HARFORD COUNTY

2025 ANNUAL MS4 REPORT

WATERSHED PROTECTION & RESTORATION OFFICE

Fallston Middle/High School Stream Restoration (March 2025)

Bob Cassilly, County Executive
Joe Siemek, Director of Public Works

Maryland Department of the Environment
National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4)

Permit Number 22-DP-3310 (MD0068268)

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Introduction

The Clean Water Act, adopted in 1972, established the National Pollutant Discharge Elimination System program, or NPDES, for industrial facilities that discharge process wastewater to receiving streams or groundwater. Before discharging processed wastewater, the industrial facility must apply for and receive an NPDES permit.

The 1987 Clean Water Act amendments updated the NPDES regulations to include discharge from stormdrain pipes, or Municipal Separate Storm Sewer Systems (MS4). Jurisdictions nationwide with populations over 100,000 were required to submit a two-phase application for an individual five-year NPDES MS4 permit. These jurisdictions are designated as Phase I MS4.

In Maryland, the Maryland Department of the Environment (MDE) was delegated the program by the U.S. Environmental Protection Agency (EPA). Harford County received its first permit on May 17, 1994, and reissued permits on August 13, 1999, November 1, 2004, and December 30, 2014.

Harford County's previous permit expired on December 29, 2019, but it was administratively extended until a new permit was issued to the County on December 30, 2022. The permit will expire on December 29, 2027, after a period of five years. **This document is the third annual report since the issuance of Harford County's MS4 current permit.** The permit requires annual reports to be submitted for the fiscal year (July 1 through June 30). The reporting period for this annual report is **July 2024 through June 2025**.

The language from the permit is repeated in this annual report to compare each permit requirement with the activities completed to address the requirement. The permit language is shown within gray text boxes. The remaining text is Harford County's response to each permit requirement.

MS4 Permit Compliance

On December 30, 2022, MDE issued a notice of final determination to issue a new permit to Harford County.

Impervious Surfaces

Compliance for traditional NPDES permits is measured at the end of a discharge pipe. Specific metrics must be met daily to maintain compliance. Because MS4 permits cover thousands of stormdrain pipes, daily measurement of discharge is impractical. Therefore, MDE has selected untreated impervious surfaces as a surrogate parameter to measure MS4 permit compliance. Untreated impervious surfaces are hard surfaces constructed without stormwater management controls for water quality. Those areas were constructed prior to stormwater management water quality regulations adopted in Harford County in 2002, or areas that were constructed with stormwater management waivers or exemptions.

As required in Part IV E.2.a. of the 2015 MS4 permit, the County submitted an impervious surface assessment consistent with the methods described in the MDE document "Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits" (MDE, June 2014). Subsequently, MDE approved the requested baseline for untreated impervious surfaces at 10,928 acres.

As required by Part IV E.1.b of the new permit, the County is required to continue or replace 153.4 impervious acres from annual alternative control practices that were used to meet restoration requirements from its previous permit term. Likewise, the County "shall commence and complete the restoration of 1,093 impervious acres that have not been treated to the MEP by implementing stormwater BMPs, programmatic initiatives, or alternative control practices."

Watershed Restoration

From July 1, 2024, to June 30, 2025, Harford County completed watershed restoration for **102.7 acres** of impervious surfaces through design and construction of capital improvement projects. An additional **1.80 acres** of credit were received for improvements to septic systems including connecting septic systems to the wastewater treatment plant and upgrading septic systems for denitrification. ***These credits are considered permanent.***

Annual Practices (Septic Pumping, Street Sweeping and Inlet Cleaning)

Septic System Pumping

MDE's Guidance allows for alternative impervious surface restoration credits for pumping septic systems. Harford County received **114.51 credits** for pumping septic systems for FY25. Credits for pumping septic systems are based on pumpouts completed by residents and businesses. Credits must be maintained annually or replaced with permanent watershed restoration.

Street Sweeping

The County continues to enhance its street sweeping efforts. Since this is an annual practice, we have compiled data to support credit for the restoration activity. In FY25 an equivalent restoration of **11.5 acres** of credit was achieved through our practices. Additional information can be found in Section D of the report.

Inlet Cleaning

The County continues to enhance its inlet cleaning efforts. Since this is an annual practice, we have compiled data to support credit for the restoration activity. In FY25 an equivalent restoration of **26.2 acres** of credit was achieved through our practices. Additional information can be found in Section D of the report.

In total for FY25 we achieved 152.2 acres of annual practice restoration credit. We intend to continue these practices so this credit can be maintained.

Nutrient Trading

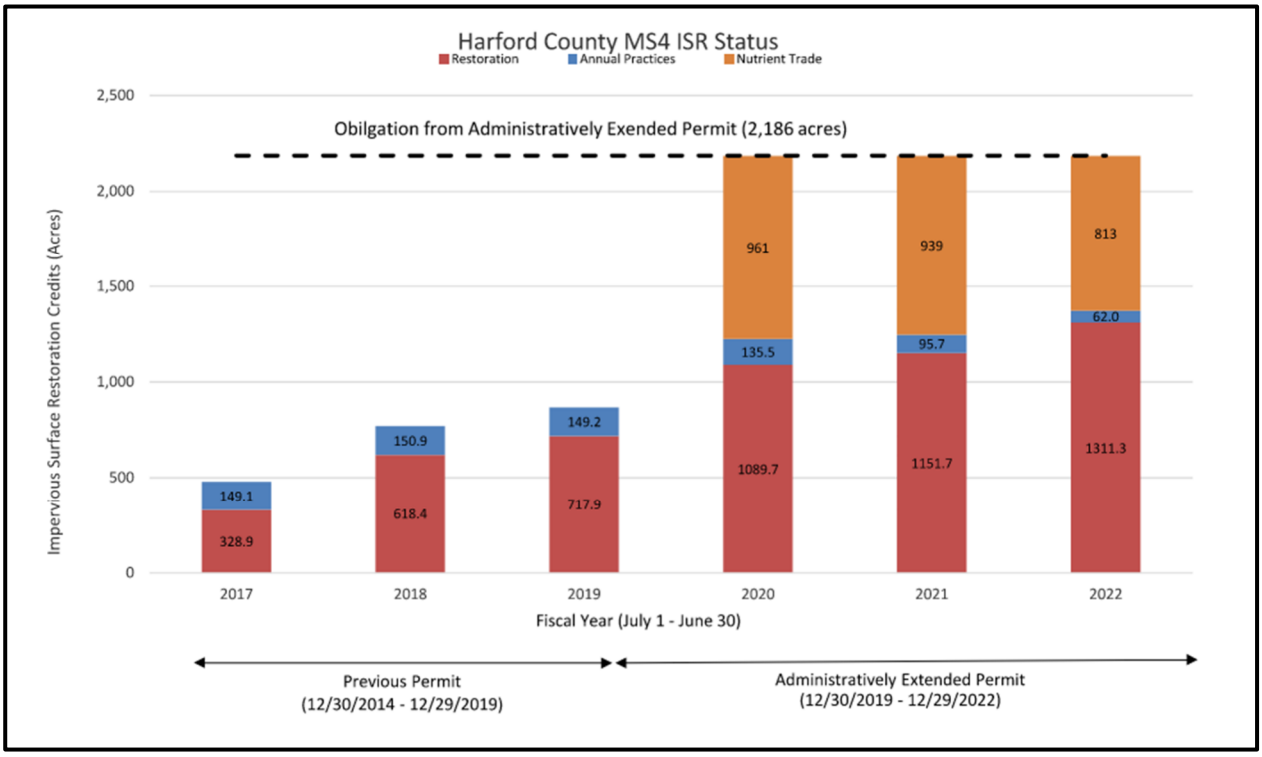
In 2018, MDE adopted the Maryland Water Quality Trading Program regulations, which includes guidelines for MS4s to participate in nutrient trading to comply with impervious surface restoration permit requirements. One scenario includes trading with the County's wastewater treatment plant (WWTP). This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

Credit Summary

On an annual basis, the County is required to demonstrate continued permit compliance for credits received in previous years. Compliance is demonstrated through a combination of 1) watershed restoration 2) septic pumping, and 3) nutrient trading. This combination must equal 2,186 acres annually.

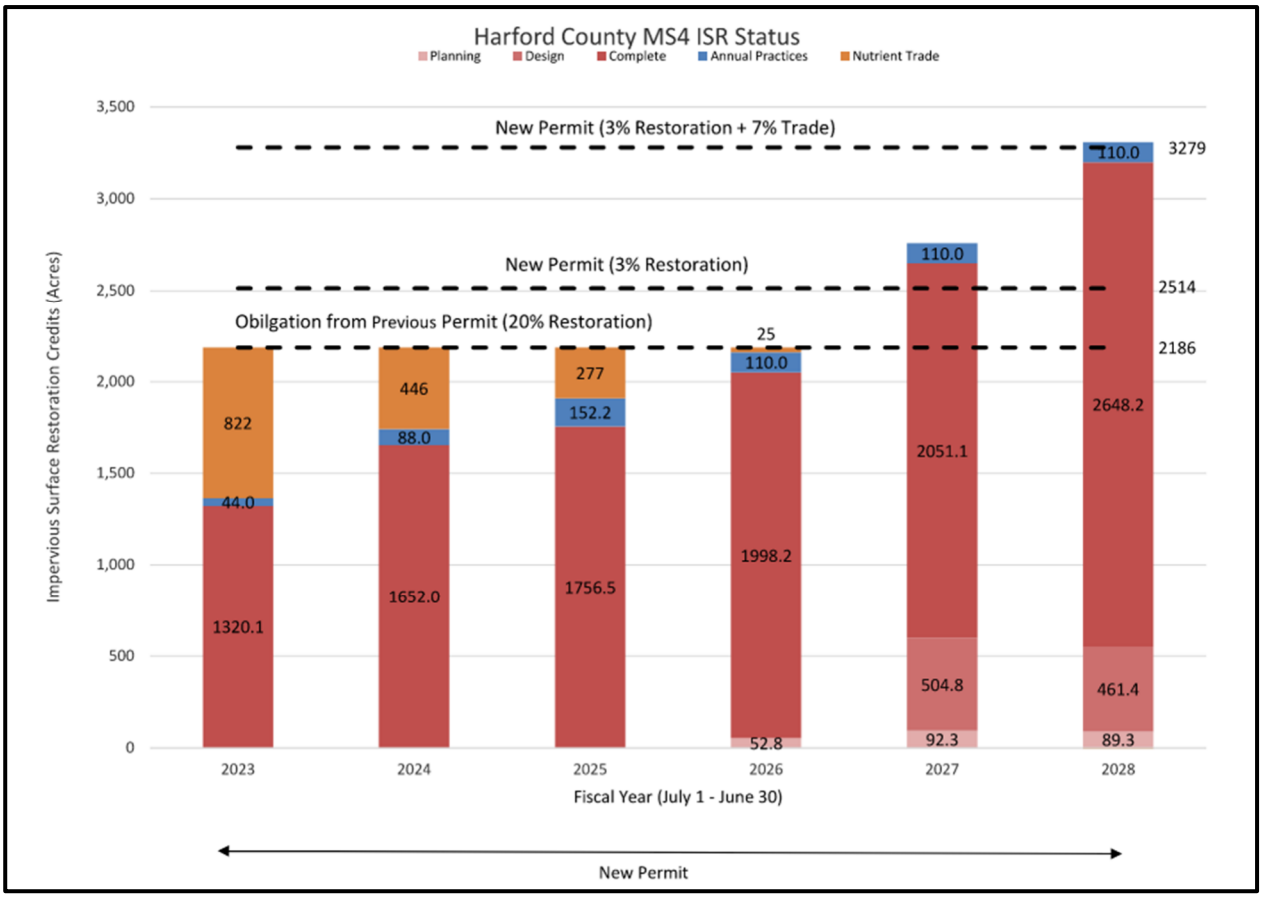
Impervious Surface Restoration Compliance – 2,186 acres
Watershed Restoration – 1,756.5
Annual Practices – 152.2
Nutrient Trade – 277

The following graph demonstrates permit compliance for the previous permit term. Note permit expiration occurred December 29, 2019, or approximately midpoint for fiscal year 2020. Therefore, values listed above for compliance are not shown in the graph.



The County's new permit requires the County to 1) maintain permit compliance from the previous permit, or 2,186 acres per year, 2) replace nutrient trade with watershed restoration, and 3) implement new watershed restoration equal to ten percent (10%) untreated impervious surfaces, or 1,093 acres. Additionally, the County is limited to a maximum of 792 acres through nutrient trade for permit compliance at permit expiration.

The following graph demonstrates the County projected program to achieve the impervious surface restoration requirement proposed in the current permit.



The County is focused on "repaying its nutrient trade" from the previous permit. Once we achieve 2,186 restored acres of treatment our restoration acres will be credited to current permit. The bar chart above shows the restoration target and the progress to date. We anticipate fulfilling the original obligation in FY26 and have a plan in place to achieve our current permit obligation by permit expiration. The target restoration values have also been added to the figure above.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGE PERMIT

PART I. IDENTIFICATION

A. Permit Number 22-DP-3310 (MD0068268)

B. Permit Area

This permit covers all stormwater discharges into, through, or from the municipal separate storm sewer system (MS4) owned and operated jurisdiction-wide by Harford County, Maryland.

C. Effective Date December 30, 2022

D. Expiration Date December 29, 2027

PART II. DEFINITIONS

Terms used in this permit are defined in relevant chapters of Title 40 of the Code of Federal Regulations (CFR) Parts 122-124 and the Code of Maryland Regulations (COMAR) 26.08.01, 26.17.01, and 26.17.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use.

PART III. WATER QUALITY

Harford County must manage, implement, and enforce stormwater management programs in accordance with the Clean Water Act (CWA) and corresponding stormwater National Pollutant Discharge Elimination System (NPDES) regulations, 40 CFR Parts 122-124, to meet the following requirements:

1. Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into, through, or from the MS4 as necessary to comply with Maryland's receiving water quality standards;

2. Attain applicable stormwater wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with Title 33 of the U.S. Code (USC) §1342(p)(3)(B)(iii); 40 CFR §122.44(k)(2) and (3); and

3. Comply with all other provisions and requirements contained in this permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with all the conditions contained in PARTs IV through VII of this permit shall constitute compliance with §402(p)(3)(B)(iii) of the CWA and adequate progress toward compliance with Maryland's receiving water quality standards and U.S. Environmental Protection Agency (EPA) established or approved Stormwater WLAs for this permit term.

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

On August 22, 2019, MDE approved the County's request for a major permit modification. The permit modification allows for nutrient and sediment trading in accordance with the Water Quality Trading Regulations finalized on July 16, 2018. On December 30, 2019, the County's permit expired, and restoration requirements were achieved through nutrient trading. Nutrient trading is a temporary measure to achieve permit compliance that must be replaced with structural or nonstructural restoration practices. The ability to utilize nutrient trade for MS4 credit has been carried forward to the current permit, which was issued in December of 2022.

Part IV. STANDARD PERMIT CONDITIONS

A. Permit Administration

Harford County shall designate an individual to act as a liaison with the Maryland Department of the Environment (Department) for the implementation of this permit. The County shall provide the coordinator's name, title, address, phone number, and email address. Additionally, the County shall submit in its annual reports to the Department an organizational chart detailing personnel and groups responsible for major NPDES program tasks in this permit. The Department shall be notified in annual reports of any changes in personnel or organization relative to NPDES program tasks.

The MS4 program is administered through the Department of Public Works Watershed Protection & Restoration Office, here forward called MS4 staff (listed below) with support from other departments throughout the county government (Appendix A). Additionally, Harford County utilizes various partnerships with outside agencies to accomplish permit requirements.

