

Baltimore City Financial Assurance Plan as required under the Watershed Protection and Restoration Program Fiscal Year 2024 – 2029 Executive Summary

The submission of Baltimore City's Financial Assurance Plan (FAP) to the Maryland Department of the Environment (MDE) fulfills requirements specified in the Maryland Article – Environment, Section 4-202.1. This plan is being filed with MDE in order to document all actions implemented by Baltimore City to comply with its National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit and demonstrate the City's ability to pay for these activities through the Watershed Protection and Restoration Fund.

An MS4 permit was issued to Baltimore City on November 5, 2021, replacing the previous MS4 permit that had been administratively extended since December 27, 2018. Annual reports for Fiscal Years (FY) 2014 through 2023 have been submitted to MDE by the City and are available on the City's website <https://publicworks.baltimorecity.gov/regulatory-mandates-plans-and-reports>. The FY 2024 Annual Report will be submitted to MDE by December 31, 2022, and will include the Watershed Protection and Restoration Program (WPRP) report for FY 2022. These annual reports are based on the City's fiscal year (FY) and include updates on the City's MS4 programs and impervious surface area restoration. Baltimore City has continued implementing its MS4 program. This Executive Summary documents achievements used to meet the current permit, which is scheduled to expire in FY 2027.

In compliance with the Maryland Article Section 4-202.1, the following FAP includes all activities that have been completed in compliance with Baltimore City's current MS4 permit and five-year projections for the implementation of its stormwater program and best management practices (BMPs) necessary for meeting specific permit requirements. The following FAP documents implementation and financial data for operations since the beginning of the current permit (FY 2022) and for capital projects completed since the expiration of the previous permit (FY 2019).

A major tenet of the FAP is to demonstrate the financial wherewithal for meeting the current MS4 permit impervious surface area restoration requirements. In order to document this ability, Baltimore City is providing MS4 program implementation projections for FY 2024 through 2029, although the current permit technically expires on November 5, 2026. The sections in this Executive Summary follow the order of Baltimore City's MS4 permit found in Part IV, Standard Permit Conditions, and highlight the major achievements for each program element.

- **Part IV.C. Source Identification** – The City completed the migration of the source identification data to the revised geodatabase schema, per MDE’s “Draft Supplement User’s Guide to the Database”, dated November 2021, in addition to addressing comments from MDE regarding previously submitted records. This effort was primarily completed by in-house resources within the Department of Public Works (DPW). Funding to comply with the permit condition is provided by the City’s storming utility (also known as the Watershed Protection and Restoration fund or WPR fund).
- **Part IV.D.1 and 2. Stormwater Management and Erosion and Sediment Control**– The City currently funds 21 full-time, dedicated positions within DPW Plans Review and Inspection Section to fulfill both the plan review and inspection obligations of these permit conditions. The City allows a 3rd party expeditor, upon request by the applicant, for plan reviews. On February 22, 2022, the City launched an on-line plan review system for programs under Article 7 (Natural Resources) of the City Code, allowing concurrent, transparent reviews for stormwater management; erosion and sediment control; critical area management; floodplain management; and forest conservation. Funding to comply with the permit condition is provided by the WPR, with revenues from the stormwater remediation fee (initiated in FY 2014) and miscellaneous fees related to plans reviews and penalty fines from enforcement (last modified in 2004).
- **Part IV.D.3. Illicit Discharge Detection and Elimination (IDDE)**– The City currently funds 12 full-time, dedicated positions within DPW- Water Quality Monitoring and Investigations Section to fulfill this permit condition (and Part IV.F. Assessment of Controls). Currently, the City measures nitrogen-ammonia, chloride, and other field parameters at 110 locations (outfalls, streams, and manholes) on a weekly basis as part of the Ammonia Screening program. Additionally, the City tests surface waters for bacteria, metals, and nutrients at 34 locations on a monthly basis. All test data are posted quarterly on the City’s OpenBaltimore website. In FY 24, the City found and abated 94 illicit discharges to the storm sewer system. Funding to comply with the permit condition is provided by the WPR fund, but the majority of the effort is provided by the City’s water and wastewater utility funds.

IDDE efforts resulting in the reduction of sanitary direct connections, sewage pipe exfiltration, and drinking water transmission loss qualify as an alternative BMP known as the elimination of discovered nutrient discharges from grey infrastructure (DGI). Per the MS4 Accounting Guidance (2021), the equivalent impervious surface restoration (ISR) for an individual discharge cannot exceed 10 years, so the negative values in the “All-Actions Planned” table of the FAP the expiration of older DGI BMPs. The costs listed for IDDE in the “All Actions” and the “ISRP Costs” tables of the FAP only reflect detection efforts; abatement efforts (performed by the DPW or private property owners) were not included in the FAP.

