County Council of Howard County, Maryland

2015 Legislative Session

Legislative Day No. 13

Resolution No. 182-2015

Introduced by: The Chairperson
at the request of the County Executive
and cosponsored by Greg Fox

A RESOLUTION approving a financial assurance plan for funding Howard County's stormwater management program for a two-year period, in accordance with Section 4-202.1 of the Environment Article of the Annotated Code of Maryland.

Introduced and read first time December 7, 2015.

By order Jessica Feldmark
Jessica Feldmark, Administrator

Read for a second time at a public hearing on January 19, ~~2015.~~ 2016

By order Jessica Feldmark
Jessica Feldmark, Administrator

Tabled on February 1, 2016

This Resolution was read the third time and was Adopted___, Adopted with amendments___, Failed ✓, Withdrawn___, by the County Council on March 7, 2016.

Certified By Jessica Feldmark
Jessica Feldmark, Administrator

Approved by the County Executive on _____, 2016.

_____
Allan H. Kittleman, County Executive

NOTE: [[text in brackets]] indicates deletions from existing law; TEXT IN SMALL CAPITALS indicates additions to existing law; ~~Strike-out~~ indicates material deleted by amendment; Underlining indicates material added by amendment

WHEREAS, related to the Watershed Protection and Restoration Fee (the "Fee"), Howard County is required to have a financial assurance plan approved by the local governing body and the Maryland Department of the Environment on or before July 1, 2016, in accordance with § 4-202.1 of the Environment Article of the Annotated Code of Maryland; and

WHEREAS, prior to the passage of this Resolution, the County Council has passed Council Bill No. 52-2015 (the "Bill") that reduces the Fee by 50% for Fiscal Year 2017, which begins on July 1, 2016; and

WHEREAS, the Bill also abrogates the Fee entirely for Fiscal Year 2018, which begins on July 1, 2017; and

WHEREAS, related to the Bill, the County has prepared a financial assurance plan based on the law as it will exist if Council Bill No. 52-2015 is enacted.

NOW, THEREFORE, BE IT RESOLVED by the County Council of Howard County, Maryland, this _____ day of _____, 2016, that it hereby approves the attached Financial Assurance Plan for funding Howard County's stormwater management program.

AND BE IT FURTHER RESOLVED, that the County Executive be, and is hereby, requested to endorse this Resolution, thereby indicating his approval of the financial assurance plan.

AND BE IT FURTHER RESOLVED that a copy of this Resolution be sent to the Maryland Department of the Environment, 1800 Washington Boulevard, Baltimore, MD 21230.

Howard County Financial Assurance Plan: Fiscal Years 2017-2018

Permit Overview

The National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, hereinafter "the Permit", issued to Howard County, hereinafter "the County", in December 18, 2014, mandates that the County treat 20% of its total untreated impervious acreage. In the first year of the Permit, the County has determined that the untreated Countywide impervious area is approximately 9,000 acres. In order for the County to meet its MS4 permit, the County must treat approximately 1,800 acres. The County has already treated approximately 200 acres, leaving the total amount of impervious acreage needed to treat at approximately 1,600 acres.

Actions Required to Meet Permit

The County will continue to implement the numerous programs required by the Permit, including development of Restoration Plans that will identify projects to treat untreated impervious acreage. Best management practices (BMPs) utilized in completing the work of treating impervious acreage includes stream restoration, planting trees, and constructing bio-retention ponds. The County has numerous BMP projects at various stages of development. The County also continues to research and develop the voluminous electronic data necessary to meet the expanded Geodatabase reporting requirements of the Permit.

The work required by the Permit will be difficult to complete within the allotted timeframe, due to the sheer volume of construction required, as well as the necessity to complete work on private land. There is simply not enough public land to meet the impervious acreage requirement. Easements will have to be acquired to complete work on private land, and obtaining these easements is far from guaranteed. The County is creatively developing Public-Private Partnerships in order to complete some of the work, but in the end, this will not completely solve the larger issue of gaining access on to private land.

Projected Annual and 5-Year Costs to Meet Impervious Surface Restoration Plan Requirements

The County's 5-year costs will be approximately $90,000,000 to meet the impervious surface restoration plan requirements. Based on this estimate, the County has determined that its capital costs in FY 2017 will be approximately $19,000,000, and capital costs in FY 2018 will be approximately $21,000,000. These are estimates, and expenses will fluctuate based on project implementation schedules. The operating costs in order to meet the entire MS4 permit, including the impervious surface restoration plan requirements, will be approximately $4 million in FY 2017 and FY 2018.

Projected Annual and 5-Year Revenue Sources to Meet Impervious Surface Restoration Plan Requirements

The County will use the following revenue sources for FY 2017 and FY 2018 in funding the costs of the County's permit:

State Grants- The County receives approximately $1 million annually for projects that remediate impervious acreage throughout the County in the form of grants. This will total approximately $2 million over the next two fiscal years.

Watershed Protection and Restoration Fee- The County currently collects approximately $11 million from the Watershed Protection and Restoration Fee. In FY 2017, the County is planning to reduce the fee by 50% so the County will only receive approximately $5.5 million. In FY 2018, the County is planning to eliminate the fee entirely.

Watershed Protection and Restoration Fund Balance- The Watershed Protection and Restoration Fund has accumulated a fund balance that can be used to fund capital costs, in addition to operating expenses. It is expected that approximately $6.7 million will be available to fund these expenses in FY 2017.

Transfer Tax- Of the transfer tax that the County currently collects, a quarter is awarded to the County's Agricultural Land Preservation Program. This program is reaching its peak, and the Agricultural Land Preservation Fund will grow a significant positive balance in the near future. The County will pursue state legislation so that it can allocate $1 million in FY 2018 from the portion of the proceeds that the Agricultural Land Preservation Program currently receives.