Department of Public Works
Watershed Protection & Restoration Office
212 South Bond Street
Bel Air, MD 21014
(410) 638-3217

Joseph Siemek, P.E. (Director, Public Works), (410) 638-3285
Steven Walsh, P.E. (Deputy Director, Public Works), **secondary liaison**
Danielle Hankins, (Administrator, Watershed Protection & Restoration), **primary liaison**
Lindsey Snyder, AICP (MS4 Capital Project Manager)
Andrew Bodt (MS4 Capital Project Manager)
Laura Coste (MS4 Outreach Coordinator)
Richard Wise (Environmental Specialist)
Anna McClelland (Environmental Specialist)
Emma Imberowicz (Environmental Specialist)
Betsy Collins (MS4 Capital Project Reviewer), part-time

Additional Consultant Staff Support
Brittany Ayers, RK&K (MS4 Project Manager), part-time
Kate Gordon, RK&K (MS4 Conservation Landscape Manager), part-time

David Wong, Versar (MS4 Property Management/Monitoring Support), part-time
Nick Phillips, EA (MS4 Program Support), part-time
Stephanie Bazan, RK&K (MS4 Program Support), part-time
Patrick DiNicola, RK&K (Construction Manager), part-time
2 Construction Inspectors, full-time
AECOM (Technical Review), as needed

During this reporting period, the County continued contracts for supplemental staff that include two GIS programmers, multiple project managers, a conservation landscape project manager, a construction manager and inspectors, and a property management and monitoring program assistant.

As necessary to ensure permit compliance, Harford County continues to utilize and expand the use of open-end contracts, including five (5) consultants under contract for design and assessment, four (4) consultants under contract for monitoring and assessment, three (3) contractors under contract for landscaping and maintenance. The County's on-call contracts begin to expire in FY26 and will be readvertised and reissued upon expiration.

B. Legal Authority

Harford County shall maintain adequate legal authority to meet this permit's requirements in accordance with NPDES regulations at 40 CFR §122.26 throughout the term of this permit. In the event that any provision of its legal authority is found to be invalid, the County shall notify the Department in writing within 30 days and make the necessary changes to maintain adequate legal authority within one year of notification. All changes shall be included in the County's annual report.

Harford County Code Chapter 214 and Chapter 109 provide adequate legal authority for the implementation of this permit.

During this reporting period, no bills or resolutions were adopted related to the implementation of this permit. The MS4 Financial Assurance Plan (FAP) is considered a resolution in Harford County but does not change how the program is administered. The fully executed financial assurance plan for FY24 was introduced to the Council on December 3, 2024. The FINAL was adopted on January 14, 2025, and was submitted to MDE for their records.

C. Source Identification

Sources of pollutants in stormwater runoff jurisdiction-wide shall be identified by Harford County and linked to specific water quality impacts on a watershed basis. A georeferenced database shall be submitted annually in accordance with Maryland Department of the Environment, National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System, Geodatabase Design and User's Guide (Version 1.2, May 2017), (hereafter MS4 Geodatabase) or as noted below that includes information on the following:

The process of developing a new MS4 geodatabase began in the spring of 2020 through a questionnaire completed by the MS4 jurisdictions. The proposed geodatabase updates are meant to simplify MDE's process of exporting data for Chesapeake Bay modeling.

MDE released a draft data structure in November of 2021 for testing. In November of 2022, MDE met with the MS4 jurisdictions to discuss the proposed updates to the MS4 geodatabase. Based on those meetings, MDE distributed a draft *MS4 Geodatabase Design and User's Guide* in September of 2023. The updated documentation was the result of collaboration between MDE and the Phase I MS4 jurisdictions to address concerns from the jurisdictions.

After additional rounds of permittee feedback, MDE released Version 2.0 of the Geodatabase and User's Guide in September of 2024. During the FY24 annual reporting cycle, permittees provided comments for corrections to the September 2024 documentation. In July 2025, MDE released its final Geodatabase Version 2.1 along with a revised User's Guide, shell, and schema.

This updated geodatabase structure is very robust with multiple relational tables. Migration of existing data into this format has been labor intensive. In FY25, the County has continued to populate Version 2.1 feature classes and tables. The County is developing an asset management program for stormwater management facilities to accommodate MS4 reporting and management of triennial inspection records. We will continue to migrate our data and efforts into the new reporting schema.

1. Storm Drain System

   All infrastructure, major outfalls, inlets, and associated drainage areas delineated (to be submitted as a supplemental geodatabase);

Stormdrains

New stormdrains were installed associated with the 3.4 miles of roadway accepted by Harford County during this reporting period. All stormdrain features, including point features (i.e., outfalls, manholes, inlets, etc.), stormdrain pipes, and stormdrain drainage areas, were entered into the County enterprise geodatabase, Watersheds (Feature dataset - Stormdrains, feature classes – sd_pipes, sd_points, outfall_drainage_area). The stormdrain points and pipes were exported to a file geodatabase, StormDrain.gdb and provided with the submittal. The locations for the point features were input into the County geodatabase by georeferencing stormdrain design drawings. Associated attributes for the point features were also entered. Using the point features, lines for the stormdrain pipe were added to the County geodatabase, and the associated attributes were entered.

Point Features - 315
Outfalls – 35
Inlets – 179
Inflow – 6
Manholes – 90
Stubs – 5

Drainage Areas

There were three (3) major, non-industrial outfalls (36" or larger in diameter) and twenty-four (24) industrial outfalls (12” or larger in diameter) for roads accepted during this reporting period as we had in influx of industrial development in FY25.

A map of the outfalls and table of attributes are included in Appendix C1. The spatial and tabular data for the outfall locations (Outfall point feature class) and outfall drainage areas (OutfallDrainageArea polygon feature class) are available in the supplemental StormDrain.gdb. The IDDE data is located in the MS4 geodatabase for FY23, FY24, and FY25 and is detailed in section D3.

2. Industrial and Commercial Sources

Industrial and commercial land uses and sites that the County has determined have the potential to contribute significant pollutants (to be submitted as a supplemental geodatabase);

The County has created a supplemental geodatabase named MS4LandUse.gdb that identifies the industrial and commercially zoned land uses in the County that could potentially contribute to significant pollutants to the MS4 system, outfalls, and downstream receiving waters. This layer was updated in FY25 to incorporate changes to land use designations. The County will continue to review and update this layer annually and use this layer when selecting IDDE outfalls for inspection as well as hotspot investigation sites. A map of Industrial and Commercial Properties is available in Appendix C2.

3. Urban Best Management Practices (BMPs)

Stormwater management facility data for new and redevelopment, including outfall locations and delineated drainage areas.

Stormwater Asset Management

During this reporting period, the County continued to update existing BMPs to align with MDE's geodatabase and updated the County's in-house geodatabase to accommodate the County's stormwater management maintenance inspections application.

Prior to FY23 features for BMPs, POIs and POI drainage areas were being included in the dataset for facilities. The features for BMPs and Drainage areas, for technical and non-technical attributes, have been created for FY22, FY23, FY24 and FY25 in the MDE provided geodatabase (HCMS4). The BMPS and Drainage area shapes and attributes relevant to the inspection application were updated in the County's Geodatabase. No new POIs were created for FY25.

Stormwater Management Facilities

During this reporting period, there was a total of 24 stormwater management projects completed with as-builts being submitted to the County for review. Nineteen (19) of those projects were

entered into the MDE database for a total of 62 practices (features). Five (5) projects approved in FY25 are pending entry into the MDE database while as-builts are being reviewed and approved and will be available in the next Annual Report.

Pending FY25 SWM Projects

Bynum Run Business Center Lot 9D
Darlington Library fka Howard Bank and Wawa
Freeman-Hruz Property Lot 2
James Run Lot 6
Wash X of Fallston

The limits for each BMP were digitized into the County enterprise geodatabase, Watersheds (Feature dataset - HCBMP, feature class – HCBMP) by georeferencing stormwater design drawings. The BMPS were uploaded as a point and drainage areas as a polygon to the MDE geodatabase with the technical and non-technical attributes.

Following a review of previous fiscal years, three (3) projects were identified as missing from FY22. These projects were input into the HCMS4 database and account for 52 additional practices. Six (6) projects were identified as missing from FY23; one (1) of these projects was added to the FY23 dataset this reporting period and accounts for six (6) additional practices. The remaining 6 FY23 projects will be added in FY26 as as-builts are finalized and approved. Additionally, nine (9) projects were identified as missing from FY24; these projects were not added to the dataset during this reporting period. The missing practices will be included in the next Annual Report as as-built reviews are completed and the BMPs are fully documented.

FY23 Missing SWM Projects

SINGLE FAMILY DWELLING WITH 2 CAR GARAGE/UNFINISHED BASEMENT
Riverside Business Park Lot 36 – 4606 Appliance Drive Microbioretention #1
Riverside Business Park Lot 36 – 4606 Appliance Drive Bioretention #2
Riverside Business Park Lot 36 – 4606 Appliance Drive Microbioretention #2
Riverside Business Park Lot 36 – 4606 Appliance Drive Bioretention #1
Spencer Woods – single family

FY24 Missing SWM Projects

Belcamp Commercial Lot 2 Towneplace Suites Hotel
Capital Exports – 3924 Pulaski Highway
Cardinal's Choice Lots 9
Church of Reconciliation Lot 8
Hackleys Reserve Ph 3, 4, 5 AKA Magnolia Landing – Pond 4

Hackleys Reserve Ph 3, 4, 5 AKA Magnolia Landing – Pond 5
Monarch Glen Pond 1
Monarch Glen Pond 2
Sunbelt Rentals- 1009 Pine Road

Stormwater Management Drainage Areas

Drainage areas for all facilities with as-built approval during this reporting period were delineated, and the associated attributes entered into the MDE Geodatabase according to the *Design and User's Guide dated July 2025*. HCMS4.gdb (Feature dataset – Feature Classes, feature class – BMPDrainageAreas) has been provided with our Annual Report. The data was also uploaded to the County Enterprise Geodatabase, Watersheds, (Feature dataset - HCBMP, feature class – POIDrainageArea). A map of the stormwater locations and a table of projects are included in Appendix C3.

In addition, the County file (HCBMP) geodatabase has been submitted with this report to include all County facilities that have not yet been converted to the MDE-required format. The MS4 file geodatabase contains BMP data for FY22 through FY25, while HCBMP includes historical data. **The County will continue migrating historical records into the updated geodatabase format during the upcoming fiscal year.**

Stormwater Management Waivers, Exemptions, and Fees in Lieu

During this reporting period, 26 projects were not required to provide stormwater management. The spatial and tabular data for all stormwater waivers, exemptions, and fees in lieu is maintained in the County geodatabase.

Stormwater Management- 26
Waivers – 11
Exemptions –15
Fees in Lieu – 0

A map of the waivers, exemptions, and fees in lieu and table of attributes are included in Appendix C3. The totals for FY15 through FY25 were entered into the new MDE geodatabase (SWM table) and submitted with this report.

4. Impervious Surfaces

Public and private land cover delineated, controlled and uncontrolled impervious areas based on, at a minimum, Maryland's hierarchical eight-digit sub-basins;

During previous reporting periods, the County contracted with EA Engineering to merge the County's 2000 impervious surfaces layer with the sidewalk layer from 2007. The separation of sidewalks for 2000 from the 2007 layer was previously discussed in the Impervious Surface Assessment Report, August 2016. Review of the merged impervious surfaces layer revealed significant issues with the methods used to merge the data. The County explored using aerial imagery change detection to develop impervious surface layers. This would allow the County to create impervious surface layers for each year aerial imagery was flown, including years where planimetric data was not generated. **Since the County's baseline is locked in from previous permits, efforts related to tracking changes in impervious surface are now on hold.**

5. Monitoring Locations

locations established by Harford County for chemical, biological, and physical monitoring of watershed restoration efforts and the *2000 Maryland Stormwater Design Manual,* unless participating in the pooled monitoring program, as described in PART IV.G; and

Harford County is currently participating in the Pooled Monitoring Program; however, additional monitoring sites the County funds are listed below. We maintain this data set for our emergency management operations and other design related efforts. The spatial and tabular data for all active and inactive monitoring sites is maintained in the County geodatabase, Monitoring.mdb. A map of all active monitoring locations (not included in the Pooled Monitoring Program) and table of attributes are included in Appendix C5.

USGS Monitoring Sites - 22

Chemical – 2

Flow – 10

Stage – 2

Precipitation – 8

USGS Stream Gages

During this reporting period, Harford County, and the United States Geological Survey (USGS) partnered for the continued operation of the following gages.

Bynum Run at Bel Air (01581500) – restarted 1999
Plumtree Run near Bel Air (01581752) – installed 2001
James Run near Belcamp (01581649) – installed 2004
Swan Creek at Swan Creek (01580700) – installed 2007
Wheel Creek near Abingdon (0158175320) – installed 2009
Foster Branch near Joppatowne (01585075) – installed 2015
Deer Creek at Eden Mill Dam (01579905) – installed 2021
Lake Serene at Edgewood (0158175720) – Installed 2021
Bynum Run at Abingdon (01581590) – Installed 2022

The operation of these gages supports the ongoing efforts to create a state-wide stream gaging network, and the data will supplement information recorded at additional Harford County gages that are not funded by the County. The data collected at each of these gages is presented in 'real-time' at https://dashboard.waterdata.usgs.gov.

MS4 staff partnered with the USGS in 2013 to monitor the water quality in the Plumtree Run watershed and again in 2015 to replicate the same monitoring plan in the Foster Branch watershed. The Plumtree monitoring is scheduled to conclude at the end of FY26.

All water quality monitoring is conducted at the Plumtree Run gage (USGS monitoring station 01581752) and the Foster Branch gage (USGS monitoring station 01585075). The site operation is designed to be compatible with the Chesapeake Bay Nontidal Monitoring Network (NTN) to maintain the ability to compare conditions observed at these stations to those measured across the region. The monitoring plans consists of samples collected on a monthly fixed-frequency interval, augmented with samples collected during eight to ten storm events that are analyzed for nutrients, suspended sediment, dissolved chloride, and *E. coli* bacteria. Continuous water quality monitoring data for water temperature, specific conductance, and turbidity is also collected and displayed in near real time on the USGS web page.

Data collected for this study will be used to detail current water quality conditions in Plumtree Run and Foster Branch and document improvements to water quality as watershed restoration

activities are implemented in the watershed. All data is reviewed and posted in the USGS National Water Information System (NWIS) and published in the USGS annual data report of the MD-DE-DC Water Science Center available https://rconnect.usgs.gov/water-year-summary.

During FY25, USGS began work on a cumulative review of this data and is scheduled to provide a comprehensive report in FY26.

USGS Precipitation Gages

Harford County continued to partner with the USGS for the operation and maintenance of eight precipitation gages which expands the spatial network of continuous, near real time precipitation monitoring in the County. All stations are self-contained, consisting of a precipitation sensor, an electronic data recorder, a satellite radio with related antennas, batteries, and a solar panel; and all data are recorded at five-minute intervals. The gages are installed at the following locations:

Anita C. Leight Estuary Center (392702076162801)
Churchville Parks & Recreation Complex (393351076141301)
Norrisville Library and Parks & Recreation Complex (394205076320301)
Whiteford Highway Maintenance Shop (394236076210801)
Fallston Volunteer Fire Company (393126076244301)
Harford Glen (392913076203601)
Lake Serene at Edgewood (392556076183801)
Deer Creek at Eden Mill Dam (394031076271101)

In addition to MS4 utilizing the precipitation data for water resources efforts, data from these gages support the County Public Works personnel and the Emergency Managers during severe weather and flooding events.