- **Part IV.D.4. Property Management and Maintenance –**
 - **Part IV.D.4.a NPDES Industrial Permits:** The City-owned facilities covered under Maryland’s NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity remained the same as originally identified in FY 2014; the City has no plans to build more public facilities requiring this regulatory permit. Compliance with the NPDES permits is the responsible of the agency managing the facility and is incorporated into their operational budget / staff. Funding is not specifically designated for compliance with the permit condition and is therefore not listed in the FAP.
 - **Part IV.D.4.b. Good Housekeeping Plan (GHP)** The City developed a standard GHP for all City-owned properties not required to be covered under the Maryland’s NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity. The GHPs have been submitted as part of the FY 2024 Annual Report. Development of the GHPs and staff training was completed by in-house staff; no contracted, professional services were used for this effort.
 - **Part IV.D.4.c.i, c.ii and e. Street Sweeping and Inlet Cleaning:** The City currently funds 36 full-time positions within DPW- Bureau of Solid Waste for street sweeping operations and 60 full-time positions within the DPW-Bureau of Water and Wastewater- Utility Maintenance Division to fulfill this permit condition. These operational programs are specifically required to continue at levels reported under the previous permit (as an alternative and at expanded levels proposed in this current permit to achieve the impervious surface restoration goals. The ISR and implementation costs for these operations are listed in the “Specific Actions Completed” and “All Actions-Planned” tables of the FAP. The method for calculating the equivalent ISR for street sweeping for continuing operations from the previous permit was based on the former MS4 Accounting Guidance (2014); however, the calculations for street sweeping efforts to meet additional restoration requirements in the new permit are based on the current MS4 Accounting Guidance (2021). The street sweeping operations credited to the new permit by FY 2027 include monthly street sweeping in the outer portions of the City plus anticipated operational efficiencies due to parking enforcement and new routing software implementation. Although these operations are listed as obligations from the previous permit and restoration for the new permit, the total cost of the operations are only listed under Obligations section of the “All Actions” table of the FAP. Funding to comply with the permit condition is provided by the WPR fund, with revenue from the stormwater remediation fund plus a settlement award from litigation.
 - In addition to nutrient and sediment reduction associated with ISR; these two routine operations are critical in the addressing the City’s trash TMDL and reducing potential roadway flooding. Both of these operations were impacted (suspended or minimalized) due to COVID starting in Spring 2020, to allow

residents to quarantine at home. Although street sweeping operations fully resumed in July 2022 (FY 2023), fleet replacement has been delayed due to supply chain issues. Thirty-four (34) sweepers are scheduled for replacement by early FY 2026, even though purchasing efforts were initiated in FY 2023.

- **Part IV.D.4.c.ii Pollutant reduction associated with vegetation management**
Although many City agencies are responsible for ground maintenance; herbicide and pesticide applications are primarily performed the City's Department of Recreation and Parks (BCRP), who employed five (5) employees certified by Maryland Department of Agriculture as public agency applicators. BCRP Forestry Division plans to expand its capacity as part of its integrated vegetation management (IVM) program via staff, contracted resources, and volunteers (Treekeeper and Weed Warrior programs); however, the specific details and costs have not been finalized so this effort is not included in the FAP. Funding for this effort is provided by the City's general fund and grants.
- **Part IV.D.6. Public Education** - In addition to website modifications and participations in various public outreach events, the City continued to host pop-up events and workshop under the GROW Center program. GROW Centers are an incentive program to connect property owners with resources (technical expertise, materials, and equipment) to promote the installation of green practices on their private property or vacant lots, while diverting re-usable materials from the solid waste disposal stream. The GROW Center program is managed by DPW, but several state and city agencies participate in the events. The City plans to expand the GROW Center program with dedicated staff and resources. In FY 2023, DPW created a dedicated volunteer coordination program focused on litter reduction, known as B'More Love. The revenue listed in the FAP are related to the efforts to manage the GROW Center and expand the volunteer coordination program. Funding to comply with the permit condition is provided by the WPR fund.
- **Part IV. E. 1. Watershed Restoration**— The City funds the operations of the DPW Watershed Planning and Partnership Section (WP2) and the DPW Office of Engineering and Construction (OEC) to fulfill planning, design, and construction of capital projects to meet this permit condition. WP2 is also responsible for public outreach / education. OEC staff also implement flood reduction and storm sewer rehabilitation capital projects, which are not applicable to meeting the MS4 permit. Only a portion of the efforts of WP2 and OEC are listed as support of capital projects in the "ISRP Costs" table of the FAP.

Between August 2019 and May 2020, the City submitted a Restoration Portfolio of capital projects and operational programs. This portfolio was the basis of the current permit conditions for ISR from continuing operations (5,701 acres) and new efforts completed under the current permit (3,696 acres). The current permit's requirement for continuing operations exceeds the ISR requirement from the previous permit:

20% of the baseline impervious area (4,291 acres). The capital projects included in the “All Actions-Planned” table include all watershed restoration projects that required funding between FY 2024 and FY 2029, even though the project won’t be completed within this permit cycle. Funding to comply with the permit condition is provided by the WPR fund, plus grants and debt service mechanisms associated with the fund.

The capital projects include restoration projects completed after the expiration of the last MS4 permit in December 2018. The cost estimates for capital projects only include contracted costs for design and construction services, plus land acquisition, permit fees, and mitigation efforts. The costs listed in the FAP for ISR actions do not include post-construction monitoring and maintenance for BMPs installed to comply with the current and previous MS4 permits.

All ISR estimates (acreage) listed under “Restoration for the New Permit” are based the current MS4 Accounting Guidance (2021). The implementation schedule listed in the “All Actions” table included the following modifications from the 2020 Restoration Portfolio:

- Increased implementation costs projects currently in design based on updated engineer’s estimates and the impacts on supply. For example, a project to install 24 bioretention and micro-bioretention sites for an estimated 8.34 ac ISR. The last lowest was on the order of \$508,241 / ac ISR.
- Delays in stream restoration projects to modify design and maintenance plans with respect to forest impacts. These state and federal permits for many of these projects expired. Joint permit re-application, under the Whole Watershed Act, may further extend the schedule.
- Reduced street sweeping operations due to COVID, impacting both continuing operations and new restoration. The City resumed operations in July 2022 and does not plan to replace the annual operations with any capital projects. The City plans to achieve the performance goals for street sweeping by FY 2027, however ISR credit is based on a 5-year average.
- Replacement of district level rainwater harvesting projects with urban soil restoration projects and a shoreline management project, plus increased tree planting and ESD projects. The shoreline project will be in the Middle Branch, implemented by the South Baltimore Gateway Partnership, who used funding from the WPR fund as match for grant funding.