General Fund- In operating funds, the County will budget $1.8 million from the General Fund in FY 2017, and the County will increase that amount in FY 2018 to approximately $4 million. In capital expenditures, the County will budget approximately $7.7 million in FY 2017, funded by Government Obligation (GO) bonds. In FY 2018, the County will issue approximately $19 million in GO bonds in order to meet expected costs. In addition, the County may use PayGo funds to the extent that they are available.

The County will use the aforementioned revenue sources to fund the estimated 5 year costs of the permit. The County will use monies from State grants, the Watershed Protection and Restoration Fund Balance, the Watershed Protection and Restoration Fee, the General Fund, GO bonds, and, potentially, the Transfer Tax to fund the County's expected costs over the next two fiscal years.

Completed Stormwater Remediation Projects

Please see Appendix 1 for a list of projects completed. Information for prior years is also located in the Annual MS4 Reports the County files with MDE.

Appendix 1

Facility Name	Impervious Acres Restored Since 7/1/2013	Cost (dollars)
Permeable Pavement (APRP)		
Savage Library Water Quality Enhancements	0.66	
Bioretention (FBIO)		
Savage Library Water Quality Enhancements	0.09	
Planting Trees or Forestation on Pervious Urban (FPU)		
Belle Haven Estates	1.65	
Brighton Mill	1.20	
Cattail Creek Forest Mitigation Bank	3.68	
Chapel Rise	0.49	
Chelsea Knolls	5.64	
Cloverfield	0.69	
Fairway Overlook, Hickory Park Offsite	0.39	
Hall Shop Manor	0.40	
Hay Medow, offsite Maryland Food Center Authority	1.50	
Maplewood Farms	3.75	
McDaniel Property	0.75	
Owings Property	1.38	
Renfro Property	0.49	
Studdard Property	1.36	
Students Branching Out - Board of Education and Applications and Research Laboratory	1.21	
Students Branching Out - Dayton Oaks Middle School	0.24	
Students Branching Out - Dunloggin Middle School and Northfield Elementary	0.70	
Students Branching Out - Folly Quarter Middle School	0.74	
Students Branching Out - Glenwood Middle School and Bushy Park Elementary School	2.83	
Students Branching Out - Hammond Middle/Elementary School	0.55	
Students Branching Out - Harpers Choice Middle School/Old Cedar Lane School	0.85	
Students Branching Out - Lisbon Elementary School	0.85	
Students Branching Out - Patapsco Middle School	0.46	
Students Branching Out - Waterloo Elementary School	0.22	
Walnut Creek	2.52	
Woodbine Crossing	2.20	
Underground Filter (FUND)		
Wilde Lake High School Retrofit	12.75	

Infiltration Basin (IBAS)	
Ashmede Road	2.58
Enhanced Filters (MENF)	
Savage Library Water Quality Enhancements	0.18
Dry Wells (MIDW)	
F-01-156_DW 1 A	0.01
F-01-156_DW 1 B	0.02
F-01-156_DW 1 C	0.03
Micro-Bioretention (MMBR)	
Ellicott City Parking Lot E	67.78
SDP-05-074_BIO 1	0.15
Stevens Forest Elementary School - MB-1	0.23
Stevens Forest Elementary School - MB-2A	0.13
Stevens Forest Elementary School - MB-2B	0.09
Rain Gardens (MRNG)	
10133 Cape Ann Drive	0.15
10305 Tailcoat Way	0.15
10334 Launcelot Lane	0.15
10339 Tailcoat Way	0.15
10342 Launcelot Lane	0.15
10362 Crossbeam Circle	0.15
10387 Launcelot Lane	0.15
10395 Launcelot Lane	0.15
10517 Catterskill Ct	0.15
10734 Crestview Lane	0.15
10971 Hickory Ridge Road	0.15
11005 Wood Elves Way	0.15
2249 Ballard Way	0.15
4056 Fragile Sail Way 1	0.15
4056 Fragile Sail Way 2	0.15
4625 Broken Lute Way	0.15
4944 Snowy Reach	0.15
5038 W. Running Brook Road	0.15
5057 Ten Mills Road	0.15
5206 Silas Choice	0.15
5409 April Wind Court	0.15
5772 Old Buggy Court	0.15
6089 Covington Rd	0.15
6137 Gate Sill	0.15
6148 Gate Sill	0.15
6149 Gate Sill	0.15

6158 Tower Top	0.15
6201 Farstar Place	0.15
6208 Painted Yellow Gate	0.15
6230 Sunny Spring	0.15
6235 Bright Plume	0.15
6239 Plaited Reed	0.15
6256 Golden Coin Ct	0.15
6310 Kiteline Court	0.15
6332 Frostwork Row	0.15
6334 Soft Thunder Trail	0.15
6357 Saddle Drive	0.15
6479 Bright Plume	0.15
6483 Summer Cloud Way	0.15
6485 Bright Plume	0.15
6589 Belmont Woods Road	0.15
6668 Star Path	0.15
6672 Star Path	0.15
6676 Star Path	0.15
6680 Star Path	0.15
7138 Rivers Edge Road	0.15
7218 Meadow Wood Way 1	0.15
7218 Meadow Wood Way 2	0.15
7322 Farthest Thunder Court	0.15
8145 Sea Water Path	0.15
8400 Oak Bush Terrace	0.15
9056 Red Apple Lane 1	0.15
9056 Red Apple Lane 2	0.15
Atholton Elementary School	0.30
Atholton ES	0.15
Beth Shalom Congregation	0.15
Bethany United Methodist Church	0.15
Bethel Korean	0.15
Carriage House HOA	0.15
College Square	0.15
Dayton Oaks Elementary School	0.15
Deering Woods	0.15
Deering Woods A	0.15
Deering Woods B	0.15
Deering Woods C	0.15
Dorsey Emmanuel United Methodist Church	0.30
Enclave 2	0.15