6. Water Quality Improvement Projects

Restoration projects implemented in accordance with PART IV.E.3 including stormwater BMPs, programmatic initiatives, and alternative control practices in accordance with the *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated Guidance for National Pollutant Discharge Elimination System Stormwater Permits (2021)*, (hereafter 2021 Accounting Guidance), including projects proposed, under construction, and completed with associated drainage areas delineated.

During this reporting period, there were 39 watershed restoration projects active or completed. The spatial and tabular data for all restoration projects is maintained in the County enterprise geodatabase, Watersheds (Feature dataset – Restorations).

Watershed Restoration Projects - 39
Completed - 11
Under Construction – 11
Under Design - 17

Maps of the completed and active watershed restoration project locations and table of attributes are included in Appendix C6. The spatial and tabular data for all stream restoration projects completed from FY03 through FY25 were entered into the new MDE geodatabase (AltBMPLine feature class and AltBMPInspections table). Tree planting and landscape restoration projects were entered into the AltBMPPoly FC accordingly for FY20 through FY25. Additional historic data will be reviewed and continue to be entered during the upcoming year.

During this reporting period, there were eight (8) septic systems abandoned and connected to the wastewater treatment plant. A map of the septic systems abandoned and connected to the wastewater treatment plant and table of attributes are included in Appendix C6. The spatial and tabular data for FY09 to FY25 was entered into the new MDE geodatabase and submitted with this report (AltBMPPoint point feature class).

Septic Systems Abandoned & Connected to WWTP - 140

2025 - 8	2016 – 9
2024 - 8	2015 – 3
2023 - 9	2014 – 2
2022 - 16	2013 – 1
2021 – 9	2012 – 10
2020 – 13	2011 – 9
2019 – 6	2010 – 9
2018 – 9	2009 - 11
2017 – 8	

An inventory of the locations of septic systems pump outs was developed during FY25. Locations and volumes were taken from the manifests created for each truck that dropped off at Sod Run Wastewater Treatment Plant. The addresses were then used to match the location to the parcel data. A summary of the process to create this data is included in Appendix C6. During this reporting period, 3,817 septic systems were pumped out.

A table of attributes is included in Appendix C6. The spatial and tabular data was entered into a database, SepticPumpOut (RKK_Septic_Ticket_Database_FY25), and submitted with this report. The AltBMPPoint FC has been populated to catch up all historic septic credits from pumping.

D. Management Programs

The following management programs shall be implemented jurisdiction-wide by Harford County. These management programs are designed to control stormwater discharges and reduce associated pollutant loadings to the maximum extent practicable (MEP) and shall be maintained for the term of this permit. Additionally, these programs shall be integrated with other permit requirements to promote a comprehensive adaptive approach toward solving stormwater discharge water quality problems. Annual reports for the County's management programs shall be in accordance with PART V.A of this permit and the MS4 Geodatabase.

1. Stormwater Management

An acceptable stormwater management program shall be maintained by the County in accordance with the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland. Activities to be undertaken by the County shall include, but not be limited to:

a. Implementing the stormwater management design policies, principles, methods, and practices found in the latest version of the 2000 Maryland Stormwater Design Manual. This includes:

i. Complying with the Stormwater Management Act of 2007 (Act) by implementing environmental site design (ESD) to the MEP for new and redevelopment projects;

ii. Tracking the progress toward satisfying the requirements of the Act and identifying and reporting annually the problems and modifications necessary to implement ESD to the MEP; and

iii. Reporting annually the modifications that have been made or need to be made to all ordinances, regulations, and new development plan review and approval processes to comply with the requirements of the Act.

Over the past several years, the County has implemented small changes to maintain compliance with the Stormwater Management Act. On *June 1, 2023*, DPW issued a directive establishing new SWM bond unit prices for final review submittals. In FY24, Harford County released a new stormwater directive on *March 12, 2024*, requiring updated breach analyses and hydrologic/hydraulic assessments for Final Pond Repair Review submittals. In FY25, DPW issued several compliance directives to strengthen stormwater management practices. On *September 6, 2024*, a compliance guide was released addressing frequently asked questions related to COMAR 26.17.02; these guidelines remain in effect until MDE finalizes revisions to §4-201 and §4-203. On *November 25, 2024,* DPW revised maintenance schedules for all ponds and BMPs required on final plans. Revisions included increasing the mowing height to 12 inches and adding all storm drains to be kept free of obstructions. On *April 30, 2025*, DPW issued SWM Compliance Guidance clarifying the current performance bond process and identifying opportunities to improve its efficiency. **Copies of these directives are provided in Appendix D1**.

b. Maintaining programmatic and implementation information related to the stormwater management program including, but not limited to:

   i. Number of Concept, Site Development, and Final plans received and number of those approved. Plans that are re-submitted as a result of a revision or in response to comments should not be considered as a separate project;

   ii. Number of redevelopment projects received and number of those approved;

   iii. Number of stormwater exemptions issued; and

   iv. Number and type of waivers received and issued, including those for quantity control, quality control, or both. Multiple requests for waivers may be received for a single project and each should be counted separately, whether part of the same project or plan.

For this reporting period, the following information was entered into the MDE geodatabase (SWM table) and submitted with this report.

Stormwater Management Program
Concept Plans Approved- 20
Site Development Plans Approved- 13
Final Site Plans Approved- 39
Redevelopment Project Received - 0
Stormwater Exemptions Issued - 15
Stormwater Waivers Issued – 11

c. Maintaining construction inspection information according to COMAR 26.17.02 for all ESD treatment practices, structural stormwater management facilities and stable stormwater conveyance and capacity to receiving waters, including the number of inspections conducted and violation notices issued by the County.

Six hundred seventy-six (676) stormwater construction inspections were performed during this reporting period. One hundred one (101) correction notices were issued as a result of these inspections.

d. Conducting preventative maintenance inspections, according to COMAR 26.17.02, of all ESD treatment systems, structural stormwater management facilities, and stable stormwater conveyance and capacity to receiving waters, at least on a triennial basis. Documentation identifying the ESD systems and structural stormwater management facilities inspected, the number of maintenance inspections, follow-up inspections, the enforcement actions used to ensure compliance, the maintenance inspection schedules, and any other relevant information shall be submitted in the County's annual reports.

One thousand ninety-two (1,092) stormwater facilities were inspected for triennial inspections during this reporting period. Fifty-seven (57) of these facilities were non-compliant at the end of this reporting period. An additional seven hundred sixty-two (762) follow-up inspections were performed throughout the year for facilities in accordance to our Stormwater Management Inspection Manual, as found in Appendix D1.

FY25 SWM Facilities Inspected for Preventative Maintenance (triennial) – 1,092
Compliant – 1,035
Non-Compliant – 57
Follow-up Inspections Performed- 762

In FY23, Harford County's Bureau of Stormwater Management developed a new Stormwater Management Facility Inspection Manual and digital Inspection Application to record inspections. This new system replaced the previous grade-scale ratings with a simplified pass/fail format. A copy of the inspection manual is provided in Appendix D1.

During the previous reporting period (FY24), a quality control issue arose due to the transition to the new procedures. The Inspection Application did not distinguish between triennial and follow-up inspections, resulting in inflated inspection counts. Additionally, the switch to a pass/fail system led to an apparent increase in non-compliant facilities; however, not all "Fail" ratings indicate non-compliance. Many failures were due to minor deficiencies expected to be corrected promptly. Only facilities identified having a Significant Failure, as defined in the manual, are classified as non-compliant and require immediate corrective action. In these cases, owners receive detailed repair instructions along with the inspection report. A sample of a failing facility report with the repair instructions is provided in Appendix D1.

A Stormwater Facility Remediation Action Plan (RAP) has been established for facilities that remain non-compliant after one year of receiving failure notices. Under the RAP, the County Engineer develops a repair plan, which is then implemented by a county contractor. Once repairs are completed, the facility is returned to the party responsible for ongoing maintenance.

All non-compliant facilities are listed in Appendix D1, along with their current status and target fiscal year for completion. Status categories include:

- Actively Performing Repairs
- Scheduled for Construction
- Under Design Review
- Pending Assessment
- Repairs Complete

The FY24 inspection data has since been reviewed, filtered, and reconciled to reflect the new procedures. The corrected data is being re-submitted in the MDE database along with the new FY25 inspection data. The Bureau of Stormwater Management is in the process of revising the

Inspection Manual and Application to improve differentiation between types of inspection records. We anticipate testing the new system in FY26.

The re-reported triennial inspections for the previous reporting period (FY24) are as follows: eight hundred sixty-one (861) stormwater facilities were inspected for triennial inspections. Sixty-five (65) of these facilities were non-compliant at the end of the reporting period. An additional one thousand three hundred (1300) follow-up inspections were performed throughout the year. The non-compliant facilities for FY24 can be found in the RAP as stated above.

FY24 SWM Facilities Inspected for Preventative Maintenance (triennial) – 861
Compliant – 796
Non-Compliant – 65
Follow-up Inspections Performed- 1300

2. Erosion and Sediment Control

An acceptable erosion and sediment control program shall be maintained by the County and implemented in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. Activities to be undertaken by the County shall include, but not be limited to:

a. Implementing program improvements identified in any Department evaluation of the County's erosion and sediment control enforcement authority.

On *February 21, 2025*, Maryland Department of the Environment (MDE) issued Harford County a limited delegation of erosion and sediment control enforcement authority effective through June 20, 2026. In their letter, MDE outlined deficiencies in Harford County's sediment and erosion control program pertaining to progressive enforcement, stabilization, and training activities.

In response to the letter, the County created a detailed training program to address topics such as proper stabilization, soil properties, plan revision and implementation, and progressive enforcement implementation. As a result of this updated training plan, the number of sediment control violations increased 215% and the number of stop work orders increased 43% in FY25. The County submitted a detailed training program to MDE for review and approval in FY25. MDE conducted a follow-up review of Harford County's program in the Fall of 2025 and a report on

the status of the program is expected in early 2026. Training logs and the 2025 delegation letter are included in Appendix D2.

Additional improvements to the Erosion and Sediment Control program included amendments to ***Bill 24-011*** which became effective *August 5th, 2024*. ***Amendments reduced the grading unit size to a maximum of 20 acres and increased the civil fines for sediment and erosion control violations.*** A copy of amended bill 24-011 is included in Appendix D2.

In FY25, the Harford Soil Conservation District Board of Supervisors approved new guidelines for Minor and Major Modifications to E&S plans, based on MDE templates, on *August 14, 2024*. Under these guidelines, "Minor Modifications" may be authorized in the field by a DPW/MDE inspector, while "Major Modifications" require formal submission to the Harford Soil Conservation District (HSCD) for review and approval before changes can be implemented. A copy of this memo is included in Appendix D2.

> b. Ensure that construction site operators have received training regarding erosion and sediment control compliance and hold a valid Responsible Personnel Certification as required by the Department; and

Harford County conducts a pre-construction meeting prior to the issuance of grading permits. Contractors must provide a copy of the valid Responsible Personnel Certification for the onsite field supervisor.

> c. Reporting quarterly, information regarding earth disturbances exceeding one acre or more. Quarters shall be based on calendar year and submittals shall be made within 30 days following each quarter. The information submitted shall cover permitting activity for the preceding three months.

For this reporting period, the following information for FY25 was entered into the new MDE geodatabase (Erosion and Sediment Control table) and submitted with this report. The number of court cases in FY23 and FY24 was incorrectly reported as 1. This has been corrected to 0. The

number of active permits in FY23 was incorrectly calculated as 233. This has been corrected to 206.

Erosion and Sediment Control Program
Issued Grading Permits - 87
Disturbed Area for All Active Permits – 1282 acres
Number of Inspections – 3,841
Number of Violations – 602
Number of Stop Work Orders - 162

Forty-seven (47) of the eighty-seven (87) grading permits issued during this reporting period exceeded one acre of earth disturbance. Quarterly reports were submitted as required.

A map of the grading permit locations and table of attributes are included in Appendix D2. The spatial and tabular data for the grading permits approved for FY25 (QuarterlyGradingPermits point feature class) were imported into the New MDE geodatabase and submitted with this report.

3. Illicit Discharge Detection and Elimination

The County shall implement an inspection and enforcement program to ensure that all discharges into, through, or from the MS4 that are not composed entirely of stormwater are either issued a permit by the Department or eliminated. Activities shall include, but not be limited to:

a. Reviewing all County outfalls to prioritize field screening efforts in areas with the greatest potential for polluted discharges. The County must submit the process developed to prioritize outfall screenings to the Department for approval with the first year annual report;

Outfall Screening Program

During this reporting period, Harford County utilized its contractor, Versar, Inc., to conduct outfall screenings. In accordance with current MS4 permit requirements, the county developed a process to prioritize outfalls and maintain standard operating procedures. Outfalls are selected and screened following the updated protocols outlined in Section 2.0 of the *Harford County Illicit*

Discharge Monitoring Program: Site Selection, Screening and Quality Assurance Protocols (Versar, Inc. Revised December 2023) included in Appendix D3.

> b. Submitting a plan and schedule for field screening the prioritized outfalls for the Department's approval with the first-year annual report. The plan and schedule shall include the annual screening of at least 100 outfalls. Each outfall having a dry weather discharge shall be sampled at the time of screening using a chemical test kit. An alternative program may be submitted by the County for the Department's approval that methodically identifies, investigates, and eliminates illegal discharges into, through, or from the County's MS4;

Outfall Screening Activities

During this reporting period, **a total of 112 outfalls were screened**. Seventeen (17) outfalls exhibited dry-weather flow. Versar, Inc. tested and re-tested dry-weather flow at the 17 outfalls and performed source tracking according to protocol. Using the criteria established in the *Harford County Illicit Discharge Monitoring Program: Site Selection, Screening, and Quality Assurance Protocols* (Versar, Inc. 2020), two (2) outfalls had a moderate likelihood of illicit discharge.

A third outfall exhibited elevated surfactant concentrations exceeding the program's action threshold during the initial test; however, follow-up sampling indicated that all parameters were within acceptable limits. Therefore, the discharge did not meet the program's definition of an illicit discharge. The test results obtained during the initial screening and the re-tests for 14 out of the 17 outfalls that had flowing effluent on the first site visit did not exhibit concentrations or measurements that exceeded the water quality thresholds for any of the measured parameters. As a result, the program guidelines directed the field teams to deduce that those 14 observed discharges were unlikely to derive from illicit sources.

At the two sites that were identified as a moderate likelihood of illicit discharge, observed concentrations and measurements for Chlorine exceeded the IDDE program threshold. Subsequent investigation identified a nearby water main break as the predominate source of discharge for both outfalls. The County promptly repaired the damaged water supply pipe. During the previous reporting period, four (4) outfalls were identified as having a high likelihood of illicit discharge; these outfalls are scheduled for re-testing during the FY26 reporting period.

Harford County Illicit Discharge Inspection Program: Summary Report Monitoring Period July 2024 - June 2025, Versar, Inc. (2025), provided in Appendix D3, describes the outfall screening protocol and findings. During the previous reporting period, four (4) outfalls were identified as having a high likelihood of illicit discharge; these outfalls are scheduled for re-testing during the FY26 reporting period.

A map of the inspected outfalls and a brief table of attributes are included in Appendix D3. The tabular data (IDDE table) for FY25 was input into the new MDE geodatabase and submitted with this report. The outfall screening table (Appendix D3), contains the county assigned OUTFALL ID. A detailed description of the outfalls screened, which includes all information associated with each outfall (i.e. MDE Outfall IDs, discharge, temperature, test results, etc.) is included in the MDE geodatabase submitted with this report. Historic data will continue to be updated into the new geodatabase format moving forward.

