Permeable Pavements
E	ARTF	Reinforced Turf
Nonstructural Techniques (N)		
E	NDRR	Disconnection of Rooftop Runoff
E	NDNR	Disconnection of Non-Rooftop Runoff
E	NSCA	Sheetflow to Conservation Areas
Micro-Scale Practices (M)		
E	MRWH	Rainwater Harvesting
E	MSGW	Submerged Gravel Wetlands
E	MILS	Landscape Infiltration
E	MIBR	Infiltration Berms
E	MIDW	Dry Wells
E	MMBR	Micro-Bioretention
E	MRNG	Rain Gardens
E	MSWG	Grass Swale
E	MSWW	Wet Swale
E	MSWB	Bio-Swale
E	MENF	Enhanced Filters
Ponds (P)		
S	PWED	Extended Detention Structure, Wet
S	PWET	Retention Pond (Wet Pond)
S	PMPS	Multiple Pond System
S	PPKT	Pocket Pond
S	PMED	Micropool Extended Detention Pond
Wetlands (W)		
S	WSHW	Shallow Marsh
S	WEDW	ED – Wetland
S	WPWS	Wet Pond – Wetland
S	WPKT	Pocket Wetland
Infiltration (I)		
S	IBAS	Infiltration Basin
S	ITRN	Infiltration Trench
Filtering Systems (F)		
S	FBIO	Bioretention
S	FSND	Sand Filter
S	FUND	Underground Filter
S	FPER	Perimeter (Sand) Filter
S	FORG	Organic Filter (Peat Filter)
S	FBIO	Bioretention
Open Channels (O)		
S	ODSW	Dry Swale
S	OWSW	Wet Swale
Other Practices (X)		
S	XDPD	Detention Structure (Dry Pond)
S	XDED	Extended Detention Structure, Dry
S	XFLD	Flood Management Area
S	XOGS	Oil Grit Separator

S	XOTH	Other
Alternative BMPs		
A	MSS	Mechanical Street Sweeping
A	VSS	Regenerative/Vacuum Street Sweeping
A	IMPP	Impervious Surface Elimination (to pervious)
A	IMPF	Impervious Surface Elimination (to forest)
A	FPU	Planting Trees or Forestation on Pervious Urban
A	CBC	Catch Basin Cleaning
A	SDV	Storm Drain Vacuuming
A	STRE	Stream Restoration
A	OUT	Outfall Stabilization
A	SPSC	Regenerative Step Pool Storm Conveyance
A	SHST	Shoreline Management
A	SEPP	Septic Pumping
A	SEPD	Septic Denitrification
A	SEPC	Septic Connections to WWTP
A	FTW	Floating Treatment Wetland
A	FTC	Forest Conservation
A	CLS	Conservation Landscaping
A	RCL	Riparian Conservation Landscaping
A	IDDE	Illicit Discharge Detection & Elimination
A	OTH	Other