Epiphany Lutheran Church	0.15
Forest Ridge Elementary School	0.15
Franciscan Friars' Provincial House	0.30
Gary Arthur	0.15
Glen Mar United Methodist Church	0.15
Greenleaf	0.60
Harvester Baptist	0.30
HCC Swim Center	0.30
Howard Community College	0.60
Howard Community College Athletic Field Fence Expa	0.15
Howard Community College Athletic Field Soccer Fie	0.15
Howard Community College Pathway	0.15
Kittamaqundi	0.15
Manor Woods Elementary School	0.45
Morningside Park Senior Apartments Howard Public H	0.60
Mt. Zion UMC	0.15
North St. John Swim Club	0.15
Oakland Mills	0.15
Oakland Mills IFC front expansion	0.15
Oakland Mills Interfaith Center	0.30
Owen Brown Interfaith Center	0.15
Resurrection St. Paul	0.45
Ring Dove HOA	0.15
Rockburn Elementary School	0.15
Sharon Missionary	0.15
Simpson UMC	0.30
Spring Breeze	0.30
Spring Breeze Community Association	0.15
St. Francis of Assisi	0.15
St. John's Episcopal Cemetery Fence	0.15
St. John's Episcopal Corner Garden A Expansion	0.15
St. John's Episcopal Parking Lot Corner Expansion	0.15
St. Matthew House	0.15
St. Paul's Episcopal	0.15
Temple Isaiah	0.30
The Enclave at Ellicott Hills	0.15
Trinity School	0.60
Wilde Lake Interfaith Center	0.15
Individual Owner Rain Gardens (SMART Tool)	5.70
Rainwater Harvesting (MRWH)	
SDP-11-041AB_RB 1	0.11

SDP-11-041AB_RB 10	0.11	
SDP-11-041AB_RB 11	0.11	
SDP-11-041AB_RB 12	0.11	
SDP-11-041AB_RB 13	0.11	
SDP-11-041AB_RB 14	0.11	
SDP-11-041AB_RB 15	0.11	
SDP-11-041AB_RB 16	0.11	
SDP-11-041AB_RB 17	0.11	
SDP-11-041AB_RB 18	0.11	
SDP-11-041AB_RB 19	0.11	
SDP-11-041AB_RB 2	0.11	
SDP-11-041AB_RB 20	0.11	
SDP-11-041AB_RB 3	0.11	
SDP-11-041AB_RB 4	0.11	
SDP-11-041AB_RB 5	0.11	
SDP-11-041AB_RB 6	0.11	
SDP-11-041AB_RB 7	0.11	
SDP-11-041AB_RB 8	0.11	
SDP-11-041AB_RB 9	0.11	
Bio-Swale (MSWB)		
Stevens Forest Elementary School - Bioswale	0.27	
Grass Swale (MSWG)		
Mendenhall	0.34	
Dry Swale (ODSW)		
F-01-156_SW	0.22	
Extended Detention Structure, Wet (PWED)		
F-08-055-01_POND 2	2.64	
SW to the MEP (SPSC)		
Dorsey Hall Village Center Outfall Rehabilitation	3.63	
Stream Restoration (STRE)		
Pinehurst Court Stream Rehabilitation	3.21	
Tiller Drive Phase 2	0.79	
Tuscany Road Stream Restoration	1.03	
Whiterock Court Stream Restoration	2.11	
Shallow Marsh (WSHW)		
Pinehurst Court Shallow Marsh	1.57	
Septic Upgrades	**40.04**	
Rain Barrels	**0.30**	
Countywide Total	**205.03**	$8,221,380.45*

*Note- This is only an estimate of capital costs.

Amendment 1 to Council Resolution No. 182-2015

BY: The Chairperson at the request of the County Executive and Cosponsored by Greg Fox

Legislative Day No.
Date: February 1, 2016

Amendment No. 1

(This amendment substitutes a revised Financial Assurance Plan in order to comply with Maryland Department of the Environment Guidance issued on December 18, 2015.)

Remove the Financial Assurance Plan including Appendix 1, attached to the Resolution as introduced, and substitute a revised Plan, as attached to this Amendment.

ADOPTED 3/7/16
FAILED
SIGNATURE Jessica Feldmark

Permit Information	
Jurisdiction Name	Howard County
Contact Person	Mark S. Richmond, P.E., Chief
Contact Number	410-313-6413
Contact Address	Howard County Government, Department of Public Works, Bureau of Environmental Services, Stormwater Management Division, 6751 Columbia Gateway Drive, Suite 514, Columbia, MD 21046
Contact Email	msrichmond@howardcountymd.gov
Impervious Acre Baseline	10221.60
Permit Number	11-DP-3318, MD0068322
Reporting Year	2016

Financial Assurance Plan (FAP)

Actions & Costs (Expenditures)