Outfall Inspections – 112
No Flow – 95
Dry Weather Flow – 17
Illicit Discharges Eliminated – 2

c. Conducting annual visual surveys of commercial and industrial areas as identified in PART IV.C.2 above for discovering, documenting, and eliminating pollutant sources. Areas surveyed and the results of the surveys shall be reported annually;

d. Maintaining written standard operating procedures for outfall screenings, illicit discharge investigations, annual visual surveys of commercial and industrial areas, responding to illicit discharge complaints, and enforcement implementation;

The selection of the businesses to survey for potential impact to water quality is based on locations within commercial and/or industrial parks and parcels with industrial or commercial land uses, as noted in the State tax assessment records. During this reporting period, the spatial and tabular data for all commercial and industrial businesses investigated were input into the County geodatabase, Hotspots.mdb. A map of the businesses and table of attributes are included in Appendix D3. A copy of the County geodatabase is submitted with this report. The MDE geodatabase contains no features classes or tables for hotspot investigations.

Hotspot Investigation Program

Windshield Surveys

MS4 staff decide on the parcels to be included for commercial and industrial facility inspections for hotspot site investigations (HSIs) every year. Parcels are chosen based on land use categories to target the uses that are subjectively determined to have the highest pollution potential. Versar field teams conduct HSIs at the selected commercial and industrial parcels. Field teams evaluate conditions at target parcels, note and photograph visible signs of any potential pollution problems, and complete an HSI form. The form includes symbols that can be marked to indicate potential pollution sources (circles) and observed polluting conditions (checkboxes). The inspection field team tallies the marked symbols for the completed HSI form and uses the results to rate the hotspot status of the parcel according to the following scale:

- Fewer than 5 filled circles and no boxes checked – not a hotspot
- 5 to 10 filled circles and no boxes checked – potential hotspot – moderate potential for polluting
- 10 to 15 filled circles or 1 box checked or both – confirmed hotspot – high potential for polluting
- 15 or more filled circles or 2 or more boxes checked or both – severe hotspot – actively polluting

Parcels are selected and screened following the updated protocols outlined in *Harford County Illicit Discharge Monitoring Program: Site Selection, Screening and Quality Assurance Protocols (Versar, Inc. Revised December 2023)* included in Appendix D3.

Locations with active pollution discharges (severe hotspots) are reported immediately to MS4 staff or the Harford County Special Operations Division depending on the severity of the discharge. Discharges reported to the Harford County Special Operations Division are investigated immediately. Non-emergency discharges are investigated by MS4 staff within the same business day.

Confirmed hotspots, without active pollution discharge, are reported to MS4 staff monthly.

Reported Hotspots

Reported hotspots are those identified by citizens or County employees who report an issue via telephone, email, or Facebook. Reported hotspots determined to be an emergency are

forwarded to the Harford County Special Operations Division. All other reported hotspots are investigated and addressed by MS4 staff.

Confirmed Hotspots

MS4 staff visits confirmed hotspots and reported hotspots to verify the site as a hotspot.

Confirmed hotspots with active NPDES industrial permits or confirmed hotspots with activities that may require an NPDES industrial permit are forwarded to the MDE Compliance Hotline, (866) MDE-GOTO. Confirmed hotspots that discharge into another jurisdiction's MS4 system are forwarded to that jurisdiction (MD State Highway Administration, City of Aberdeen, Town of Bel Air, City of Havre de Grace).

For each confirmed hotspot not referred to another jurisdiction, a case is opened, and the property owner is sent a letter via mail. The letter documents the issues and lists the recommended remediation to be completed within a designated time frame, typically 30 days. Follow-up with the property owner continues until the remediation is completed, and the case is closed.

Potential Hotspots

During Versar's windshield survey, a portion of the sites are classified as potential hotspots. Based on MDE's comments on the County's 2018 Annual Report, the County initiated an education program aimed at these businesses. In the 2020 reporting year, the County developed educational fact sheets detailing good housekeeping practices for various types of business activities. These fact sheets were updated in 2024 and can be found in Appendix D3.

Hotspot Geodatabase

Harford County is required to maintain a Geodatabase of commercial and industrial locations as identified in Part IV. C.2 of the permit. This database is utilized to conduct annual visual surveys of specific sites identified as potential pollution hotspots. Harford County developed a geodatabase to track the status of hotspot investigations more efficiently. The location, date, and category for all hotspot investigations are entered into the County geodatabase, Hotspot.mdb. For confirmed hotspots, a case file is opened, and a record is added to a case file for each date and action taken, such as letter to owner, email from owner, or site visit. The County geodatabase allows for the visual assessment of the locations of hotspot investigations and easily documents open cases for follow-up. Each hotspot is categorized by different types of potential pollutants such as grease, loading/unload, outdoor storage, outdoor washing, solid waste, vehicle fueling,

vehicle storage, and vehicle maintenance. At the conclusion of every inspection, educational documentation is mailed to each site based on how they are categorized. For example, a restaurant will receive an illicit discharge overview, grease management, and solid waste fact sheet with their inspection report. A storage yard will receive an illicit discharge overview, outdoor storage, solid waste, vehicle storage, and vehicle fueling fact sheets. Although active pollution may not be observed at any of the sites classified as potential pollution hotspots, the County provides educational materials as part of its Outreach and Education program.

Hotspot Investigation Activities

During this reporting period, field teams conducted windshield surveys across 54 parcels. Four potential hotspots were identified; however, no confirmed or severe hotspots were observed.

At the close of the previous reporting period, one case remained open. Follow-up emails and phone calls were made to the business during FY25, resulting in completed remediation and case closure in March 2025.

In FY25, two citizen-reported confirmed hotspots and one citizen-reported potential hotspot were received. A detailed compliance report is included in Appendix D3.

Notification letters were sent to each identified facility, and follow-up inspections were scheduled. One confirmed hotspot identified in FY25 completed remediation and the case was closed. **Two cases remain open, and the County continues to work with property and business owners to address the identified concerns.** Remediation progress is tracked in the County's HOTSPOT database, and non-compliant businesses will be referred to MDE for enforcement action. All related emails and documentation of remediation efforts are provided in Appendix D3.

In total, five businesses identified during this reporting period received sufficient marks to be classified as "potential" hotspots. These were reviewed by the County to assess pollution risks and educational materials were sent to each business.

The Hotspot Activity Report for this reporting period is included in Appendix D3. Additionally, the *Harford County Illicit Discharge Inspection Program: Summary Report Monitoring Period July 2024 – June 2025* (Versar, Inc., 2025), detailing windshield survey protocols and findings, is also provided in Appendix D3.

The MDE geodatabase contains no feature classes or tables for hotspot investigations.

Windshield Surveys Performed – 54
Confirmed Hotspots Identified - 3
Confirmed Hotspots Carryover - 1
Confirmed Hotspots Closed – 2
Potential Hotspots Identified – 5
Potential Hotspots Closed – 4

e. Maintaining an ordinance, or other regulatory means, that prohibits illicit discharges into the storm sewer system;

f. Maintaining a program to address and respond to illegal discharges, dumping, and spills; and

MS4 staff continue to implement and improve initiatives to address illegal discharges, dumping, and spills through coordination with Harford County Emergency Services, Harford County Division of Water and Sewer, Harford County Bureau of Solid Waste Services, and Harford County Health Department.

Illegal Discharges, Dumping and Spills Program

Reporting

Residents can report these activities through several convenient channels. Contact numbers are available on water and sewer bills, the Harford County website, and in public outreach materials.

Emergency Services (911) and Non-Emergency (410.638.3400)

Both contact numbers are monitored around the clock by certified public safety dispatchers. The Harford County Special Operations Team is dispatched to all spill events, including those occurring within municipal boundaries.

Watershed Protection & Restoration Office (410.638.3217)

All reports of illegal discharges, dumping, and spills are transferred to the appropriate phone number listed above based on the level of imminent emergency.

You Click, We Fix
(http://www.harfordcountymd.gov/1737/You-Click-We-Fix)

Harford County provides a web form for citizens to report issues 24 hours a day. A member of Harford County's Citizen Affairs staff reviews submissions during regular business hours and directs issues to the appropriate department.

Emergency Services

The Harford County Special Operations Team responds to all technical rescue and hazardous material incidents within Harford County and in neighboring mutual aid jurisdictions. Established in 2018 through the consolidation of the Hazmat Team and Tactical Rescue Team, the Special Operations Division is composed of 37 highly trained, multi-disciplined part-time members, seven part-time crew chiefs, a full-time hazmat manager, a full-time battalion chief, and a manager, who also serves as the division chief.

Over the past three years, team members have averaged more than 3,000 hours of specialized training annually, ensuring readiness and expertise across a wide range of emergency scenarios.

In addition to emergency response, the Special Operations Division administers and enforces Chapter 146 of the Harford County Code, known as the Hazardous Materials Law. During incidents and investigations, if a responsible party is found to be in violation of this law, the division issues a Notice of Violation under the authority of the Director of Emergency Services.

The Special Operations Division responds to every call directed by the public safety dispatcher. Whenever possible, spill materials are recovered before they reach a storm drain or waterway, unless weather conditions or terrain make recovery impractical. All spills that enter a storm drain or waterway are reported to the Maryland Department of the Environment – Emergency Response Division. If a spill reaches a navigable waterway, it is also reported to the National Response Center. For each response, a HAZMAT Incident Report is generated, documenting a summary of the actions taken and any relevant findings.

Local Emergency Planning Committee (LEPC)

The Local Emergency Planning Committee (LEPC) meets bi-monthly. MS4 staff continues to participate in the LEPC. One of several topics on the agenda includes the review of incidents of illegal discharges, spills, and dumping to determine if enforcement action is warranted. The LEPC also conducts the investigative hearings and assesses fines as appropriate. The LEPC met six times during this reporting period. Meeting agendas are provided in Appendix D3.

LEPC Meetings

July 17, 2024
September 18, 2024
November 20, 2024
January 15, 2025
March 19, 2025
May 21, 2025

Division of Water and Sewer

The Harford County Health Department assists the Division of Water and Sewer with sanitary sewer overflows (SSOs). They determine appropriate forms of public notification, identify downstream users, direct stream testing, and assess adequacy of site cleanup.

Health Department

The Health Department responds to citizen reports of leaking or overflowing septic systems and private sewer lines. Most of these calls are placed directly to the Health Department offices. A portion of citizen reports are routed from Emergency Operations. MS4 staff continues to work with the Bureau of Environmental Health to coordinate preventive and clean-up protocols regarding discharges (oil, grease, leaky dumpsters) from restaurants that impact the stormdrain system.

Illegal Discharges, Dumping and Spills Activities

The following is a summary of Harford County's Special Operations Division team responses, investigations and enforcement activities related to illegal discharges, dumping and spills that occurred during this reporting period. Beginning in January 2016, the HAZMAT team added a field to their records indicating if the pollutant entered a waterway.

Special Operations Division Team Responses

Total responses – 156
Potential water quality impact events– 24
Incidents where pollutants reached a waterway – 3

Detailed information for responses is included in Appendix D3.

g. Using appropriate enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills. When a suspected illicit discharge discovered within the County's jurisdiction is either originating from or discharging to an adjacent MS4, the County must coordinate with that MS4 to resolve the investigation. Significant discharges shall be reported to the Department for enforcement and/or permitting.

During this reporting period, activities related to outfall screenings, hotspot investigations, and spill response are summarized above.

4. Property Management and Maintenance

a. Coverage under Maryland's NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity (SW Industrial GP) is typically required at facilities where the following activities are performed: maintenance or storage of vehicles or equipment; storage of fertilizers, pesticides, landscaping materials, hazardous materials, or other materials that could pollute stormwater runoff. The County shall:

i. Ensure that a Notice of Intent (NOI) has been submitted to the Department for each County-owned industrial facility requiring coverage under the SW Industrial GP; and

ii. Submit with the annual report a list of County properties currently covered under the industrial stormwater permit.

Notice of Intent (NOI) for County-Owned Property

NOIs and Stormwater Pollution Prevention Plans (SWPPPs) for all County-owned properties requiring coverage under the general stormwater permit (20W) have been approved.

County-Owned Property 20SW General Permit
Abingdon Highway Maintenance Facility – 20SW1271
Fallston Parks & Recreation Maintenance Facility – 20SW2095
Hickory II Highway Maintenance Facility – 20SW1714
Fleet Maintenance -20SW3747
Jarrettsville Highway Maintenance Facility – 20SW2474
Jarrettsville Parks & Recreation Maintenance Facility- 12NE3577
Harford Waste Disposal Center – 20SW0028
Closed Tollgate Landfill – 20SW3642
Sod Run Wastewater Treatment Plant – 20SW1727
Whiteford Highway Maintenance Facility – 20SW1847

During the previous reporting year, Harford County received approval for SWPPPs associated with all County Properties under the new 20SW guidelines. The Fleet Maintenance Building (previously under 12SW1714) was relocated to a different property and was issued a new 20SW number. Additionally, the Public Schools Maintenance Facility NOI (12SW2084) was terminated. All associated vehicle maintenance that occurred at the previous Public Schools location was relocated to the Fleet Maintenance Building.

During the current reporting year, SWPPPs for Abingdon Highway Maintenance Facility (20SW1271), Fallston Parks & Recreation Maintenance Facility (20SW2095), Fleet Maintenance (20SW3747), Hickory II Highway Maintenance Facility (20SW1714), Jarrettsville Highway Maintenance Facility (20SW2474) and Whiteford Highway Maintenance Facility (20SW1847) were revised. **The revised SWPPPs were submitted to MDE on May 28, 2025**.

Each year, MS4 program staff notifies facilities covered under the 20SW stormwater permit to review and update their individual SWPPPs as needed. These facilities are responsible for conducting all required inspections, monitoring, and staff training, and must maintain records on-site. The Harford County Division of Water and Sewer oversees the 20SW permit for the Sod Run Wastewater Treatment Plant (20SW1727) and manages all permit-related activities for this facility. The Maryland Environmental Service (MES) manages the 20SW stormwater permits for the Harford Waste Disposal Center (20SW0028) and the Closed Tollgate Landfill (20SW3642). MES is authorized to submit NOIs, review and revise SWPPPs, and conduct all required inspections and monitoring activities for these facilities.

In response to requests from the Division of Highways and the Department of Parks & Recreation, the MS4 Office provided support in conducting annual comprehensive facility inspections at their maintenance facilities. During this reporting period, annual inspections were completed for six

facilities with the Division of Highways and the Department of Parks & Recreation (see Appendix D4). Each site was jointly inspected by the MS4 Office and the respective facility manager, with a thorough review of the SWPPPs to ensure completeness. Minor housekeeping issues were identified and promptly addressed.