BMPs installed after the expiration of the previous permit (December 2018) as redevelopment projects or volunteer restoration projects are listed in “Specific Projects- Completed” table of the FAP. Similar BMPs which have been approved

and are anticipated to be complete by FY 2027 or FY 2029 are listed in the “All Actions-Planned” table of the FAP under category of “Other”. The City contributes \$200,000 / year from the WPR fund to the Chesapeake Bay Trust (CBT) Outreach & Restoration grant program to support Baltimore City community-based restoration projects and environmental education programs; the estimated acres ISR resulting from these grant-funded projects, showing the cost of the City’s contribution to the grant, not the total project cost. Otherwise, the other BMPs were listed with a cost of \$0 since funding obligations were not considered as the City’s responsibility.

- **Part IV.F. City-wide TMDL Compliance –**

- **Nutrients and Sediment:** Nutrient and sediment TMDL compliance is aligned with the watershed restoration conditions of the permit. Starting with the FY 2022 MS4 Annual Report, the City has been reporting compliance with both Chesapeake Bay TMDL goals and regional TMDL goals using MDE’s TMDL Implementation Progress and Planning (TIPP) Tool.
- **Trash:** The Trash TMDL implementation plan was submitted in FY 2016, efforts for compliance will primarily be addressed with street sweeping, inlet cleaning, enforcement activities, public education / engagement campaigns, and private collection efforts like the four trash wheels managed by the Waterfront Partnership. In FY 2023, DPW established the B’More Love and Eco-warriors programs to increase volunteer coordination and public education efforts to reduce litter. Only the efforts for specific public education programs funded by the WPR fund were included in the “Fund Sources” table of the FAP, since trash reduction is not directly related to ISR activities.
- **Bacteria:** The City’s implementation plan for addressing the bacteria TMDL primarily relies on the City’ efforts to comply with the Modified Consent Decree (MCD) for sanitary sewer overflows (Civil Action JFM-02-1524). Although none of the City’s waterways meet the state’s criteria for recreation, the City’s stream impact sampling program shows decreasing trends in bacteria concentrations over the last 15 years. Furthermore, quarterly reports for the MCD show a decrease in both the number and volumes associated with wet weather SSOs. Only the costs and funding associated with the detection functions of the IDDE program are included in the FAP. Costs associated directly with capital projects and operation programs for the MCD were not included in the FAP, since they are already reported to MDE as part of the quarterly MCD reports, which are posted on-line.
- **PCB:** In November 2022, the City submitted its plan to address the PCB TMDL, following MDE’s “Guidance for Developing Local PCB TMDL (Total Maximum Daily Load) Stormwater Wasteload Allocation (SW-WLA) Watershed Implementation Plans (WIPs)”, issued in August 2022. The City had already partnered with USGS on a study in the Back River watershed; the results were

published in June 2022 as “USGS Scientific Investigations Report (SIR) 2022–5012: Refining Sources of Polychlorinated Biphenyls in the Back River Watershed, Baltimore, Maryland, 2018–2020”. In addition to the proposed efforts of backtracking PCB sources, the City has partnered again with USGS to conduct a 2-year follow-up study in the Back River watershed to assess potential relationships between PCB concentrations and sediment sources. The efforts associated with these studies and field investigations are only shown in the “Fund Sources” table of the FAP, since these efforts are not directly associated with ISR activities.

- **Part IV.G. Assessment of Controls** – The efforts associated with these studies and field investigations are only shown in the Fund Sources table of the FAP, since these efforts are not directly associated with ISR activities.
 - **Part IV.G.1 BMP Effectiveness Monitoring:** The City will be meeting this permit condition by providing \$100,000 / year to the Chesapeake Bay Trust’s Pooled Monitoring Program. Funding to comply with the permit condition is provided by the WPR fund and is included in the “Fund Sources” table of the FAP.
 - **Part IV.G.2 Watershed Assessment Monitoring:** The City submitted a comprehensive plan for watershed assessment and trend monitoring in March 2023, then revised in June 2024, following MDE’s 2021 Monitoring Guideline. The plan included minor modifications to the current stream impact sampling program and annual biological assessments conducted by DPW-Water Quality Monitoring and Investigations Section, with no proposed staffing increases. IN FY 2023, the City purchased the equipment to establish two continuous monitoring sites to meet the requirements for chloride assessments. This new equipment was funded by the WPR fund and is included in the “Fund Sources” table of the FAP.
 - **Part IV.G.2 PCB Source Tracking:** This effort includes both field investigations conducted by DPW-Water Quality Monitoring and Investigations Section and a partnered study with USGS, previously described under the City-wide TMDL compliance. Funding to comply with the permit condition is provided by the WPR fund and is included in the “Fund Sources” table of the FAP.
- **Other FAP information:**
 - The FAP assumed 60% of the stormwater remediation fee revenue would be available for NPDES (MS4 permit) compliance. This assumed amount is less than previous years since the City has increased its efforts and thus demand for the other stormwater activities that are not specified in the MS4 permit:
 - Post-construction monitoring for stream restoration projects;
 - BMP maintenance, including IVM of stream restoration projects;
 - Flood mitigation programs and capital projects;