FY2016 Actions and Cost			Projected Restoration Costs						
	MS4 Permit Cost	ISRP Cost	FY 2017	FY 2018	FY 2019	FY 2020	Total		
Best Management Practices (BMPs):									
Existing BMPs									
Restoration BMPs		8,515,487	27,555,179	32,091,364	32,328,247	32,110,558			
MS4 Permit:									
~~Operational Cost~~ SOURCE_ID	95,000								
Capital Cost	0								
SWM Cost	1,616,000								
Erosion Sediment Control	2,890,000								
Illicit Detection Elimination	80,000								
Trash Elimination	200,000								
Prop Management	110,000								
Inlet Cleaning	10,000								
Street Sweeping	400,000								
Road Maintenance - Other	1,323,000								
Public Education	1,102,000								
Watershed Assessment	1,169,370								
Watershed Restoration	11,628,000								
Chem Mon Assessment	37,000								
Bio Mon Assessment	125,000								
Phys Stream Assessment	37,000								
Manual Monitoring	64,000								
TMDL Assessment	417,000								
Est. Cost to Meet MS4 Permit	21,303,370						21,303,370		
Est. Cost for ISRP Requirement		8,515,487	27,555,179	32,091,364	32,328,247	32,110,558	132,600,835		
Annual progress(%) towards the 20% MS4 Permit Requirement		1.108%	3.381%	4.022%	6.679%	3.970%	19.160%	20.700%	% Progress including 2015 BMPs
BMPs Implemented for the 20% MS4 Permit Requirement		20	68	70	9,073	44	9,275		

ISRP: Impervious Surface Restoration Program

NOTES:

1. EXPENDITURE data are based on FY2016 budgeted numbers and are not based on actual expenditures. Actual expenditures for FY2016 will not be available until after July 2016.

2. Howard County's current MS4 Permit requires the submittal of Financial Analyses as Database L included in the Attachment A Annual Report Databases. All of the "Permit Conditions" included in this FAP table are included in Database L except for "Operational Cost". Conversely, the data field for "SOURCE_ID" is included in Database L, but is not included in the "Permit Conditions" listed in this FAP table. For consistency with the MS4 Annual Report database reporting requirements, "Operational Cost" is replaced with "SOURCE_ID".

3. SOURCE_ID is the total annual cost for source identification.

4. The cost of Existing BMPs is incorporated into the data reported under MS4 Permit and is not separately reported in order to avoid double-counting.

5. The ISRP Cost is part of the total MS4 Permit Cost. Specifically, the ISRP Cost is part of the Watershed Restoration Cost.

6. The overall operating costs of meeting this permit will annually be approximately $4 million. In FY 2017, a majority of these costs will be absorbed by an unreserved fund balance in the County's Watershed Protection and Restoration Fund; however, in the following years this amount will be absorbed by the County's General Fund.

FY	Actual 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Total next 2-years FY 17-18	Total 5-year Cycle
Projected Annual Revenue for ISRP	$ 8,515,487.00	$ 23,666,384.00	$ 27,039,069.00	$ 35,298,793.00	$ 38,081,103.00	$50,705,453.00	$132,600,836.00
Projected Costs to meet ISRP **(All Projects)**	$ 8,515,487.00	$ 27,555,179.00	$ 32,091,365.00	$ 32,328,247.00	$ 32,110,558.00	$59,646,544.00	$132,600,836.00
					Percent	85%	

ISRP = Impervious Surface Restoration Program, or 20% Restoration Requirement

NOTES:

1. The projected costs to meet the Impervious Surface Restoration Program requirement of Howard County's MS4 permit are taken from the Countywide Implementation Strategy. Note that the total projected 5-year costs and revenues match.
2. These costs are estimated and will change based on modifications to stormwater remediation crediting procedures by the Maryland Department of the Environment, projected implementation of a Nutrient Trading Program, and continued improvements of technology.

Article 4-201.1(j)(1)(I): Any sources of funds that will be utilized by the county or municipality to meet the Impervious Surface Restoration Program requirement of its NPDES MS4 Permit

Source		FY 2017		FY 2018
Stormwater Remediation Fees	$	5,500,000.00	$	-
State Grant		3,200,000.00		2,000,000.00
Previous Year Reserved Fund Balance		4,700,049.00		-
Transfer Tax		-		1,000,000.00
Government Obligation Bonds		10,266,335.00		19,039,069.00
Pay-Go Funding		-		5,000,000.00
	$	23,666,384.00	$	27,039,069.00

NOTES:

1. Use of transfer tax funds is dependent on State legislation

2015 BMPs

As of the end of FY2015 (June 30, 2015), 157.4 acres of impervious surface restoration has been completed and will be applied to the current baseline and 20% restoration goal. See Howard County's Countywide Implementation Strategy (Table 25) and Attachment A, Table D of the County's 2015 Annual Report (AR20).

157.4 2015 Impervious restoration progress.

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	1.540%

2016 BMPs

PERMIT CONDITION	EXPENDITURE
~~Operational Expenditure~~ SOURCE_ID	$95,000.00
Capital Expenditure	$0.00
SWM Expenditure	$1,616,000.00
Erosion Sediment Control	$2,890,000.00
Illicit Detection Elimination	$80,000.00
Trash Elimination	$200,000.00
Prop Management	$110,000.00
Inlet Cleaning	$10,000.00
Street Sweeping	$400,000.00
Road Maintenance - Other	$1,323,000.00
Public Education	$1,102,000.00
Watershed Assessment	$1,169,370.00
Watershed Restoration	$11,628,000.00
Chem Mon Assessment	$37,000.00
Bio Mon Assessment	$125,000.00
Phys Stream Assessment	$37,000.00
Manual Monitoring	$64,000.00
TMDL Assessment	$417,000.00
TOTAL	$21,303,370.00

ANNUAL PROGRESS(%) TOWARDS THE 20% MS4 PERMIT REQUIREMENT	
Baseline:	10,221.60
% Progress:	1.108%