Annual Comprehensive Pollution Prevention Site Inspections conducted by the MS4 Office:

Abingdon Highway Maintenance Facility – 20SW1271 – *June 11, 2025*
Fallston Parks & Recreation Maintenance Facility – 20SW2095 – *May 28, 2025*
Fleet Maintenance – 20SW3747 – *June 12, 2025*
Hickory II Highway Maintenance Facility – 20SW1714 – *June 4, 2025*
Jarrettsville Highway Maintenance Facility – 20SW2474 – *May 30, 2025*
Whiteford Highway Maintenance Facility – 20SW1847 – *June 6, 2025*

A map of the County-owned properties with 20SW permits and table of attributes are included in Appendix D4. The spatial and tabular data (Municipal Facilities point feature class) were input into the new MDE geodatabase and submitted with this report.

b. The County shall develop, implement, and maintain a good housekeeping plan (GHP) for County-owned properties not required to be covered under Maryland's SW Industrial GP where the activities listed in PART IV.D.4.a are performed. The GHP shall be submitted to the Department by the County in its third year annual report and implemented thereafter. A standard GHP may be developed for all County owned property or separate GHPs may be developed for properties with similar use (e.g., recreation and parks properties, school properties). The GHP shall include, but not be limited to:

i. A description of property management activities;

ii. A map of the locations of properties covered by the GHP;

iii. A list of potential pollutants and their sources that result from facility activities;

iv. Written procedures designed to reduce the potential for stormwater pollution from property activities, including illicit discharges, dumping, and spills;

v. Written procedures for annually assessing County properties in order to prevent the discharge of pollutants, spills, and leaks into its municipal separate storm sewer system;

vi. Written procedures for performing stormwater conveyance system inspections for removing debris that may cause clogging, backups, and flooding; and

vii. Annual training for all appropriate County staff and contractors regarding best practices for preventing, reducing, and eliminating the discharge of pollutants during property activities.

In FY23, Harford County partnered with the Metropolitan Washington Council of Governments (MWCOG) to develop a standardized Good Housekeeping Plan (GHP) for County-owned properties not subject to Maryland's SW Industrial General Permit. Harford County, along with six other counties, contributed to a pooled program for template development. MWCOG awarded KCI Technologies a contract to create the template in accordance with activities outlined in MS4 Permit Part IV.D.4a.

KCI finalized the GHP template in FY24 and distributed it to all participating jurisdictions. MDE approved the template for use in local property management activities to meet MS4 permit requirements.

In FY25, Harford County utilized the *GHP Applicability Certification Guidance Manual* to complete evaluations for **approximately 900 County-owned properties**. Based on these certifications, **30 properties were identified as requiring a GHP**. A map and list of these properties are provided in Appendix D4 along with the Good Housekeeping Plans for the applicable facilities.

The County will conduct site and conveyance system inspections for each facility covered by a GHP in FY26. Additionally, annual training for all applicable staff will begin in FY26 and continue through FY27.

c. The County shall continue to implement a program to reduce pollutants associated with the maintenance of County-owned properties including, but not limited to, local roads and parks. The maintenance program shall include the following activities where applicable:

i. Street sweeping in the amount identified in Appendix B and annually updated thereafter in accordance with PART IV.E.8;

ii. Inlet and conveyance system inspection and cleaning in the amount identified in Appendix B and annually updated thereafter in accordance with PART IV.E.8; and

iii. Reducing the use of pesticides, herbicides, fertilizers, and other pollutants associated with vegetation management. This can include, but is not limited to:

- Developing and implementing an Integrated Pest Management Plan according to EPA guidelines;
- Custom fertilizer property management plans based on soil testing;
- Targeted application or “spot application” of pesticides;
- Alternative and organic fertilizers;
- Manual weed removal, mowing, and trimming;
- Annual training and applicator certification and licensing as required by Maryland Department of Agriculture to ensure accurate application of chemicals according to manufacturer's recommendations;
- Subcontracting to a certified pest control applicator licensed business for some or all of properties;
- Piloting biological pest control programs; and
- Establishing “no mow” areas.

Street Sweeping

Harford County maintains a total of 1,088.17 miles of roadway. During the reporting period, 3,741.66 lane miles were swept using regenerative air street sweepers. The County strives to sweep every roadway at least once annually, with major roads being swept at least quarterly. Street sweeping efforts resulted in the collection of 1,176 tons of debris, which was subsequently disposed of at the local landfill. Unpaved roads are excluded from the sweeping program.

In FY08, Harford County began transitioning from mechanical broom street sweepers to regenerative air street sweepers. This transition is now complete, and the County currently operates a fleet of five regenerative air street sweepers. Starting in FY23, the County began equipping its sweepers with GPS receivers featuring 4G LTE cellular connectivity. These devices enhance operational efficiency by enabling route tracking and optimization. All County-owned street sweepers are equipped with GPS receivers.

During the reporting period, the County awarded a contract for street sweeping services in the Edgewood and Joppatowne communities, located in the southern portion of the county. The contract covers 166.2 lane miles of County roadways across three designated areas within these communities, with sweeping scheduled up to four times per year. In total, the contractor swept 664.74 lane miles and collected 56.37 tons of debris during the reporting period.

Street Sweeping
3,741.66 lane miles
1,176 tons

In FY25, the number of lane miles swept increased by 83% over FY24 and 165% over FY23, reflecting a significant expansion in operations. The appropriate data has been presented in the .gdb to account for the credits for this annual practice.

Inlet Inspection and Cleaning

All stormwater inlets in Harford County are scheduled for inspection and cleaning at least once every three years. Inlets may be cleaned more frequently if conditions warrant additional cleaning. There are approximately 13,866 inlets throughout Harford County. Inlets are assigned to each of the four Highways Districts, according to snow routes. All inlets along a specified snow route are inspected, and the snow routes are rotated over a three-year period. Inlets may be cleaned with vacuum sweepers, heavy equipment, or manually. During this reporting period,

7,365 inlets were inspected and cleaned, resulting in 154 tons of material being removed from the storm drain system.

Inlet Inspections and Cleaning
7,365 inlets inspected
7,365 inlets cleaned
154 tons collected

Vegetation Management

Mowing and trimming are the primary means of managing roadside vegetation. During this reporting period, Harford County Highways Division mowed 591.28 road miles, trimmed 268,769 feet of guardrail, and trimmed around 9,510 road signs. Additionally, the County employs contractors to mow medians, mow County-owned stormwater management ponds, trim around guardrails and remove trees. County-owned parks and recreation complexes are maintained by mowing and trimming.

The County ensures pesticides and fertilizers are applied appropriately by requiring all contractors who perform such work to be licensed by Maryland Department of Agriculture in aquatic weed control, right-of-way weed control, and to have a Professional Pesticide Application License. The County also applies weed control at Parks & Recreation facilities, as needed, including the control of noxious weeds. All herbicide application tracking documentation from County contractors and for Parks & Recreation facilities are available in Appendix D4.

The Bureau of Solid Waste Management is responsible for administering the Noxious Weed Control Program in accordance with Maryland Department of Agriculture's requirements for complying with the Maryland Weed Control Law. Herbicide application tracking documentation for Noxious Weed Control, provided by Maryland Environmental Services, can be found in Appendix D4.

Upon entering the chemical application data into our geodatabase, a quality control review identified the use of incorrect formulas for calculating chemical percent changes in prior fiscal year data. All affected values have been corrected using the proper equation.

For many years, the Watershed Protection & Restoration office has been working with other county entities to encourage the use of low mow practices on county-owned properties; however, the push for land conversion has become more visible in recent years. In 2024, the Harford County Administrative staff, in coordination with the Department of Public Works and Parks & Recreation, initiated a Low Mow initiative on County property in order to take as many acres as possible out of regular mowing. In FY24, there were 42 acres of Low Mow designated. During 2025, we have continued coordination efforts to designate more Low Mow sites. As this is still a pilot program, no MS4 Impervious Acre credit are being claimed at this time. Throughout the next fiscal year, the Watershed Protection & Restoration Office will continue to collaborate with other departments to identify which of the Low Mow sites can be converted into permanent native meadows. **At that time, inspections will be completed, and potential credits may be claimed.**

d. The County shall reduce the use of winter weather deicing and anti-icing materials, without compromising public safety, by developing a County Salt Management Plan (SMP) to be submitted to the Department in its third year annual report and implemented thereafter. The SMP shall be based on the guidance provided on best road salt management practices described in the *Maryland Department of Transportation, State Highway Administration's Maryland Statewide Salt Management Plan*, developed and updated annually as required by the Maryland Code, Transportation §8-602.1. The County's SMP shall include, but not be limited to:

i. A plan for evaluation of new equipment and methods, and other strategies for continual program improvement;

ii. Training and outreach:

- Creating a local "Salt Academy" that annually provides County winter weather operator personnel and contractors with the latest training in deicer and anti-icer management, or the participation of County personnel and contractors in a "Salt Academy" administered by another MS4 permittee or State agency; and
- Developing and distributing best salt management practices outreach for educating residents within the County.

iii. Tracking and reporting:

- Starting with the fourth year annual report, during storm events where deicing or anti-icing materials are applied to County roads, track and record the amount of materials used and snowfall in inches per event, if applicable; and
- Report the deicing or anti-icing application by event or date, and the monthly and annual pounds used per lane mile per inch of snow.

Deicing

The Permit states that the County shall develop and implement a Salt Management Plan (SMP) to reduce the use of winter deicing and anti-icing materials while maintaining public safety. **The SMP is submitted with this annual report (in Appendix D) and implemented thereafter.** The SMP outlines current processes, procedures, equipment, staff training, and tracking methods. It also includes strategies for continual program improvement, a list of short-term and long-term goals, and a framework for future updates. Additionally, the SMP details plans for ongoing staff training and public outreach.

Harford County staff assess storm impacts to determine the most effective road treatment strategies based on current conditions. Snow removal equipment is calibrated annually and adjusted as needed, depending on salt usage during each storm event. Dump trucks with salt spreaders are calibrated to apply 300 pounds of salt per lane mile; dump trucks with pre-wetting systems deliver 200 pounds of salt and 8 gallons of brine per lane mile; and, anti-ice applicators are set to dispense 40 gallons of brine per lane mile. These calibrations ensure consistent application rates, optimize material usage, and enhance roadway safety during winter weather events.

The Harford County Division of Highways is responsible for snow and ice control across 2,171.8 lane miles of County roads. In addition, the Department of Parks & Recreation oversees snow and ice management at 74 County-owned sites, with services performed by contractors under the supervision of its Maintenance Division. Board of Education custodial and facilities management staff are responsible for snow and ice control on 57 Harford County Public School property sidewalks and parking lots respectively. At Harford Community College, staff and contractors oversee snow and ice management on campus properties. Maryland Environmental Service performs winter weather maintenance tasks on behalf of the Bureau of Solid Waste Services at County-owned landfills. The Division of Water & Sewer performs snow and ice control at County-owned pumping stations and treatment plants.

During this reporting period, the Division of Highways applied 10,257.71 tons of salt and 17,226 gallons of brine to County roads. Contractors from the Department of Parks & Recreation applied 747.25 tons of salt to parking lots and roadways and used 53.98 tons of TruMelt™ 3% Magnesium, a product from AgSalt Processing, LLC, for sidewalks, walkways, and spot treatments. The Board of Education custodial and facilities management staff applied 726 tons of salt at Harford County Public School properties. Harford County Community College staff and contractors used 89.56 tons of salt on campus properties. Staff from the Division of Water & Sewer applied 70 tons of

salt at pumping stations and treatment plants. On behalf of the Bureau of Solid Waste Services, the Maryland Environmental Service used 35 tons of salt at County-owned landfills.

During the winter of 2024-2025, 17,226 gallons of brine and 11,979.5 tons of salt were applied by Harford County and its contractors. Salt and Brine usage (ChemicalApplication table) was input to the MDE geodatabase and submitted with this report.

Deicing Application
Brine – 17,226 gallons
Salt – 11,979.5 tons

e. The County shall evaluate current litter control problems associated with discharges into, through, or from portions of its MS4. Additionally, the County shall continue to remove from or prevent from entering its storm drain system 300 tons of litter and debris as identified in the first year of permit issuance or as updated annually thereafter in accordance with PART IV.E.8.

The Bureau of Solid Waste Services oversees the County's environmental, solid waste management, and recycling programs. The Maryland Environmental Service (MES) operates facilities under an intergovernmental agreement with Harford County. This includes operations at the following facilities: the Harford Waste Disposal Center (including landfill, homeowner drop-off, Mulch & Compost Facility, and Recycling Transfer Station), the Roadside Litter Control Program, the Used Oil & Anti-freeze Program, the Noxious Weed Control Program, and remediation projects at the Closed Tollgate Landfill. A detailed list is included in Appendix D4.

The Bureau of Solid Waste Services prepared a comprehensive update to the *Solid Waste Management Plan* for the 2025–2034 planning period. The new Plan was introduced by the County Council under Bill No. 24-040. *A public hearing was held on January 14, 2025, and the Council approved the Plan on January 21, 2025*. In March 2025, MDE's Land Management Administration completed a review of the Plan and determined that the adopted Plan satisfied the requirements of Section 9-503(a) of the Environment Article and Code of Maryland Regulation 26.03.03. In accordance with Section 9-507(a) of the Environmental Article, Annotated Code of Maryland, the Plan was approved.

The Litter Control Program consists of staff picking up blown litter at the Harford Waste Disposal Center and along County roadways, as well as cleaning up illegal dumpsites throughout the County. Staff is also assisted by Community Service workers and citizens participating in the Absent Parent Program. During this reporting period, the Litter Control Program reported the following:

Litter Control Program
Trash Collected – 51,224 lbs.
Recyclables Collected – 23,131 lbs.
Roads Cleaned – 606.1 miles
Tires Collected – 303

The County has a very successful Adopt-A-Road program, whereby County residents or groups of residents adopt a portion of a roadway in their community and agree to collect roadside litter at a specified frequency. The County provides supplies, materials, and removal of roadside litter collected for these residents. During this reporting period, the Adopt-A-Road Program reported the following:

Adopt-A-Road Program
Trash Collected – 4,154 lbs.
Recyclables Collected – 5,605 lbs.
Roads Cleaned – 80.9 miles
Tires Collected – 31
Adopt-A Road Signed Contracts – 94

As part of the code enforcement program, The County will abate properties with accumulated garbage, trash, or refuse that property owners have failed to remove after proper notice. During this reporting period, the County reported the following from abatements:

Notice of Abatement
Trash Collected – 22,780 lbs.
Recyclables Collected – 140 lbs.
Tires Collected – 21

Litter and debris removal is accomplished in the County by street sweeping and inlet cleaning, as described in Section D.4.c. During this reporting period, the County removed approximately 1,330 tons of litter and debris.

Litter and Debris Removed
Litter – 1,176 tons
Debris – 154 tons

Harford County Office of Recycling frequently holds "Household Hazardous Waste Collection" events. Items such as acids, aerosols, paints, batteries, pesticides, flammable liquids, and fire extinguishers are collected to be properly disposed of by County staff. During this reporting period, the County held three collection events.

Household Hazardous Waste Collection
Events Held - 3
Hazardous Material Collected – 20.17 tons

Employee Training

The Harford County Division of Highways and the Department of Parks &Recreation provide recurring safety training for staff throughout the year. Topics include snow removal, equipment inspection, safety data sheets (SDS), spill response and reporting, pesticide application, and good housekeeping practices. The Sod Run Wastewater Treatment Plant, Harford Waste Disposal Center, and Closed Tollgate Landfill also conduct annual training on good housekeeping practices. Detailed training schedules by group are provided in Appendix D4.

Employee Training
Number of employees receiving training: 168

f. The County shall report annually on the changes in its Property Management and Maintenance programs and the overall pollutant reductions resulting from implementation of the components of the programs listed in this section.

During the current reporting year, SWPPPs for Abingdon Highway Maintenance Facility (20SW1271), Fallston Parks & Recreation Maintenance Facility (20SW2095), Fleet Maintenance (20SW3747), Hickory II Highway Maintenance Facility (20SW1714), Jarrettsville Highway Maintenance Facility (20SW2474) and Whiteford Highway Maintenance Facility (20SW1847) were revised. *The revised SWPPPs were submitted to MDE on May 28, 2025*.