- Emergency repair of sinkholes related to failed storm sewers;
 - Asset management of the public storm sewer system, such as condition assessments of large storm sewers;
 - Development of a City-wide hydraulic and hydrologic model for the storm sewer system by FY 2028;
 - Flood ALERT system operation and scheduled upgrades;
 - Research support (excluding the CBT Pooled Monitoring Program) related to climate change, flooding, and innovative technologies; and
 - Customer assistance programs, based on hardship.
- The projected operating expenditures in the “ISRP Costs” table assume an annual escalation rate of 2%.
 - The stormwater fee rates were approved by the City’s Board of Estimates on June 15, 2022 for FY 2023-2025 at an annual adjustment of 3%. The FAP assumed a similar 3% annual adjustment for FY 2026- 2027, but no increase in FY 2028 – 2029.
 - Bond amounts listed in the “Fund Sources Table” of the FAP are based on currently approved bond appropriations, plus current bond sales. The values listed for revenue bonds in FY 2027 and 2028 are related to the capital projects scheduled to complete construction after the current MS4 permit expires.
 - State Revolving Loan amounts listed in the “Fund Sources Table” of the FAP include the estimated loans in the 2017 and 2021 Intended Use Plan for the Water Quality Revolving Loan Fund, loan applications submitted to MDE in January 2021 and potential future applications, based on demand and applicability to the state’s current criteria. The values listed for State Revolving Loan in FY 2027 to 2029 are related to the capital projects scheduled to complete construction after the current MS4 permit expires.
 - The Water Infrastructure Financing and Innovation Act (WIFIA) loan amounts listed in the “Fund Sources Table” of the FAP only include the loans currently approved by EPA. To be conservative, no other applications to WIFIA or other federal loan programs are proposed to meet this current permit.
 - The City will continue to pursue grants from both state and federal agencies to implement the proposed compliance efforts of this permit; however, to be conservative, the FAP assumed only the single grant associated with the Middle Branch shoreline project, which was awarded to the South Baltimore Gateway Partnership. So, the funding is listed in the “Fund Sources” table of the FAP as a public-private partnership.

MS4 Information	
Jurisdiction	Baltimore City
Contact Name	Kimberly Grove
Phone	410-396-0732
Address	3001 Druid Park Drive
City	Baltimore
State	MD
Zip	21215
Email	kimberly.grove@baltimorecity.gov
Continued Annual Alternative Impervious Surface Restoration (ISR) acres	5701.00
Required ISR in Permit (acres)	3696.00
Permit Number	20-DP-3315 MD0068292
Permit Term Fiscal Years (FY)	2022-2027
Reporting FY	2024

Note:

Continued annual alternative ISR and required ISR new permit should match MS4 Permit condition Part IV.E. Stormwater Restoration.

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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.

BMP ID or NAME ¹	BMP TYPE ¹	BMP CLASS ¹	NUM BMP	IMPERVIOUS ACRES	% ISRP COMPLETE	IMPLEMEN- TATION COST	BUILT DATE	IMPLEMEN- TATION STATUS	GENERAL COMMENTS
Obligations from Previous Permit That Must Be Continued or Met				5701.00					
Operational Programs ^{2,3}									
BC22APY000001-5	VSS	A	1	3,657	64%	\$5,386,406	6/30/2022	Complete	
BC23APY000001-5	VSS	A	1	5,475	96%	\$6,761,190	6/30/2023	Complete	
BC24APY000001-5	VSS	A	1	5,475	96%	\$6,407,209	6/30/2024	Complete	
BC22APY000006	SDV	A	1	226	4%	\$4,798,576	6/30/2022	Complete	
BC23APY000006	SDV	A	1	226	4%	\$5,098,750	6/30/2023	Complete	
BC24APY000011	SDV	A	1	226	4%	\$5,214,096	6/30/2024	Complete	
Subtotal Operations ⁴			6	5095	89%	\$33,666,227			

BMP ID or NAME ¹	BMP TYPE ¹	BMP CLASS ¹	NUM BMP	IMPERVIOUS ACRES	% ISRP COMPLETE	IMPLEMEN- TATION COST	BUILT DATE	IMPLEMEN- TATION STATUS	GENERAL COMMENTS
Capital Projects (Completed to Replace Annual Obligations) ^{2,3}									
					0%				
					0%				
					0%				
					0%				
Subtotal Capital			0	0	0%	\$0			
Other (Completed to Replace Annual Obligations) ^{2,3}									
					0%				
					0%				
Subtotal Other			0	0	0%	\$0			
Total Continued Obligations from Previous Permit			6	5,095	89%	\$33,666,227			

BMP ID or NAME ¹	BMP TYPE ¹	BMP CLASS ¹	NUM BMP	IMPERVIOUS ACRES	% ISRP COMPLETE	IMPLEMEN- TATION COST	BUILT DATE	IMPLEMEN- TATION STATUS	GENERAL COMMENTS
Restoration for the New Permit				3696.00					
Operational Programs ^{3,5}									
BC23APY00030-34	VSS	A	1	740	20%	\$0	6/30/2023	Complete	See obligations - operational programs
BC24APY00006-10	VSS	A	1	255	7%	\$0	6/30/2024	Complete	See obligations - operational programs
BC22APY000007-8	SDV	A	1	3	0%	\$0	6/30/2022	Complete	See obligations - operational programs
BC23APY000007-8	SDV	A	1	69	2%	\$0	6/30/2023	Complete	See obligations - operational programs
BC24APY000012-3	SDV	A	1	86	2%	\$0	6/30/2024	Complete	See obligations - operational programs
					0%				
					0%				
					0%				
					0%				
					0%				
Subtotal Operations ⁴			5	575	16%	\$0			