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_16	Wet Pond	Structural BMP	1	1.0	9/9/9999	$ 400,000	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	10.0	9/9/9999	$ 650,000	2016	Planning	
LPAX_16	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	$ 656,484	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	3.5	9/9/9999	$ 830,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	7.5	9/9/9999	$ 80,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	6.4	9/9/9999	$ 71,172	2016	Under Design	
MPAX_16	Filter	Structural BMP	1	3.5	9/9/9999	$ 233,660	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	$ 240,000	2016	Planning	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.0	9/9/9999	$ 60,000	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.8	9/9/9999	$ 311,000	2016	Under Design	

MPAX_16	Stream Restoration	Alternative BMP	1	5.0	9/9/9999	$ 365,000	2016	Under Design
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	$ 541,202	2016	Under Design
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	$ 541,202	2016	Complete
PLNB_16	Extended Detention Structure, Wet	Structural BMP	1	2.9	9/9/9999	$ 380,000	2016	Planning
PLNB_16	Wet Pond	Structural BMP	1	5.8	9/9/9999	$ 316,995	2016	Under Design
PLNB_16	Bioretention	Structural BMP	1	1.0	9/9/9999	$ 187,342	2016	Under Design
PLNB_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	$ 460,000	2016	Under Design
PLNB_16	Stream Restoration	Alternative BMP	1	17.0	9/9/9999	$ 965,000	2016	Under Design
PLNB_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	$ 576,430	2016	Under Design
PLNB_16	Stream Restoration	Alternative BMP	1	11.1	9/9/9999	$ 650,000	2016	Under Design
SEPTICUG_16	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2016	Planning
			20	113.3		$8,515,487		

NOTES:

1. EXPENDITURE data are based on FY2016 budgeted numbers and are not based on actual expenditures. Actual expenditures for FY2016 will not be available until July 2016.

2. Howard County's current MS4 Permit requires the submittal of Financial Analyses as Database L included in the Attachment A Annual Report Databases. All of the "Permit Conditions" included in this FAP table are included in Database L except for "Operational Expenditure". Conversely, the data field for "SOURCE_ID" is included in Database L, but is not included in the "Permit Conditions" listed in this FAP table. For consistency with the MS4 Annual Report database reporting requirements, "Operational Expenditure" is replaced with "SOURCE_ID".
3. SOURCE_ID is the total annual cost for source identification.
4. The ISRP Cost is part of the total MS4 Permit Cost. Specifically, the ISRP Cost is part of the Watershed Restoration Cost.

2017 BMPs

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_17	Wet Pond	Structural BMP	1	6.6	9/9/9999	$ 330,000	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	5	31.9	9/9/9999	$ 1,748,892	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	4	13.4	9/9/9999	$ 2,145,848	2017	Planning	
LPAX_17	Outfall Stabilization	Alternative BMP	5	6.5	9/9/9999	$ 1,118,665	2017	Planning	
LPAX_17	Step Pool Storm Conveyance	Alternative BMP	2	9.4	9/9/9999	$ 506,563	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	$ 640,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	$ 650,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	13	248.1	9/9/9999	$ 19,374,289	2017	Planning	
LPAX_17	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	5	7.0	9/9/9999	$ 790,922	2017	Planning	
RGOR_17	Wet Pond	Structural BMP	1	8.9	9/9/9999	$ 250,000	2017	Planning	
SEPTICUG_17	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2017	Planning	
			68	345.6		$27,555,179			

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	3.381%

2018 BMPs

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_18	Multiple Types	Structural BMP	2	14.3	9/9/9999	$ 787,001	2018	Planning	
LPAX_18	Multiple Types	Structural BMP	2	6.0	9/9/9999	$ 965,632	2018	Planning	
LPAX_18	Outfall Stabilization	Alternative BMP	2	2.9	9/9/9999	$ 503,399	2018	Planning	
LPAX_18	Step Pool Storm Conveyance	Alternative BMP	1	4.2	9/9/9999	$ 227,953	2018	Planning	
LPAX_18	Stream Restoration	Alternative BMP	6	111.7	9/9/9999	$ 8,718,430	2018	Planning	
LPAX_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	2	3.1	9/9/9999	$ 355,915	2018	Planning	
MPAX_18	Multiple Types	Structural BMP	1	6.2	9/9/9999	$ 515,579	2018	Planning	
MPAX_18	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	$ 285,209	2018	Planning	
MPAX_18	Step Pool Storm Conveyance	Alternative BMP	0	1.9	9/9/9999	$ 73,440	2018	Planning	
MPAX_18	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	$ 6,948,607	2018	Planning	
MPAX_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	3	7.6	9/9/9999	$ 870,899	2018	Planning	
UPAX_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2018	Planning	
RGOR_18	Stream Restoration	Alternative BMP	1	20.1	9/9/9999	$ 1,554,424	2018	Planning	
TRIA_18	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	$ 2,331,636	2018	Planning	
PSBR_18	Step Pool Storm Conveyance	Alternative BMP	1	5.1	9/9/9999	$ 248,602	2018	Planning	
PSBR_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2018	Planning	
PSBR_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.1	9/9/9999	$ 237,375	2018	Planning	
PLNB_18	Multiple Types	Structural BMP	1	7.2	9/9/9999	$ 461,913	2018	Planning	
PLNB_18	Multiple Types	Structural BMP	1	4.0	9/9/9999	$ 643,754	2018	Planning	
PLNB_18	Step Pool Storm Conveyance	Alternative BMP	2	8.6	9/9/9999	$ 422,624	2018	Planning	
PLNB_18	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	$ 3,886,060	2018	Planning	
PLNB_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	2	4.4	9/9/9999	$ 498,488	2018	Planning	
SEPTICUG_18	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2018	Planning	
			70	411.1		$32,091,364			