In accordance with Part IV.D.4.b. of the County's current MS4 permit, the County developed Good Housekeeping Plans for its properties that are not covered under the Maryland Stormwater Industrial General Permit. These plans apply to sites where activities such as vehicle or equipment maintenance or storage, or the storage of fertilizers, pesticides, landscaping supplies, hazardous substances, or other materials that may pollute stormwater runoff occur.

In September 2024, the County awarded a contract to provide street sweeping services for 166.2 lane miles of roadways located in the southern portion of the County. These services were completed by the contractor four times during the current reporting period. The County's Division of Highways dramatically expanded its street sweeping operations in FY25, with the number of lane miles swept increasing by 83% compared to FY24 and 165% compared to FY23. This sharp growth highlights a substantial improvement in street sweeping activity over the past two fiscal years.

5. Public Education

The County shall continue to implement a public education and outreach program to reduce stormwater pollution and flooding. Education and outreach efforts may be integrated with other aspects of the County's activities. These efforts are to be documented and summarized in each annual report, with details on resources (e.g., personnel and financial) expended and method of delivery for education and outreach. The County shall implement a public outreach and education campaign that includes, but is not limited to:

a. Maintaining a website with locally relevant stormwater management information and promoting its existence and use;

b. Maintaining a compliance hotline or similar mechanism for public reporting of water quality complaints, including suspected illicit discharges, illegal dumping, spills, and flooding problems;

Website

Harford County maintains and updates a stormwater management website, "Harford Streams", as a method of public outreach. Every year, the Annual Report and appendices are posted to this website for public viewing.

Information pertaining to the County's active restoration projects is presented on the website and includes pre-, during, and post-construction photos (as applicable), a location map, and the most recent design plans. The webpage provides a list of frequently asked questions. Property owners impacted by a restoration project are contacted by the County and provided with the website link to promote public engagement in the design and construction process.

A section of the County's stormwater management website is specifically tailored to public outreach and is aptly called "Get Involved (Residents)". This section of the website promotes the County's Summer Adventure Program, a yearly activity that encourages residents to explore Harford County streams to earn a T-shirt, dog bandanna, and have a chance to win other fun prizes. This section also encourages the public to participate in the County's Watershed Stewards Academy, a training program that teaches participants how to become community leaders who promote the County's mission to increase water quality awareness.

Additional website pages are dedicated to promoting "Only Rain Down the Drain", which provides County residents with tips for keeping stormwater free of dangerous pollutants, as well as "Plant with a Purpose". This educational touchstone encourages residents to utilize native species in their gardens and provides information on seasonal actions. By performing seasonal actions for their gardens, residents are able to support pollinators, improve the health of our watersheds, and increase the diversity of our landscapes.

Harford County's stormwater management website is a useful resource for the public to learn about restoration projects in their community and participate in water quality initiatives. Information on public reporting of water quality complaints, illicit discharges, illegal dumping, and flooding issues was detailed in Part IV.D.3.

c. Providing information to inform the general public about the benefits of:

i. Increasing water conservation;

ii. Residential and community stormwater management implementation and facility maintenance;

iii. Proper erosion and sediment control practices;

iv. Removing debris from storm drain inlets to prevent flooding;

v. Increasing proper disposal of household hazardous waste;

vi. Improving lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal);

vii. Proper residential car care and washing;

viii. Litter reduction;

ix. Reducing, reusing, and recycling solid waste; and

x. Proper pet waste management.

The County shall conduct a minimum of 15 outreach efforts per year. These efforts may include distributing printed materials such as brochures or newsletters; electronic materials such as website pages; mass media such as newspaper articles or public service announcements (radio or television); and conducting targeted workshops on stormwater management for the public.

Public Outreach Events

Harford County utilizes several types of outreach events to engage and educate the public as described below. A summary of these events, including the number of participants reached and hours spent, is included in Appendix D5.

Harford Streams Summer Adventure

MS4 staff continued the annual "Harford Streams Summer Adventure" program which runs from Memorial Day through Labor Day. The intent of the Summer Adventure Program is to encourage the community to explore the County's local waterways, to understand their importance as part of the Chesapeake Bay ecosystem, and to promote awareness and support to protect them. Public participation has increased each year and feedback from participants continues to be positive.

Harford County Farm Fair

MS4 staff, along with Master Watershed Stewards, partnered with the Agricultural Environmental Group for the Harford County Farm Fair in *July 2024* held at the Harford County Equestrian Center. During the multi-day event, staff engaged and educated the public about the importance of healthy watersheds and best management practices. They distributed educational materials and promotional items while promoting the Harford Streams Summer Adventure program and the Harford County Watershed Stewards Academy.

Chosen CDC Community Garden

In *April 2025*, Harford County Master Watershed Steward participated in the Chosen CDC Community Garden opening event. During the celebration, resources such as a Grass Cycling guide, native plants to support pollinator habitats, and information on the Harford Streams Summer Adventure program were shared. Additionally, best practices from the Watershed Stewards Academy that promote healthy watersheds were highlighted.

Harford County Arbor Day

Each year, Harford County Planning & Zoning organizes an Arbor Day Celebration that includes a tree planting effort. This year, five MS4 staff members, along with Master Watershed Stewards, participated in the celebration. The event was held at Chapel Road Park, in Havre de Grace on *April 18, 2025*. Approximately 130 trees were planted by the volunteers, and free take-home

native trees were provided by the Forest Conservancy District Board of Harford County. The event also featured demonstrations and educational engagement from local environmental groups.

Earth Day

Harford County Master Watershed Steward participated in the Earth Day celebration at Festival Park in Aberdeen in *April 2025*. The event featured environmental vendors, interactive children's activities, and local community partners. Educational materials such as pollinator-friendly brochures, watershed-themed coloring books, eco-conscious giveaways, and native species resources were distributed. The Watershed Stewards Academy was also actively promoted to attendees.

Swan Creek Elementary School

In *May 2025*, Harford County partnered with the Chesapeake Bay class at Swan Creek School Elementary School to name an unnamed tributary adjacent to the school property, "Cygnet Brook." Students learned how human activities can impact water quality and selected this tributary as a reference site to see the impacts firsthand. Students hoped that naming this stream would give it recognition and encourage people to care for it. Students garnered support from the executive branch of the County government and successfully submitted their application in June of 2025.

28th Annual Wade-In Festival

In *June 2025*, Harford County Master Watershed Stewards participated in the Upper Western Shore Wade-In held at the Anita C. Leight Estuary Center. During this event, stewards promoted the concept of healthy watersheds, including the need for proper erosion and sediment control measures, the negative impacts of impervious surfaces, the significance of the Critical Area Program, and the importance of proper disposal of hazardous household materials and pet waste. They also explained the benefits of recycling, planting native plants, proper lawn care, best management practices, and rain gardens, along with additional nonpoint source pollution and stormwater related materials. They also utilized this time to kick off Harford Streams Summer Adventure program.

Summer Kick Off Block Party

MS4 staff, along with Master Watershed Stewards engaged students and parents at the Edgewood Elementary School Block Party in *June of 2025*. Students and family were engaged in activities and conversation to encourage awareness of watershed management. Students were

educated on the importance of healthy watersheds and of committing to the health of the Chesapeake Bay and its ecosystems. Staff spoke with attendees about meadow plantings on the school property and how they are beneficial to the local pollinators, waterways, and ecosystem.

School Activities

Fallston Middle School

In FY25, MS4 staff met with seventh-grade science students at Fallston Middle School to help the students develop an understanding of the impacts of stormwater on stream health and water quality and the need for managing stormwater on the school campus.

Miscellaneous Outreach

Harford Streams Facebook

In July 2015, MS4 staff began utilizing the Harford Streams – Green Choices. Healthy Streams. Facebook Page to inform, engage and encourage support for protecting local waterways. During this reporting period, Watershed Protection & Restoration staff reported the following:

Facebook Insights
Total Page Followers – 2,297
Total Reach – 56,690
Total Impressions – 32,867

Anita C. Leight Estuary Center

The Anita C. Leight Estuary Center (ACLEC) is a Harford County Department of Parks & Recreation facility and is a component of the Chesapeake Bay National Estuarine Research Reserve (CBNERR). Otter Point Creek Alliance (OPCA) is the non-profit organization of the ACLEC dedicated to supporting the ACLEC and CBNERR mission to increase awareness, understanding, and appreciation of estuarine ecosystems through research, monitoring, and education.

During this reporting period, the ACLEC staff and volunteers hosted the Harford County Wade-In, summer camps, and pontoon, canoe, and kayak trips. The information below summarizes the number of people reached during each of the educational opportunities.

Number of People Reached (4,516)
Registered Participants – 1,376
Drop-in Visitors – 3,140

One hundred ninety-five (195) ACLEC volunteers contributed 858 hours towards stewardship projects that included the removal of invasive plants, growing and planting bay grasses, annual marsh clean up, PhenoForays, maintaining native plants in the bioretention facilities, and juvenile fish sampling.

Eden Mill Nature Center

The Eden Mill Nature Center (EMNC) is a Harford County Department of Parks & Recreation facility located in the Piedmont Plateau along the mainstem of Deer Creek. EMNC provides a variety of resources to encourage environmental education and outdoor recreation for people of all ages and is dedicated to developing a greater awareness and appreciation of the natural and historical resources of the area.

EMNC staff provides public education and outreach through various nature center activities, camps, programs, special events, and meetings.

During this reporting period, the Eden Mill Nature Center reported the following:

Number of People Reached (7,025)
Registered Participants – 4,804
Drop-in Visitors – 2,221

Environmental Advisory Board

In *April*, MS4 Staff gave a presentation to the Environmental Advisory Board, providing an overview of the MS4 program and highlighting upcoming projects.

Fallston Community Advisory Board

MS4 Staff gave an overview presentation to the Fallston Community Advisory Board on the MS4 program and upcoming projects in *May*. The presentation also included updates on the Fallston Stream Restoration and SWM project, as well as information about the Summer Adventure program.

Harford County's Office of Recycling

Harford County's Office of Recycling currently administers a public education and outreach program to reduce littering and increase recycling through media outlets, school, community, business, parks and recreation, computer and electronic, and household waste programs.

During this reporting period, the Office of Recycling published four advertisements in local papers, magazines, mailings, and websites. They also reported the following:

Number of People Reached (23,974)
Household Hazardous Waste Collection Days – 4 events, 673 participants
Tours of the Harford Waste Disposal Center – 2 tours, 37 participants
School Presentations – 1 presentation, 5 participants
Public Outreach Events – 40 events, 23,259 participants
Social Media Postings – 880

Master Watershed Stewards (MWS)

Master Watershed Stewards (MWS) work within their communities to identify pollutants, educate their neighbors about stream health, and take actions to reduce human impacts on water quality. The program overall has trained 41 Master Watershed Stewards. During this reporting period, 27 MWS completed various projects, participated in numerous outreach functions, and attended several continuing education classes/workshops.

Master Watershed Stewards
Activities Performed – 106
MWS Volunteer Hours – 516
Individuals Educated – 772

During this reporting period, MS4 staff continued creating a monthly bulletin to inform and engage our outreach partners and our Master Watershed Stewards. The bulletin provides information and possible opportunities for service hours through BMP projects, learning opportunities through webinars, events, and field trips, as well as other items of interest, funding opportunities, and employment opportunities.

The University of Maryland Sea Grant Extension and MS4 staff continue meeting quarterly with the Master Watershed Stewards and steward candidates to provide updates, discuss project opportunities, to provide technical resources for questions that are beyond the steward's scope and/or expertise, and to ensure they are meeting their annual volunteer and continuing education requirements.

Office of Drug Control Policy

The Harford County Office of Drug Control Policy (HCODCP), in conjunction with Harford County Government, Wegmans, Bel Air Police Department, Harford County Sherriff's Offices, Havre de

Grace Police Department, Maryland State Police Department, Edgewood Boys and Girls Club, and the U.S. Drug Enforcement Administration, collected unwanted medications from four Prescription Drug Take Back events. These events allow the safe collection of unused or expired medications so that they may be disposed of safely and without harm to the environment. Periodically, the medications are delivered to an incinerator for proper disposal.

During this reporting period, the HCODCP reported the following:

Total Unwanted Medications Collected – (2,871 lbs.)
Harford County Administration Building – 1,129 lbs.
Wegmans – 712 lbs.
Bel Air Police Department – 365 lbs.
Havre de Grace Police Department – 416 lbs.
Maryland State Police Department – 189 lbs.
Edgewood Boys and Girls Club – 60 lbs.

Pollution Hotspot Education

At the conclusion of every inspection, educational material is mailed to the owner/operator of each potential hotspot based on how they are categorized. For example, a restaurant will receive an illicit discharge overview, grease management, and solid waste handout with their inspection report. A storage yard will receive an illicit discharge overview, outdoor storage, solid waste, vehicle storage, and vehicle fueling handouts. The County provides educational materials as part of its Outreach and Education program. In FY25, 65 educational pamphlets were mailed.

The regulated community consists of businesses and industries that have been issued permits by MDE. If requested by the regulated community, MS4 staff will provide MDE's document, *Stormwater Pollution Prevention Guidance* and refer the business or industry directly to MDE for further guidance. If Harford County determines that a business or industry does not have an NPDES permit, but engages in activities that should be permitted, that information is forwarded to MDE for further action.

E. Stormwater Restoration

In compliance with §402(p)(3)(B)(iii) of the CWA, MS4 permits must require stormwater controls to reduce the discharge of pollutants to the MEP and such other provisions as the Department determines appropriate for the control of such pollutants. Additionally, by regulation at 40 CFR §122.44, BMPs and programs implemented pursuant to this permit must be consistent with applicable stormwater WLAs developed under EPA established or approved TMDLs (see list of EPA established or approved TMDLs attached and incorporated as Appendix A). The impervious acre restoration requirements and associated pollutant reductions described below for Harford County are consistent with Maryland's Phase III Watershed Implementation Plan (WIP) for the Chesapeake Bay TMDL and 2025 nutrient load targets, and for local TMDL implementation targets described by the County in its TMDL Watershed Restoration Plans.

1. Annual alternative control practices used by Harford County to meet its prior MS4 permit's impervious acre restoration requirement shall be:

   a. Continued annually at the same level of implementation (e.g., street lane miles swept, septic systems pumped) under this permit;

   b. Replaced with 153.4 impervious acres using stormwater management BMPs, programmatic initiatives, or alternative control practices in accordance with the 2021 Accounting Guidance; or

   c. A combination of a and b above.

2. The impervious acre restoration requirements described below are in addition to the requirements listed in PART IV.E.1 of this permit.

3. By December 29, 2027, Harford County shall commence and complete the restoration of 1,093 impervious acres that have not been treated to the MEP by implementing stormwater BMPs, programmatic initiatives, or alternative control practices in accordance with the 2021 Accounting Guidance.

4. By December 29, 2023, Harford County shall complete the stormwater BMPs, programmatic initiatives, or alternative control practices listed in the Year 1 BMP Portfolio provided in Appendix B. Harford County may replace individual practices listed in Appendix B with others that meet the requirements of the 2021 Accounting Guidance as long as the total restoration at the end of year one meets the implementation benchmark schedule in Table 1. "Benchmark" as used in this permit is a quantifiable goal or target to be used to assess progress toward the impervious acre restoration requirement or WLAs, such as a numeric goal for stormwater control measure implementation. If a benchmark is not met, the County should take appropriate corrective action to improve progress toward meeting permit objectives. Benchmarks are intended as an adaptive management aid and generally are not considered to be enforceable.