BMP ID or NAME ¹	BMP TYPE ¹	BMP CLASS ¹	NUM BMP	IMPERVIOUS ACRES	% ISRP COMPLETE	IMPLEMEN- TATION COST	BUILT DATE	IMPLEMEN- TATION STATUS	GENERAL COMMENTS
Capital Projects ^{3,5}									
BC21ALN001	STR	A	1	254	7%	\$14,527,435	12/8/2021	Complete	Chinquapin Run (default)
BC22ALN002	STR	A	1	78	2%	\$13,856,550	4/28/2022	Complete	Powder Mill Run (protocols)
BC24APY000065	IMPP	A	14	1.78	0%	\$1,008,262	12/13/2019	Complete	ER 4125
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
					0%			Complete	
Subtotal Capital			16	333.78	9%	\$29,392,247			

BMP ID or NAME ¹	BMP TYPE ¹	BMP CLASS ¹	NUM BMP	IMPERVIOUS ACRES	% ISRP COMPLETE	IMPLEMEN- TATION COST	BUILT DATE	IMPLEMEN- TATION STATUS	GENERAL COMMENTS
Other ^{3,5}									
BCAPY24APY000024-59	IMPP	A	37	21.1	1%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	FBIO	S	36	13.3	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	MSWB	E	1	0.7	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	XDED	S	2	8.3	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	MSWG	E	8	2.5	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	AGRE	E	5	0.9	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	AGRI	E	12	2.6	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	MMBR	E	122	33.4	1%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	FPER	S	2	3.3	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	MRNG	E	15	1.6	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	MRWH	E	4	2.3	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	MSGW	E	9	15.1	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	FSND	S	3	10.4	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	FUND	S	13	11	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
Various BMP	PWET	S	4	13.7	0%	\$0	6/30/2024	Complete	Redevel / New Restoration - Active
BC22APY000067-76	STCI	A	16343	65.4	2%	\$0	6/30/2021	Complete	Tree Baltimore Partner planting
BC24APY000060-64	STCI	A	5189	20.8	1%	\$0	6/30/2024	Complete	Tree Baltimore Partner planting
IDDE Program	DGI	A	148	318	9%	\$4,921,738	6/30/2024	Complete	IDDE Costs (FY 22-24, see ISRP Costs)
Subtotal Other			21953	544	15%	\$4,921,738			
Total Additional Restoration			21,974	1,453	39%	\$34,313,985			

Notes:

- 1. Use BMP IDs, types, classes, impervious acres, built dates, etc. from MS4 Geodatabase.
- 2. % ISR Complete compared to continued annual alternative ISR.
- 3. Insert additional rows as necessary.
- 4. Impervious Acres are the average for the time period, Implementation Costs are totaled.
- 5. % ISR Complete compared to ISR new permit.

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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.

Continued Annual Alternative ISR (acres) 5,701
Required ISR New Permit (acres): 3,696

BMP TYPE ¹	BMP CLASS	IMPERVIOUS ACRES	% ISR GOAL	IMPLEMENTATION COSTS	IMPLEMENTATION STATUS	IMPLEMENTATION COMPLETION YEAR (FY)
Obligations from Previous Permit That Must Be Continued or Met						
Operational Programs^{2,3}						
VSS	A	5,475	96%		Under Construction	2025
VSS	A	5,475	96%		Planning	2026
VSS	A	5,475	96%		Planning	2027
VSS	A	5,475	96%		Planning	2028
VSS	A	5,475	96%		Planning	2029
SDV	A	226	4%		Under Construction	2025
SDV	A	226	4%		Planning	2026
SDV	A	226	4%		Planning	2027
SDV	A	226	4%		Planning	2028
SDV	A	226	4%		Planning	2029
Operations Next Two Years (FY25-26) ⁴		5,701	100%	\$0		
Operations Next Five Years (FY25-29) ⁴		5,701	100%	\$0		
Operations Permit Term (FY22-27) ⁴		5,701	100%	\$33,666,227		

BMP TYPE ¹	BMP CLASS	IMPERVIOUS ACRES	% ISR GOAL	IMPLEMENTATION COSTS	IMPLEMENTATION STATUS	IMPLEMENTATION COMPLETION YEAR (FY)
Capital Projects (Completed to Replace Annual Obligations)^{2,3}						
			0%			
			0%			
Subtotal Capital Next Two Years (FY25-26)		0	0%	\$0		
Subtotal Capital Next Five Years (FY25-29)		0	0%	\$0		
Subtotal Capital Permit Term (FY22-27)		0	0%	\$0		
Other (Completed to Replace Annual Obligations)^{2,3}						
			0%			
			0%			
Subtotal Other Next Two Years (FY25-26)		0	0%	\$0		
Subtotal Other Next Five Years (FY25-29)		0	0%	\$0		
Subtotal Other Permit Term (FY22-27)		0	0%	\$0		
Total Continued Obligations Next Two Years (FY25-26)		5,701	100%	\$0		
Total Continued Obligations Next Five Years (FY25-29)		5,701	100%	\$0		
Total Continued Obligations Permit Term (FY22-27)		5,701	100%	\$33,666,227		