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	4.022%

2019 BMPs

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_19	Multiple Types	Structural BMP	3	17.5	9/9/9999	$ 961,891	2019	Planning	
LPAX_19	Multiple Types	Structural BMP	2	7.4	9/9/9999	$ 1,180,216	2019	Planning	
LPAX_19	Outfall Stabilization	Alternative BMP	3	3.6	9/9/9999	$ 615,266	2019	Planning	
LPAX_19	Step Pool Storm Conveyance	Alternative BMP	1	5.2	9/9/9999	$ 278,610	2019	Planning	
LPAX_19	Stream Restoration	Alternative BMP	7	136.5	9/9/9999	$ 10,655,859	2019	Planning	
LPAX_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	3	3.8	9/9/9999	$ 435,007	2019	Planning	
MPAX_19	Multiple Types	Structural BMP	1	6.2	9/9/9999	$ 515,579	2019	Planning	
MPAX_19	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	$ 285,209	2019	Planning	
MPAX_19	Step Pool Storm Conveyance	Alternative BMP	1	1.9	9/9/9999	$ 73,440	2019	Planning	
MPAX_19	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	$ 6,948,607	2019	Planning	
MPAX_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	3	7.6	9/9/9999	$ 870,899	2019	Planning	
TRIA_19	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	$ 2,331,636	2019	Planning	
PSBR_19	Step Pool Storm Conveyance	Alternative BMP	1	5.1	9/9/9999	$ 248,602	2019	Planning	
PSBR_19	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2019	Planning	
PSBR_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.1	9/9/9999	$ 237,375	2019	Planning	
PLNB_19	Multiple Types	Structural BMP	1	7.2	9/9/9999	$ 461,913	2019	Planning	
PLNB_19	Multiple Types	Structural BMP	1	4.0	9/9/9999	$ 643,754	2019	Planning	
PLNB_19	Step Pool Storm Conveyance	Alternative BMP	2	8.6	9/9/9999	$ 422,624	2019	Planning	
PLNB_19	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	$ 3,886,060	2019	Planning	
PLNB_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	2	4.4	9/9/9999	$ 498,488	2019	Planning	
SEPTICPO_19	Septic Pump Out	Alternative BMP	9000	270.0	9/9/9999		2019	Planning	
SEPTICUG_19	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2019	Planning	
			9073	682.7		$32,328,247			

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	6.679%

2020 BMPs

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_20	Multiple Types	Structural BMP	4	26.4	9/9/9999	$ 1,548,069	2020	Planning	
LPAX_20	Multiple Types	Structural BMP	4	12.6	9/9/9999	$ 2,011,733	2020	Planning	
LPAX_20	Outfall Stabilization	Alternative BMP	3	3.2	9/9/9999	$ 559,333	2020	Planning	
LPAX_20	Step Pool Storm Conveyance	Alternative BMP	3	13.6	9/9/9999	$ 688,336	2020	Planning	
LPAX_20	Stream Restoration	Alternative BMP	10	201.5	9/9/9999	$ 15,671,677	2020	Planning	
LPAX_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	4	7.1	9/9/9999	$ 810,867	2020	Planning	
MPAX_20	Multiple Types	Structural BMP	1	4.1	9/9/9999	$ 340,947	2020	Planning	
MPAX_20	Outfall Stabilization	Alternative BMP	1	1.5	9/9/9999	$ 188,606	2020	Planning	
MPAX_20	Step Pool Storm Conveyance	Alternative BMP	0	1.2	9/9/9999	$ 48,565	2020	Planning	
MPAX_20	Stream Restoration	Alternative BMP	3	60.1	9/9/9999	$ 4,595,046	2020	Planning	
MPAX_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	5.0	9/9/9999	$ 575,917	2020	Planning	
PSBR_20	Step Pool Storm Conveyance	Alternative BMP	1	5.1	9/9/9999	$ 248,602	2020	Planning	
PSBR_20	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2020	Planning	
PSBR_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.1	9/9/9999	$ 237,375	2020	Planning	
PLNB_20	Multiple Types	Structural BMP	1	5.1	9/9/9999	$ 327,188	2020	Planning	
PLNB_20	Multiple Types	Structural BMP	1	2.8	9/9/9999	$ 455,993	2020	Planning	
PLNB_20	Step Pool Storm Conveyance	Alternative BMP	3	17.0	9/9/9999	$ 832,818	2020	Planning	
PLNB_20	Stream Restoration	Alternative BMP	1	25.1	9/9/9999	$ 1,943,030	2020	Planning	
PLNB_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.2	9/9/9999	$ 249,244	2020	Planning	
			44	405.8		$ 32,110,558			