5. Harford County may acquire Nutrient Credits for Total Nitrogen (TN), Total Phosphorus (TP), and Total Suspended Solids (TSS) in accordance with COMAR 26.08.11 to meet its impervious acre restoration requirement in PART IV.E.3 of this permit. For acquiring Nutrient Credits in place of impervious acre restoration, an equivalent impervious acre shall be based on reducing 18.08 pounds of TN, 2.23 pounds of TP, and 8,046 pounds of TSS. The maximum allowable credits obtained from trades with wastewater treatment plants shall not exceed 792 equivalent impervious acres restored.

6. Any Nutrient Credits acquired by Harford County for meeting the restoration requirements of this permit shall be maintained and verified in accordance with COMAR 26.08.11 and reported to the Department in annual reports unless they are replaced at a one to one acre ratio by local stormwater management BMPs, programmatic initiatives, or alternative control practices in accordance with the 2021 Accounting Guidance.

7. Harford County shall use the annual restoration benchmark schedule provided in Table 1 below to achieve its impervious acre implementation requirement by the end of the permit term.

Annual Restoration Benchmark Schedule, Table 1

Metric	Year 1	Year 2	Year 3	Year 4	Year 5
Cumulative Percent Impervious Acre Restoration Completed	5%	10%	20%	40%	100%

8. In each year's annual report, Harford County shall:

   a. Submit to the Department a list of BMPs, programmatic initiatives, and alternative control practices to be completed in the following year to work toward meeting its impervious acre restoration benchmark:

      i. The list of BMPs, programmatic initiatives, or alternative control practices shall be submitted in the Year 1 BMP Portfolio format provided in Appendix B; and

      ii. Harford County may replace individual practices listed in its annual BMP Portfolio as long as the total implementation rate at the end of each year meets the annual restoration benchmark schedule in Table 1.

   b. Evaluate progress toward meeting its annual restoration benchmark according to the schedule in Table 1 and adjust the benchmark appropriately based upon:

      i. Actual BMP implementation rates; and

      ii. Anticipated implementation rates and annual restoration benchmark schedule needed in the remaining years of this permit for meeting the final impervious acre restoration requirement by December 29, 2027.

9. Harford County acquired trading credits, or "Nutrient Credits" (i.e., 19,225 lbs TN; 955 lbs TP; 554,700 lbs TSS) to restore 1,215.1 equivalent impervious acres to meet its prior MS4 permit's impervious acre restoration requirement. The balance of these credits not replaced with stormwater management BMPs, programmatic initiatives, or alternative control practices prior to December 30, 2022 shall:

   a. Be continued and verified annually under this permit in accordance with the Maryland Water Quality Trading and Offset Program (COMAR 26.08.11) until they are replaced; and

   b. Be replaced with stormwater management BMPs, programmatic initiatives, or alternative control practices in accordance with the 2021 Accounting Guidance prior to expiration of this permit.

Benchmarking

During permit negotiations with MDE, Harford County agreed to complete 3% new restoration (328 impervious acres) and 7% future nutrient trades (765 impervious acres) (Appendix E1). The combination of these two values equals the permit requirement listed in Part III E 3, or 1,093 impervious acres.

Harford County is also required to annually maintain the 20% restoration from the previous permit (2,186 impervious acres) through a combination of restoration and nutrient trade. The nutrient trade from the previous permit (1,215 impervious acres) must be replaced by the expiration of this permit as listed in Part III E 9.

The County acknowledges that we are behind on our benchmarking for the current permit. We prioritized repaying the nutrient trade from our previous permit before starting additional restoration for the current permit. The bar charts in the report Introduction show the progress we have made to date for both restoration requirements.

Watershed Restoration Capital Program

Restoration Projects (Planning)

Harford County was required to complete detailed Watershed Assessments (WSAs) for the entire county. The County commissioned various engineering firms to produce the WSAs to identify potential projects that could be constructed to meet the County's restoration requirements. These assessments were reported in the previous Annual Report. In addition to these sites, spot problems are brought to the County's attention via public complaints. Every year the potential project sites are reviewed by RK&K and evaluated against the Potential Project Priority Matrix. After a discussion of the results, the County identified approximately 15 project sites to revisit in the field. The field sites are then reviewed for accessibility, correctability, severity, and MS4 credit potential. *In FY25, Harford County completed an updated review of potential projects and included the draft report. The final selection of sites is being reviewed based on outstanding credits needed to fulfil the permit.*

In FY25, Harford County evaluated their portfolio and identified a need to prioritize stream restoration, outfall stabilization, tree planting and forest conservation easements moving forward. Planning efforts are currently underway to meet the County's restoration and TMDL goals.

Restoration Projects (Design)

At the end of this reporting period, eleven (11) projects were under construction, and seventeen (17) projects were under design (Appendix C6). Eight (8) of the seventeen (17) design projects were initiated during this reporting period. These projects are marked with a + on the list below.

Restoration Projects (Under Construction) – 11

Harford Glen Tree Planting
Prospect Mill Park Tree Planting
Schuck's Road Park Tree Planting
Whiteford Shop Tree Planting
Eden Mill Tree Planting
Aberdeen MS Tree Planting
Watergate Court Stream Restoration
Abbey Circle Stream Restoration
Anita Leight Stream Restoration
Northwest Branch Declaration Run Stream Restoration
Hickory Vet Retrofit

Restoration Projects (Under Design) - 17

*+Mildred Kelly Park Tree Planting
*+Harford Square Tree Planting
*+Walters Mill Tree Planting
*+Saddleview Conservation Area Tree Planting
Woodland Run Stream Restoration
North Reardon Stream Restoration
Taylor Creek Stream Restoration
Edgewater Village Stream Restoration
Water's Edge Living Shoreline
+Harford Community College Stream Restoration
Sunnyview Drive Stream Restoration
Upper Farnandis Stream Restoration
+Bennett Place Stream Restoration
Watervale Creek Stream Restoration & SWM Retrofit
+Barclay Ct Stream Restoration
+Boxthorn/Laurel Valley Stream Res
+Eden Mill SW Wetland Retrofit

Additional Planning projects - 6

Tree Planting, Outfall Stabilization, Forest Conservation Easements

Four (4) projects (marked above with an asterisk) currently under design are proposed to be completed during the next reporting period. (Appendix C6).

Restoration Projects (Completed)

During this reporting period, eleven (11) restoration projects were completed for a total cost for installation (some designs were completed in-house) of $5,802,295 for 102.7 impervious acre credits (Appendix E1). The review of the project credits was completed by RK&K and is included in Appendix E1.

Restoration Projects (Completed) – 11

Magnolia Elementary School and Middle School Planting
Edgewood Elementary School Planting
Roye-Williams Elementary School Planting
Red Pump Elementary School Planting
Deer Creek Conservation Area Planting
755 Alliance Site Plantings
Fallston High School Meadow

Fallston Middle and High School Stream Restoration
Fallston Middle School Infill Planting
Fallston Middle and High School Stormwater Management
Mariner Point Park Stormwater Management

An updated FY25 credit review memo is included in Appendix E1. This report includes a summary of each project and a breakdown of the accounting credit calculations.

The County has been coordinating with the Alliance for the Chesapeake Bay to inventory tree plantings completed using funding provided by the County through the Chesapeake Bay Trust. This funding has assisted in costs associated with planting 40 sites across 34.87 acres. During this reporting period, inspections were completed to refine the planting sites and verify credits. Changes to the planting sites include refining polygon areas based on field inspections, updating BMP type based on field conditions, and removing sites that denied access to the property. The refined plantings resulted in 20 forest plantings, 14 urban tree canopies, 2 sites removed due to denied access, and one site considered non-existent for a total of 35.22 impervious acres of credit. Detailed inspection results are included in Appendix E1.

The County has also been discussing with the Alliance purchasing credits for trees previously planted. Funding for those plantings was mostly provided through the Chesapeake and Atlantic Coastal Bays Trust Fund Grant, MD Department of Natural Resources. The Alliance has planted and maintained a total of 52 sites across 95.81 acres between 2018 and 2024. During this reporting period, the county was able to perform inspections to verify credits. The inspections resulted in 35 forest planting sites, 9 urban tree canopy sites, and 4 sites removed due to denied access, no property response, or no longer existed, for a total of 91.54 impervious acre credits.

Through this reporting period, restoration projects have been completed for a total of 1,756.5 impervious acres, 1,038.6 impervious acres (Appendix C6) have been completed since the expiration of the previous permit (December 29, 2019). All projects listed in Appendix B of the County's permit have been completed (Appendix E1).

The total cost for the restoration is $36.7 M with a portion of the program funded through grants. The average cost per impervious credit is $65,000 (Appendix E1).

Restoration Projects (Repairs)

Significant repairs for one (1) stream restoration, Lower Wheel Creek remain outstanding. Bayland Consultants and Designers, Inc. completed the design and acquisition of permits. Bourn

Environmental is the contractor completing the repairs. The construction work began in October 2025 and is expected to be completed in FY26.

Additionally, there is one outstanding failure for a tree site, Amoss Mill Road II. These repairs are currently in the design phase, and the County is working to obtain property owners' approval and right of entry access.

Annual Practices for Credit

Connections to the Wastewater Treatment Plant

In fiscal year 2017, the MS4 Office began setting aside funds to assist with the connection of failing systems to the wastewater treatment plant. A grant of $4,500 is used to pay a portion of the required hookup fees, reducing the overall financial commitment for the property owners. Since this program began, the MS4 Office has been able to assist in the connection of 140 properties to the wastewater treatment plant.

During this reporting period, **eight (8) septic systems** were abandoned and connected to the wastewater treatment plant for a total of **1.80 equivalent impervious acres** treated (Appendix C6).

Septic System Upgrades

The Health Department manages the program for upgrading septic systems through the use of Bay Restoration Funds. The MS4 Office previously obtained this information on an annual basis for inclusion within this annual report. The County has decided to discontinue claiming credits for septic system upgrades.

Septic System Pump Outs

For this reporting period, the County contracted again with RK&K to review each manifest completed by septic haulers that dropped off at the County's wastewater treatment plant, Sod Run. The manifests included septic pump outs, holding tanks, and commercial waste. A total of 9,843 manifests were reviewed for septic pump outs. One thousand eight hundred-seven (1,867) manifests, or 19%, were excluded in FY25 as they were credited within the past 4 years. Three hundred twenty-two (322) manifests or approximately 3% were excluded. Exclusions included landfill leachate, manifests with missing addresses, addresses outside of Harford County, and porta potties. A summary of the work completed is included in Appendix C6.

Prior to FY2019, septic pump outs were estimated based on volume collected at Sod Run. Beginning in FY2019, manifests were reviewed for type of waste and location generated. This review has shown a significant decrease in the total number of septic systems pumped out for credit; mainly based on credit for one pump every five years. This reduction is likely to stabilize over time as the manifests continue to be manually reviewed.

During this reporting period, **3,817 septic tanks were pumped out** for a total of **114.51 impervious acres** treated (Appendix C6).

Based on the expert panel (2014), Chesapeake Bay Model 5.3.2 load reductions for septic pump out are based on a 1,000-gallon tank with 2.5 people per household. The assumptions for the load calculations also include accumulation of solids over a five-year timeframe, allowing for load reductions per address once every five years. It is currently unknown if there are load reductions for commercial properties or consideration for pump outs from holding tanks.

The septic pump outs by volume for FY25 were reviewed. Forty seven percent (47%) of the pump outs were less than 1,200 gallons, potentially indicating residential tanks larger than the average assumed by the expert panel and / or commercial tanks (Appendix C6). An average tank size of 1,665 gallons was calculated for FY2025, slightly higher than 1,555 gallons calculated for FY24. Additional research into the county's manifests will continue during the next reporting period.

Restoration Credits

Through this reporting period, restoration has been completed for **1,756.5 impervious acres**, or **16.07% of the untreated impervious area** (Appendix E1).

As of the submittal of this report, projects were under design for an additional 1,522.5 impervious acres, over 100% of the credit needed to meet the County's restoration requirement.

During this reporting period, the County has completed thorough assessment of current and previously reported restoration credits to ensure data accuracy. Inspections of various restoration sites have led to changes in reported credits, with increases due to reclassification of restoration plantings and previously misreported BMP's found to be in passing condition. Decreases in previously reported restoration credits are attributed to re-inspections of tree planting survivability, and changes in project achievability such as Homestead Wakefield Stormwater Retrofits.

Watershed Restoration Project Inspections

The following section details completed Watershed Restoration Capital Project inspections that the County office completes in order to verify previously reported MS4 credits. These projects are currently beyond their wetland and waterway permit monitoring window.

Tree Plantings

During this reporting period, the County contracted RK&K to complete credit verification inspections and construction completion inspections for 120 planting sites. A total of 43 tree planting projects were inspected as part of the Alliance for the Chesapeake Bay Non-County Funded planting inspection effort for credit verification. A total of 34 sites were inspected as part of the Alliance for the Chesapeake Bay County Funded planting inspection effort for credit verification. A total of 12 planting projects were inspected for the Gunpowder Valley Conservancy planting inspection effort for credit verification. A total of 2 tree planting projects were inspected as part of the Susquehannock Wildlife Society planting inspection effort for credit verification. A total of 5 tree planting projects were inspected as part of the Watershed Stewards Academy planting inspection effort for credit verification. Additionally, 24 tree planting sites were inspected to verify completion of construction. 755 Alliance planting sites were inspected in early July 2025 to verify completion of construction.

Stormwater Retrofits

During this reporting period, County inspection staff completed the triennial inspections for 11 retrofit facilities. All 11 facilities were functioning and continue to retain water quality credits. Data regarding these inspections has been submitted as a part of the MS4 file geodatabase in the BMP Inspection Table. The MS4 office also conducts annual visual reviews of each project to ensure retrofit facilities continue to function properly. In FY26 we will be ramping up our asset management and routine maintenance program to ensure we keep viable water quality credits as well.

Stream Restorations

In the Fall of 2025, the County contracted Biohabitats Inc. to perform ten quinquennial stream inspections. The County completed several of the inspections late in order to combine the effort and reset the inspection cycle. The ten sites inspected are listed below; all were considered passing. A draft of the detailed inspection report is available in Appendix E2.

Restoration Inspections

Annie's Playground
Bear Cabin Branch
Bynum at St. Andrews Way
Willoughby Beach
Foster Branch at Dembytown
Woodbridge
Emmord Branch
Ring Factory
Tributary to Plumtree Run at Wakefield Manor
Barrington

Stream Restoration (Stream-side Buffers)

During the previous reporting period, the MS4 Office contracted with RK&K staff to develop an inspection protocol for evaluating the vegetation within the limits of disturbance for stream restoration projects. The protocols are based on a GIS field data collection application, and when applied, provide documentation for the alternative BMP verification process. The final vegetation monitoring protocols are included in Appendix E2.

There were no stream restoration vegetation inspections completed in the last fiscal year. The last round of inspections was completed in Spring 2023.

Watershed Restoration Project Permit Monitoring

The following section details completed Watershed Restoration Capital Project monitoring efforts that are required and detailed in their wetland and waterway permits. Restoration Monitoring Reports are available in Appendix E3.

Fallston MS/HS Stream Restoration Post-Construction Permit Monitoring

The County has contracted with Versar to conduct the post-construction monitoring of the Fallston MS/HS Stormwater and Stream Restoration project as authorized by USACE permit #NAB-2022-60753-M49 and/or MDE Letter of Authorization 22-NT-0112/202260753. The five-year monitoring plan for the 4,728 linear feet of stream restoration includes geo-referenced photo documentation, function-based assessment evaluations of hydraulics and geomorphology, geomorphic surveys, plan view graphic updates, vegetation survey, and waters of the US delineations. Construction finished in late summer 2025. The post-construction as-built report will be submitted with the next annual report.