BMP TYPE ¹	BMP CLASS	IMPERVIOUS ACRES	% ISR GOAL	IMPLEMENTATION COSTS	IMPLEMENTATION STATUS	IMPLEMENTATION COMPLETION YEAR (FY)
Restoration for the Current Permit						
Operational Programs ^{3,5}						
VSS	A	1,446	39%	\$0	Under Construction	2025
VSS	A	2,806	76%	\$0	Planning	2026
VSS	A	2,806	76%	\$0	Planning	2027
VSS	A	2,806	76%	\$0	Planning	2028
VSS	A	2,806	76%	\$0	Planning	2029
SDV	A	115	3%	\$0	Under Construction	2025
SDV	A	230	6%	\$0	Planning	2026
SDV	A	230	6%	\$0	Planning	2027
SDV	A	230	6%	\$0	Planning	2028
SDV	A	230	6%	\$0	Planning	2029
Operations Next Two Years (FY25-26) ⁴		2,299	62%	\$0		
Operations Next Five Years (FY25-29) ⁴		2,741	74%	\$0		
Operations Permit Term (FY22-27) ⁴		1,757	48%	\$0		

BMP TYPE ¹	BMP CLASS	IMPERVIOUS ACRES	% ISR GOAL	IMPLEMENTATION COSTS	IMPLEMENTATION STATUS	IMPLEMENTATION COMPLETION YEAR (FY)
Capital Projects^{3,5}						
SPSD	A	8.2	0%	\$3,138,267	Under Construction	2025
STR	A	76	2%	\$8,076,168	Under Construction	2026
SHST	A	105	3%	\$8,400,000	Under Construction	2026
FBIO	S	0.7	0%	\$940,339	Under Construction	2026
MMBR	E	0.3	0%	\$313,446	Under Construction	2026
STR	A	54	1%	\$4,190,186	Planning	2026
IMPP	A	3.2	0%	\$1,414,036	Planning	2027
FBIO	S	19.3	1%	\$12,797,359	Planning	2027
MMBR	E	8.6	0%	\$5,490,887	Planning	2027
USRP	A	31	1%	\$1,807,650	Planning	2027
STCI	A	0.2	0%	\$57,190	Planning	2027
UTC	A	1.1	0%	\$314,543	Planning	2027
STR	A	40.6	1%	\$5,509,835	Planning	2028
STR	A	62	2%	\$9,001,118	Planning	2029
STR	A	89.6	2%	\$10,680,155	Planning	2030
OUT	A	102.2	3%	\$16,734,174	Planning	2030
STR	A	314.5	9%	\$33,967,754	Planning	2031
FBIO	S	24.4	1%	\$9,108,299	Planning	2031
MMBR	E	10.5	0%	\$3,903,557	Planning	2031
Subtotal Capital Next Two Years (FY25-26)		244	7%	\$25,058,406		
Subtotal Capital Next Five Years (FY25-29)		410	11%	\$61,451,024		
Subtotal Capital Permit Term (FY22-27)		641	17%	\$76,332,318		

BMP TYPE ¹	BMP CLASS	IMPERVIOUS ACRES	% ISR GOAL	IMPLEMENTATION COSTS	IMPLEMENTATION STATUS	IMPLEMENTATION COMPLETION YEAR (FY)
Other^{3,5}						
STCI	A	32	1%	\$0	Under Construction	2025
STCI	A	16	0%	\$0	Planning	2026
STCI	A	16	0%	\$0	Planning	2027
STCI	A	32	1%	\$0	Planning	2029
IMPP	A	6	0%	\$0	Under Construction	2026
FBIO	S	7.5	0%	\$0	Under Construction	2026
XDED	S	1	0%	\$0	Under Construction	2026
AGRE	E	1.2	0%	\$0	Under Construction	2026
MMBR	E	14.5	0%	\$0	Under Construction	2026
WPWS	S	0.4	0%	\$0	Under Construction	2026
MRNG	E	1.7	0%	\$0	Under Construction	2026
FSND	S	3.1	0%	\$0	Under Construction	2026
FUND	S	5.4	0%	\$0	Under Construction	2026
USRP	A	0.62	0%	\$0	Under Construction	2026
IMPP	A	5	0%	\$0	Planning	2027
IMPP	A	5	0%	\$0	Planning	2029
MMBR	E	10	0%	\$0	Planning	2027
MMBR	E	16	0%	\$0	Planning	2029
FUND	S	10	0%	\$0	Planning	2027
FUND	S	16	0%	\$0	Planning	2029
IMPP	A	1	0%	\$250,000	Planning	2027
MMBR	E	10	0%	\$750,000	Planning	2027
DGI	A	-34	-1%	\$6,079,958	Under Construction	2027
DGI	A	-30	-1%	\$4,406,717	Planning	2029
Subtotal Other Next Two Years (FY25-26)		89	2%	\$0		
Subtotal Other Next Five Years (FY25-29)		146	4%	\$11,486,675		
Subtotal Other Permit Term (FY22-27)		652	18%	\$12,001,696		

BMP TYPE ¹	BMP CLASS	IMPERVIOUS ACRES	% ISR GOAL	IMPLEMENTATION COSTS	IMPLEMENTATION STATUS	IMPLEMENTATION COMPLETION YEAR (FY)
Total Next Two Years (FY25-26)		2,632	71%	\$25,058,406		
Total Next Five Years (FY25-29)		3,298	89%	\$72,937,699		
Total Permit Term (FY22-27)		3,050	83%	\$88,334,014		

Notes:

*To identify all "actions" required under the MS4 permit, provide an executive summary of the jurisdiction's MS4 programs. For planned actions to meet the impervious surface restoration plan, complete the above table.

1. Use BMP domains from MDE MS4 Geodatabase.
2. % ISR Complete compared to continued annual alternative ISR.
3. Insert additional rows as necessary.
4. Impervious Acres are the average for the time period, Implementation Costs are totaled.
5. % ISR Complete compared to ISR new permit.