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	3.970%

All BMPs

REST_BMP_ID	REST_BMP_TYPE	BMP_CLASS	NUM_BMP	IMP_ACRES	BUILT_DATE	IMPL_COST	PROJECTED_IMPL_YR	IMPL_STATUS	IMPL_COMP_YR
LPAX_16	Wet Pond	Structural BMP	1	1.0	9/9/9999	$ 400,000	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	10.0	9/9/9999	$ 650,000	2016	Planning	
LPAX_16	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	$ 656,484	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	3.5	9/9/9999	$ 830,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	7.5	9/9/9999	$ 80,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	6.4	9/9/9999	$ 71,172	2016	Under Design	
MPAX_16	Filter	Structural BMP	1	3.5	9/9/9999	$ 233,660	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	$ 240,000	2016	Planning	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.0	9/9/9999	$ 60,000	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.8	9/9/9999	$ 311,000	2016	Under Design	
MPAX_16	Stream Restoration	Alternative BMP	1	5.0	9/9/9999	$ 365,000	2016	Under Design	
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	$ 541,202	2016	Under Design	
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	$ 541,202	2016	Complete	
PLNB_16	Extended Detention Stru	Structural BMP	1	2.9	9/9/9999	$ 380,000	2016	Planning	
PLNB_16	Wet Pond	Structural BMP	1	5.8	9/9/9999	$ 316,995	2016	Under Design	
PLNB_16	Bioretention	Structural BMP	1	1.0	9/9/9999	$ 187,342	2016	Under Design	
PLNB_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	$ 460,000	2016	Under Design	
PLNB_16	Stream Restoration	Alternative BMP	1	17.0	9/9/9999	$ 965,000	2016	Under Design	
PLNB_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	$ 576,430	2016	Under Design	
PLNB_16	Stream Restoration	Alternative BMP	1	11.1	9/9/9999	$ 650,000	2016	Under Design	
LPAX_17	Wet Pond	Structural BMP	1	6.6	9/9/9999	$ 330,000	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	5	31.9	9/9/9999	$ 1,748,892	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	4	13.4	9/9/9999	$ 2,145,848	2017	Planning	
LPAX_17	Outfall Stabilization	Alternative BMP	5	6.5	9/9/9999	$ 1,118,665	2017	Planning	
LPAX_17	Step Pool Storm Convey	Alternative BMP	2	9.4	9/9/9999	$ 506,563	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	$ 640,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	$ 650,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	13	248.1	9/9/9999	$ 19,374,289	2017	Planning	
LPAX_17	Planting Trees, Reforest	Alternative BMP	5	7.0	9/9/9999	$ 790,922	2017	Planning	
RGOR_17	Wet Pond	Structural BMP	1	8.9	9/9/9999	$ 250,000	2017	Planning	
SEPTICPO_19	Septic Pumping	Alternative BMP	9000	270.0	9/9/9999	$ 450,000	2019	Planning	
SEPTICUG_16	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	$ 390,000	2016	Planning	

SEPTICUG_17	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	$ 390,000	2017	Planning
SEPTICUG_18	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	$ 390,000	2018	Planning
SEPTICUG_19	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	$ 390,000	2019	Planning
LPAX_18	Multiple Types	Structural BMP	2	14.3	9/9/9999	$ 787,001	2018	Planning
LPAX_18	Multiple Types	Structural BMP	2	6.0	9/9/9999	$ 965,632	2018	Planning
LPAX_18	Outfall Stabilization	Alternative BMP	2	2.9	9/9/9999	$ 503,399	2018	Planning
LPAX_18	Step Pool Storm Convey:	Alternative BMP	1	4.2	9/9/9999	$ 227,953	2018	Planning
LPAX_18	Stream Restoration	Alternative BMP	6	111.7	9/9/9999	$ 8,718,430	2018	Planning
LPAX_18	Planting Trees, Reforest:	Alternative BMP	2	3.1	9/9/9999	$ 355,915	2018	Planning
LPAX_19	Multiple Types	Structural BMP	3	17.5	9/9/9999	$ 961,891	2019	Planning
LPAX_19	Multiple Types	Structural BMP	2	7.4	9/9/9999	$ 1,180,216	2019	Planning
LPAX_19	Outfall Stabilization	Alternative BMP	3	3.6	9/9/9999	$ 615,266	2019	Planning
LPAX_19	Step Pool Storm Convey:	Alternative BMP	1	5.2	9/9/9999	$ 278,610	2019	Planning
LPAX_19	Stream Restoration	Alternative BMP	7	136.5	9/9/9999	$ 10,655,859	2019	Planning
LPAX_19	Planting Trees, Reforest:	Alternative BMP	3	3.8	9/9/9999	$ 435,007	2019	Planning
LPAX_20	Multiple Types	Structural BMP	4	26.4	9/9/9999	$ 1,548,069	2020	Planning
LPAX_20	Multiple Types	Structural BMP	4	12.6	9/9/9999	$ 2,011,733	2020	Planning
LPAX_20	Outfall Stabilization	Alternative BMP	3	3.2	9/9/9999	$ 559,333	2020	Planning
LPAX_20	Step Pool Storm Convey:	Alternative BMP	3	13.6	9/9/9999	$ 688,336	2020	Planning
LPAX_20	Stream Restoration	Alternative BMP	10	201.5	9/9/9999	$ 15,671,677	2020	Planning
LPAX_20	Planting Trees, Reforest:	Alternative BMP	4	7.1	9/9/9999	$ 810,867	2020	Planning
LPAX_21	Multiple Types	Structural BMP	1	6.0	9/9/9999	$ 384,927	2021	Planning
LPAX_21	Multiple Types	Structural BMP	1	3.3	9/9/9999	$ 536,462	2021	Planning
LPAX_21	Step Pool Storm Convey:	Alternative BMP	1	5.1	9/9/9999	$ 248,602	2021	Planning
LPAX_21	Stream Restoration	Alternative BMP	2	44.2	9/9/9999	$ 3,419,733	2021	Planning
LPAX_21	Planting Trees, Reforest:	Alternative BMP	1	2.1	9/9/9999	$ 237,375	2021	Planning
MPAX_18	Multiple Types	Structural BMP	1	6.2	9/9/9999	$ 515,579	2018	Planning
MPAX_18	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	$ 285,209	2018	Planning
MPAX_18	Step Pool Storm Convey:	Alternative BMP	0	1.9	9/9/9999	$ 73,440	2018	Planning
MPAX_18	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	$ 6,948,607	2018	Planning
MPAX_18	Planting Trees, Reforest:	Alternative BMP	3	7.6	9/9/9999	$ 870,899	2018	Planning
MPAX_19	Multiple Types	Structural BMP	1	6.2	9/9/9999	$ 515,579	2019	Planning
MPAX_19	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	$ 285,209	2019	Planning
MPAX_19	Step Pool Storm Convey:	Alternative BMP	1	1.9	9/9/9999	$ 73,440	2019	Planning

MPAX_19	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	$ 6,948,607	2019	Planning
MPAX_19	Planting Trees, Reforesta	Alternative BMP	3	7.6	9/9/9999	$ 870,899	2019	Planning
MPAX_20	Multiple Types	Structural BMP	1	4.1	9/9/9999	$ 340,947	2020	Planning
MPAX_20	Outfall Stabilization	Alternative BMP	1	1.5	9/9/9999	$ 188,606	2020	Planning
MPAX_20	Step Pool Storm Convey:	Alternative BMP	0	1.2	9/9/9999	$ 48,565	2020	Planning
MPAX_20	Stream Restoration	Alternative BMP	3	60.1	9/9/9999	$ 4,595,046	2020	Planning
MPAX_20	Planting Trees, Reforesta	Alternative BMP	1	5.0	9/9/9999	$ 575,917	2020	Planning
MPAX_21	Multiple Types	Structural BMP	1	3.3	9/9/9999	$ 274,421	2021	Planning
MPAX_21	Outfall Stabilization	Alternative BMP	0	1.2	9/9/9999	$ 151,805	2021	Planning
MPAX_21	Step Pool Storm Convey:	Alternative BMP	0	1.0	9/9/9999	$ 39,089	2021	Planning
MPAX_21	Stream Restoration	Alternative BMP	3	48.4	9/9/9999	$ 3,698,452	2021	Planning
MPAX_21	Planting Trees, Reforesta	Alternative BMP	1	4.1	9/9/9999	$ 463,543	2021	Planning
UPAX_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2018	Planning
RGOR_18	Stream Restoration	Alternative BMP	1	20.1	9/9/9999	$ 1,554,424	2018	Planning
TRIA_18	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	$ 2,331,636	2018	Planning
TRIA_19	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	$ 2,331,636	2019	Planning
PSBR_18	Step Pool Storm Convey:	Alternative BMP	1	5.1	9/9/9999	$ 248,602	2018	Planning
PSBR_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2018	Planning
PSBR_18	Planting Trees, Reforesta	Alternative BMP	1	2.1	9/9/9999	$ 237,375	2018	Planning
PSBR_19	Step Pool Storm Convey:	Alternative BMP	1	5.1	9/9/9999	$ 248,602	2019	Planning
PSBR_19	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2019	Planning
PSBR_19	Planting Trees, Reforesta	Alternative BMP	1	2.1	9/9/9999	$ 237,375	2019	Planning
PSBR_20	Step Pool Storm Convey:	Alternative BMP	1	5.1	9/9/9999	$ 248,602	2020	Planning
PSBR_20	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	$ 777,212	2020	Planning
PSBR_20	Planting Trees, Reforesta	Alternative BMP	1	2.1	9/9/9999	$ 237,375	2020	Planning
PSBR_21	Step Pool Storm Convey:	Alternative BMP	1	2.5	9/9/9999	$ 124,301	2021	Planning
PSBR_21	Stream Restoration	Alternative BMP	1	0.3	9/9/9999	$ 388,606	2021	Planning
PSBR_21	Planting Trees, Reforesta	Alternative BMP	1	1.0	9/9/9999	$ 118,687	2021	Planning
PLNB_18	Multiple Types	Structural BMP	1	7.2	9/9/9999	$ 461,913	2018	Planning
PLNB_18	Multiple Types	Structural BMP	1	4.0	9/9/9999	$ 643,754	2018	Planning
PLNB_18	Step Pool Storm Convey:	Alternative BMP	2	8.6	9/9/9999	$ 422,624	2018	Planning
PLNB_18	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	$ 3,886,060	2018	Planning
PLNB_18	Planting Trees, Reforesta	Alternative BMP	2	4.4	9/9/9999	$ 498,488	2018	Planning
PLNB_19	Multiple Types	Structural BMP	1	7.2	9/9/9999	$ 461,913	2019	Planning

PLNB_19	Multiple Types	Structural BMP	1	4.0	9/9/9999	$ 643,754	2019	Planning
PLNB_19	Step Pool Storm Convey:	Alternative BMP	2	8.6	9/9/9999	$ 422,624	2019	Planning
PLNB_19	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	$ 3,886,060	2019	Planning
PLNB_19	Planting Trees, Reforest:	Alternative BMP	2	4.4	9/9/9999	$ 498,488	2019	Planning
PLNB_20	Multiple Types	Structural BMP	1	5.1	9/9/9999	$ 327,188	2020	Planning
PLNB_20	Multiple Types	Structural BMP	1	2.8	9/9/9999	$ 455,993	2020	Planning
PLNB_20	Step Pool Storm Convey:	Alternative BMP	3	17.0	9/9/9999	$ 832,818	2020	Planning
PLNB_20	Stream Restoration	Alternative BMP	1	25.1	9/9/9999	$ 1,943,030	2020	Planning
PLNB_20	Planting Trees, Reforest:	Alternative BMP	1	2.2	9/9/9999	$ 249,244	2020	Planning

NOTES:

1. IMPL_STATUS is based on the status of each BMP as of December 2015. All other information is based on the December 2015 *Countywide Implementation Strategy* , which utilizes projected BMPs and costs as of October 2015.
2. IMPL_COST is the total estimated design and construction cost.
3. PROJECTED_IMPL_YR is the fiscal year during which the construction is anticipated to be completed. It is assumed that all design and construction funds would be encumbered during the PROJECTED_IMPL_YR fiscal year.
4. It is unclear at this point without a full program in place to determine how the cost would be split between the homeowner, County and grant funding. Bay Restoration Funds are a primary funding mechanism for these upgrades.