Version 4-26-24

**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	PAST UP THRU YEAR FY 2023 ¹	CURRENT YEAR FY 2024	PROJECTED YEAR 1 FY 2025	PROJECTED YEAR 2 FY 2026	PROJECTED YEAR 3 FY 2027	PROJECTED YEAR 4 FY 2028	PROJECTED YEAR 5 FY 2029	TOTAL PERMIT TERM ² FY 2022-2027
Operating Expenditures (costs)								
Street Sweeping Program	\$12,147,596	\$6,417,879	\$22,358,476	\$11,486,843	\$9,120,596	\$6,907,444	\$12,164,701	\$61,531,390
Inlet Cleaning	\$9,897,326	\$5,250,748	\$5,355,763	\$5,462,878	\$5,572,136	\$5,683,578	\$5,797,250	\$31,538,851
IDDE	\$2,870,550	\$1,557,289	\$1,588,435	\$1,620,204	\$1,652,608	\$1,685,660	\$1,719,373	\$9,289,086
Support of Capital Projects	\$2,099,386	\$181,477	\$1,205,107	\$1,229,209	\$1,253,793	\$1,278,869	\$1,304,446	\$5,968,972
Debt Service Payment ³	\$5,069,436	\$2,052,790	\$2,585,101	\$4,820,295	\$4,625,189	\$5,618,799	\$6,248,319	\$19,152,811
Other (please stipulate program expenditure) ⁴	-	-	-	-	-	-	-	\$0
Capital Expenditures (costs)								
General Fund (Paygo)	\$3,113,588							\$3,113,588
WPR Fund (Paygo)	\$8,544,138	\$112,582	\$3,106,367	\$3,718,493	\$1,853,799	\$1,963,489	\$3,730,164	\$17,335,379
Debt Service	\$24,252,333	\$2,398,378	\$14,637,475	\$18,463,558	\$14,118,306	\$16,877,011	\$16,099,385	\$73,870,050
Grants & Partnerships	\$477,898	\$1,435,810	\$1,435,810					\$3,349,518
Other (please stipulate capital expenditure) ⁴	-	-	-	-	-	-	-	\$0
Total expenditures:	\$68,472,251	\$19,406,953	\$52,272,534	\$46,801,480	\$38,196,427	\$40,014,850	\$47,063,638	\$225,149,645

Notes:

1. Includes costs since expiration date of previous permit up to and including FY 2023.
2. Total permit term includes costs associated with the current permit expiring in FY 2027.
3. Debt service payments include debt service used to support capital projects from current and previous permit.
4. Insert additional rows as necessary.

Version 4-26-24

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 2023 ^{4,6}	CURRENT YEAR FY 2024	PROJECTED YEAR 1 FY 2025 ⁶	PROJECTED YEAR 2 FY 2026	PROJECTED YEAR 3 FY 2027	PROJECTED YEAR 4 FY 2028	PROJECTED YEAR 5 FY 2029	TOTAL NEXT 2-YEARS FY 2025-2026 ²	TOTAL PERMIT TERM FY 2022-2027
Annual Revenue Appropriated for ISRP ³	\$125,648,181	\$23,929,247	\$74,454,585	\$24,619,429	\$44,044,320	\$37,138,349	\$31,032,089	\$99,074,014	\$292,695,762
Annual Costs towards ISRP ⁴	\$68,472,251	\$19,406,953	\$52,272,534	\$46,801,480	\$38,196,427	\$40,014,850	\$47,063,638	\$99,074,014	\$225,149,645

Compare revenue appropriated / annual costs: 100%
Requirement in Article 4-202.1(j)(4)(iii)⁵: 100%

- Notes:**
1. Includes revenue since expiration date of previous permit up to and including FY 2023.
 2. Article 4-202.1(j)(2): "A financial assurance plan shall demonstrate that the county or municipality has sufficient funding in the current fiscal year and subsequent fiscal year budgets to meet its estimated cost for the 2-year period immediately following the filing date of the financial assurance plan."
 3. Revenue means "dedicated revenues, funds, or sources of funds" (per Article 4-202.1(j)(4)(iii)).
 4. See ISRP Cost spreadsheet.
 5. Article 4-202.1(j)(4)(iii): "For the filing of a second and subsequent financial assurance plan, funding in the financial assurance plan is sufficient if the financial assurance plan demonstrates that the county or municipality has dedicated revenues, funds, or sources of funds to meet, for the 2-year period immediately following the filing date of the financial assurance plan, 100% of the projected costs of compliance with the impervious surface restoration plan requirements of the county or municipality under its national pollutant discharge elimination system Phase I municipal separate storm sewer system permit over the 2-year period."
 6. FY 2025 Appropriations include \$31,361,703 of appropriations for capital projects approved by 2023, but scheduled for expenditure in FY 2025 and FY 2026.

Version 4-9-24

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

SOURCE	PAST UP THRU ¹ FY 2023	CURRENT YEAR FY 2024	PROJECTED YEAR 1 FY 2025	PROJECTED YEAR 2 FY 2026	PROJECTED YEAR 3 FY 2027	PROJECTED YEAR 4 FY 2028	PROJECTED YEAR 5 FY 2029	TOTAL PERMIT TERM FY 2022-2027
Paygo Sources								
Stormwater Remediation Fees (WPR Fund)	\$ 58,176,989	\$ 25,359,096	\$ 25,231,526	\$ 28,341,789	\$ 28,879,394	\$ 28,879,394	\$ 28,879,394	\$ 165,988,794
Miscellaneous Fees (WPR Fund)	\$ 318,087	\$ 495,986	\$ 800,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 2,314,073
General Fund	\$ 3,161,757							\$ 3,161,757
Other Funds 1 (Water / WW Utility)	\$ 2,679,825	\$ 1,488,677	\$ 1,585,061	\$ 1,616,762	\$ 1,649,097	\$ 1,682,079	\$ 1,715,721	\$ 9,019,422
Other Funds 2 (Litigation Award)		\$ 8,038,340						\$ 8,038,340
Other Funds 3 (please stipulate funding source)								\$ -
Subtotal Paygo Sources	\$ 64,336,658	\$ 35,382,099	\$ 27,616,587	\$ 30,308,551	\$ 30,878,491	\$ 30,911,473	\$ 30,945,115	\$ 188,522,386
Debt Service²								
County Transportation Bonds	\$ 900,280							\$ 900,280
General Obligation Bonds	\$ 750,000							\$ 750,000
Revenue (Utility) Bonds	\$ 17,464,026				\$ 11,806,000	\$ 7,982,000		\$ 29,270,026
State Revolving Loan Fund	\$ 57,252,009	\$ 6,094,064			\$ 10,014,000	\$ 7,982,000	\$ 3,798,000	\$ 73,360,073
WIFIA Loan	\$ 25,401,400							\$ 25,401,400
Public-private partnership (debt service)								\$ -
Subtotal Debt Service	\$ 101,767,715	\$ 6,094,064	\$ -	\$ -	\$ 21,820,000	\$ 15,964,000	\$ 3,798,000	\$ 129,681,779
Grants and Partnerships³								
State funded grants	\$ 5,000	\$ 5,000	\$ 5,000					\$ 15,000
Federal funded grants								\$ -
Public-private partnership (matched grant)	\$ 3,500,000							\$ 3,500,000
Subtotal Grants and Partnerships	\$ 3,505,000	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ 3,515,000
Total Annual Sources of Funds	\$ 169,609,373	\$ 41,481,163	\$ 27,621,587	\$ 30,308,551	\$ 52,698,491	\$ 46,875,473	\$ 34,743,115	\$ 321,719,165
Percent of Funds Directed Toward ISRP								70%

Notes:

1. Previous accumulated revenue should be specifically designated for use for this current permit.
2. Paygo sources will be used to pay off debt service. Note that previous appropriations for debt service used for ISRP are listed in FY 2023.
3. No payment is expected.

* WPR Fund: Watershed Protection and Restoration Fund.

Version 4-26-24

Code Description	Code	Class
Ponds		
Micro-Pool Extended Detention Pond	PMED	S
Multiple Pond	PMPS	S
Pocket Pond	PPKT	S
Wet Extended Detention Pond	PWED	S
Wet Pond	PWET	S
Wetlands		
ED Shallow Wetland	WEDW	S
Pocket Wetland	WPKT	S
Pond Wetland System	WPWS	S
Shallow Marsh	WSHW	S
Infiltration		
Infiltration Basin	IBAS	S
Infiltration Trench	ITRN	S
Landscape Infiltration	MILS	E
Infiltration Berm	MIBR	E
Dry Well	MIDW	E
Filtering Systems		
Surface Sand Filter	FSND	S
Underground Filter	FUND	S
Perimeter Filter	FPER	S
Organic Filter	FORG	S
Pocket Filter	FPKT	S
Bioretention	FBIO	S
Submerged Gravel Wetland	MSGW	E
Micro-Bioretention	MMBR	E
Rain Garden	MRNG	E
Enhanced Filter	MENF	E
Open Channel Systems		
Dry Swale	ODSW	S
Wet Swale	OWSW	S
Bio-Swale	MSWB	E
Grass Swale	MSWG	E
Wet Swale	MSWW	E
Alternative Surfaces		
Green Roof - Extensive	AGRE	E
Green Roof - Intensive	AGRI	E
Permeable Pavement	APRP	E
Reinforced Turf	ARTF	E
Nonstructural Techniques		
Non-Rooftop Disconnect	NDNR	E
Rooftop Disconnect	NDRR	E
Sheetflow to Conservation Area	NSCA	E
Other Systems		
Rainwater Harvesting	MRWH	E

Other Practices		
Extended Detention Structure, Dry	XDED	S
Detention Structure (Dry Pond)	XDPD	S
Flood Management Area	XFLD	S
Oil Grit separator	XOGS	S
Other	OTH	
Alternative BMP		
Mechanical Street Sweeping	MSS	A
Regenerative/Vacuum Street Sweeping (i.e., Advanced Street Sweeping)	VSS	A
Catch Basin Cleaning	CBC	A
Storm Drain Vacuuming (i.e., Storm Drain Cleaning)	SDV	A
Stream Restoration	STRE	A
Outfall Stabilization	OUT	A
Shoreline Management	SHST	A
Septic Connections to WWTP	SEPC	A
Septic Denitrification	SEPD	A
Septic Pumping	SEPP	A
Elimination of Discovered Nutrient Discharges from Grey	DGI	A
Floating Treatment Wetlands	XFTW	A
Impervious Surface Reduction (i.e., impervious to pervious)	IMPP	A
Impervious Surface to Forest (i.e., IMPP + FPU)	IMPF	A
Forestation on Pervious Urban (i.e., Forest Planting)	FPU	A
Conservation Landscaping	CLTM	A
Forest Conservation	FCO	A
Riparian Conservation Landscaping	RCL	A
Riparian Forest Planting	RFP	A
Street Trees	STCI	A
Urban Soil Restoration (Compacted Pervious Surfaces)	USRP	A
Urban Soil Restoration (Removed Impervious Surfaces)	USRI	A
Urban Tree Canopy (i.e., Pervious Turf to Tree Canopy over Turf)	UTC	A
Dry Channel Regenerative Step Pool Stormwater Conveyance System	SPSD	A