Church Creek Elementary School Stream Restoration Post-Construction Permit Monitoring

The County contracted with Biohabitats to conduct the post-construction monitoring of the Church Creek Elementary School Stream Restoration project as authorized by USACE permit #NAB-2017-61738 and/or MDE Letter of Authorization 177-NT-0397. The five-year monitoring plan for the 2,170 linear feet of stream restoration includes geo-referenced photos, a Functional Lift and Stability Assessment, Habitat Assessment, plan view graphic of the restored reach, Longitudinal and Profile survey, Cross-section Monuments survey, Bed Material Observation, Vegetation Survey, and a WOTUS and Wetland Delineation. This project was completed in November 2023, so 2025 was the second year of post-construction monitoring. The Year 2 Monitoring report is included in Appendix E3.

C. Milton Wright High School Stream Restoration Permit Monitoring

The County has contracted with Biohabitats, Inc. to conduct post-construction monitoring for the C. Milton Wright Stream Restoration Project as required by the ACOE permit #2020-61083-M49. The project used natural channel design to restore 3,845 linear feet of stream along an unnamed tributary to Bynum Run. Construction was completed in March 2022. The Year 3 report is included in Appendix E3.

Plumtree Run and Foster Branch Watershed Monitoring

From 2015-2021 Harford County partnered with KCI, Inc. To perform biological, habitat, and water quality monitoring for the Plumtree and Foster Branch watersheds. The primary goal of this effort is to characterize baseline stream conditions (biological, physical habitat, and in situ chemical) prior to additional restoration project/BMP implementation. A secondary goal is to conduct monitoring in Foster Branch that can be used to document ecological uplift and habitat improvement as projects are completed within this watershed. In 2023, Harford County partnered with Versar, Inc to continue this effort. The year 9 report is in Appendix E3.

F. Countywide TMDL Stormwater Implementation Plan

1. Where Harford County has submitted an implementation plan for a TMDL identified in Appendix A and that plan has yet to be approved, the County shall, within one year of the effective date of this permit, address all outstanding comments needed for the Department's approval of the plan.

Harford County's permit currently contains SW-WLA's for The Chesapeake Bay TMDL(N, P, TSS), Bush River(PCB), Loch Raven(P), Bynum Run(TSS), and Swan Creek(TSS). The County executed a task order with KCI to finalize our TMDL plans and document our annual progress. **The Harford County 2025 TMDL Stormwater Implementation Plan is included in Appendix F.**

Chesapeake Bay TMDL (N, P, TSS)

Harford County received the ***FINAL Harford County 2025 Stormwater Implementation Plan in December of 2025***. The County will commence and complete the restoration requirement in the County's MS4 Permit through implementing stormwater BMPs, programmatic initiatives, or alternative control practices in accordance with MDE's *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE 2021 Guidance; MDE, 2021).

Bush River (PCB)

The County prepared a PCB TMDL restoration plan, focused on an assessment of potential PCB sources within the segmentshed, through average water column PCB concentrations, a stormwater waste load allocation, and identification of locations for further investigation as potential PCB sources. Further details are shown in Section G Part 3 below.

Loch Raven (P)

The Loch Raven plan was submitted in the FY23 annual report. *To date, no comments have been received on this plan.* The submitted plan is attached again in Appendix F. The county has one (1) identified project within the Loch Raven watershed that if implemented would assist in reaching target reduction goals, however permitting this project has been difficult. We may pivot to an alternate project to achieve our goals.

Bynum Run (TSS)

The county received the Bynum Run report from KCI in December of 2025, included in appendix F. **The original plan received conditional approval on April 27, 2020**. Under the requirements of the conditional approval, the county was required to provide information related to reasonable end-dates for achieving the SW-WLA. The County is expected to complete six (6) programmed BMPs between 2026 and 2028 to help reach the TSS reduction target and four (4) programmed BMPs between 2028 and 2032 beyond required TSS reduction target.

Swan Creek (TSS)

The County received the Swan Creek report from KCI in December of 2025. **The original plan was approved on September 19, 2019, with comments**. Responses to comments were sent to MDE on February 21, 2020. The County has three (3) identified stream restoration BMPs in the Swan Creek Watershed which could be implemented to achieve the remainder of the required TSS reduction. The report is included with this annual report in Appendix F.

2. Within one year of EPA's approval or establishment of a new TMDL having a stormwater WLA, Harford County shall submit an implementation plan to the Department for approval. The TMDL implementation plan shall be based on the Department's TMDL analyses, or equivalent and comparable Harford County water quality analyses, that includes:

   a. A list of stormwater BMPs, programmatic initiatives, or alternative control practices that will be implemented to reduce pollutants for the TMDL;

   b. A description of the County's analyses and methods, and how they are comparable with the Department's TMDL analyses; and

   c. Final implementation dates and benchmarks for meeting the TMDL's applicable stormwater WLA. Once approved by the Department, any new TMDL implementation plan shall be incorporated in the Countywide TMDL Stormwater Implementation Plan and subject to the annual progress report requirements under PART IV.F.3 of this permit.

The Harford County 2025 TMDL Stormwater Implementation Plan (Appendix F) was received by KCI in December of 2025 will be used to guide programmatic initiatives to reduce pollutants for

the TMDL. This report includes the analysis of Harford County's TMDL progress and plans to initiate restoration projects to meet target goals.

3. For all TMDLs and WLAs listed in Appendix A, the County shall annually document, in one Countywide Stormwater TMDL Implementation Plan, updated progress toward meeting these TMDL WLAs. This Countywide Stormwater TMDL Implementation Plan shall include:

   a. A summary of all completed BMPs, programmatic initiatives, alternative control practices, or other actions implemented for each TMDL stormwater WLA;

   b. An analysis and table summary of the net pollutant reductions achieved annually and cumulatively for each TMDL stormwater WLA; and

   c. An updated list of proposed BMPs, programmatic initiatives, and alternative control practices, as necessary, to demonstrate adequate progress toward meeting the Department's approved benchmarks and final stormwater WLA implementation dates.

TMDL Documentation and Implementation

During this reporting period, MS4 staff contracted with KCI to assist in the development of a single County-wide Stormwater TMDL Implementation Plan. The Harford County 2025 TMDL Stormwater Implementation Plan was received in December of 2025.

Since the development of the initial TMDL plans, the County has established an extensive planning and prioritization process for screening and selecting projects. In addition, several restoration projects have been identified, programmed, designed, and constructed to meet our TMDL restoration goals. Included in Appendix F is the Harford County 2025 TMDL Stormwater Implementation Plan, which the County will use to align programmatic operations to achieve target reductions.

4. Harford County shall provide continual outreach to the public and other stakeholders, including other jurisdictions or agencies holding stormwater WLAs in the same watersheds, regarding its TMDL stormwater implementation plans. Harford County shall solicit input from the public, collaborate with stakeholders, and incorporate any relevant comments that can aid in achieving local stormwater WLAs. To allow for public participation, Harford County shall:

   a. Maintain a list of interested parties for notification of TMDL development actions;

   b. Provide notice on the County's webpage outlining how the public may obtain information on the development of TMDL stormwater implementation plans and opportunities for comment;

   c. Provide copies of TMDL stormwater implementation plans to interested parties upon request;

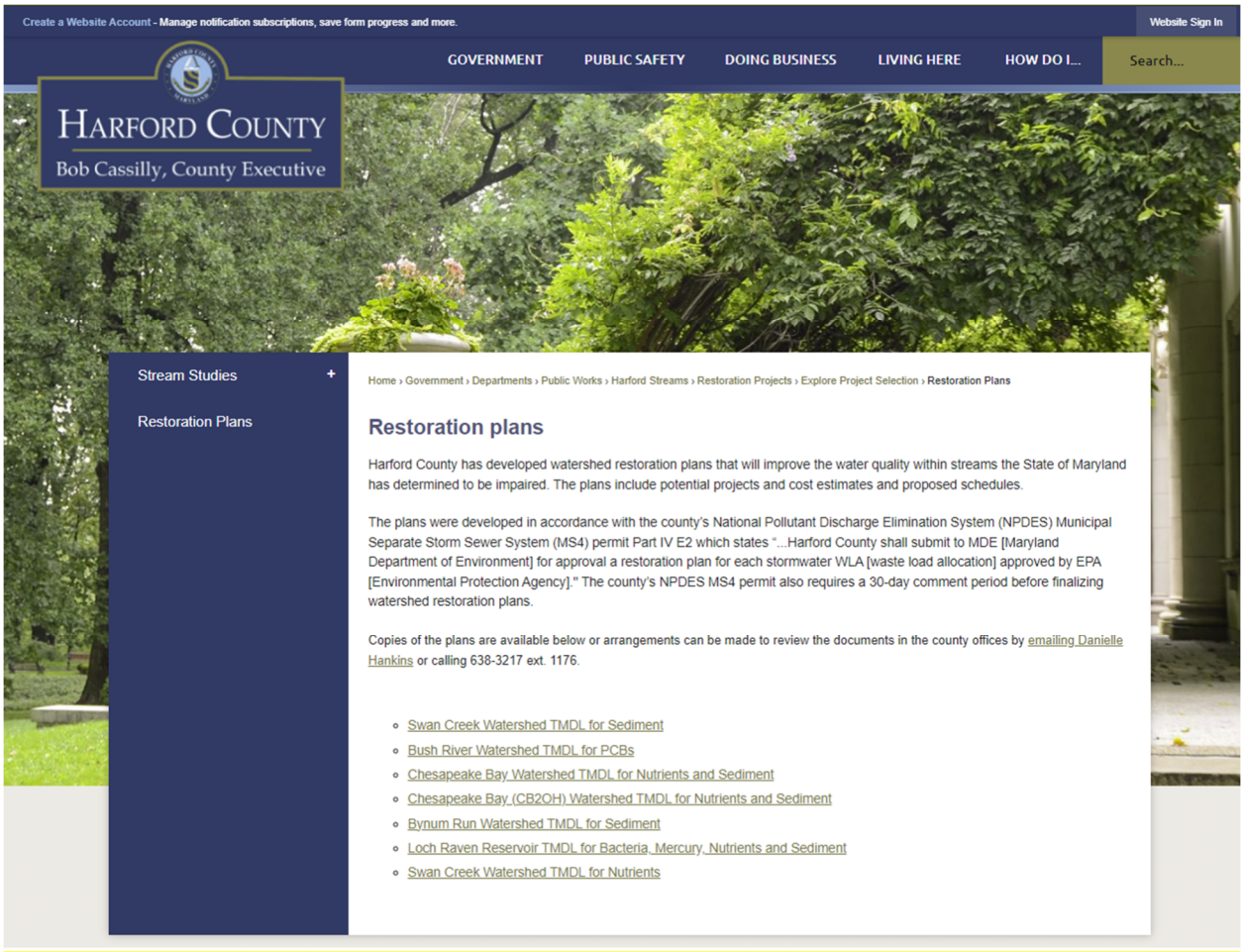
   d. Allow a minimum 30-day comment period before finalizing TMDL stormwater implementation plans; and

   e. Document in final TMDL stormwater implementation plans how the County provided public outreach and adequately addressed all relevant comments.

TMDL Outreach

The County continues to collaborate with staff from Parks & Recreation, Health Department, Water and Sewer, Chesapeake Bay National Estuarine Research Reserve, and the Board of Directors for the Otter Point Creek Alliance located at the Anita C. Leight Estuary Center on the status of the local TSS and PCB TMDLs.

The County has contracted with RK&K to update the website content to provide current, up to date information about each TMDL, and to provide opportunities to solicit public comment from interested parties. Below is a screenshot of our TMDL Restoration plans that have been posted on our webpage for review and comment by the public and other interested parties.



https://www.harfordcountymd.gov/1842/Restoration-Plans

The County will continue to utilize social media outlets to promote and develop awareness about the TMDLs as well as investigate other options on how to educate the public on these issues, specifically related to human health, PCBs and fish consumption advisories.

G. Assessment of Controls

Harford County shall conduct BMP effectiveness and watershed assessment monitoring, and polychlorinated biphenyls (PCB) source tracking for assessing progress toward improving local water quality and restoring the Chesapeake Bay. The *2021 MS4 Monitoring Guidelines: BMP Effectiveness and Watershed Assessments*, (hereafter 2021 Monitoring Guidelines) shall be referenced for addressing the technical guidelines and requirements outlined below.

1. BMP Effectiveness Monitoring

By April 30, 2023, the County shall notify the Department which option it chooses for BMP effectiveness monitoring. The two options are:

a. The County shall collaborate with the Department in a Pooled Monitoring Advisory Committee administered by the Chesapeake Bay Trust (CBT) for determining monitoring needs and selecting appropriate monitoring studies. To implement the required monitoring, the County shall pay $75,000, or an amount to be proposed by the jurisdiction based on demonstrated past permit monitoring expenditures, annually into a pooled monitoring CBT fund. Enrollment in the program shall be demonstrated through a memorandum of understanding (MOU) between the County and CBT by September 1 of each year. The terms of the BMP effectiveness MOU are described in the 2021 Monitoring Guidelines. The County shall remain in the program for the duration of this permit term; or

b. The County shall continue monitoring the Wheel Creek watershed or select and submit for the Department's approval a new BMP effectiveness study for monitoring by April 30, 2023. Monitoring activities shall occur where the cumulative effects of watershed restoration activities, performed in compliance with this permit, can be assessed. The minimum criteria for chemical, biological, and physical monitoring are as follows:

i. Chemical Monitoring:

- Eight (8) storm events shall be monitored per year at each monitoring location with at least two occurring per quarter. Quarters shall be based on the calendar year. If exceptional weather patterns (e.g., dry weather periods) or other circumstances (e.g., equipment failures) occur during the reporting year, the County shall provide documentation of such circumstance(s);
- Discrete samples of stormwater flow shall be collected at the monitoring stations using automated or manual sampling methods;
- At least three (3) samples determined to be representative of each storm event shall be submitted to a laboratory for analysis according to methods listed under 40 CFR Part 136, and event mean concentrations (EMCs) shall be calculated;
- Baseflow sampling shall occur quarterly as near as the mid-point of each season (e.g., February for the first quarter, May for the second quarter, August for the third quarter, and November for the fourth quarter) as is practicable to allow for 72 hours of preceding dry time following baseflow sampling best practices;
- Stormwater flow and baseflow measurements shall be recorded at the outfall and in-stream stations for the following parameters:

- Continuous measurements shall be recorded for the parameters listed below at the in-stream monitoring station or other practical location based on the approved study design:
- Data collected from stormwater, baseflow, and continuous monitoring shall be used to estimate annual and seasonal pollutant loads and reductions, and for the calibration of watershed assessment models; and
- If the County elects to continue monitoring Wheel Creek or selects a new BMP effectiveness study for monitoring, the County shall submit a revised sampling plan for approval to address the new monitoring parameters provided above with the first annual report. An approved sampling plan under a prior MS4 permit for the County shall continue until the Department approves a new sampling plan proposed under this permit.

Harford County is participating in Pooled Monitoring for BMP Effectiveness now. A fully executed MOU between the County and CBT is included in Appendix G1. Members from the County participated in the pooled monitoring collaboration of RFP questions and with the pooled monitoring forum.

In addition, the final Wheel Creek Comprehensive Monitoring effort is wrapping up and is summarized below.

<u>Wheel Creek Watershed Background</u>

Harford County Department of Public Works (DPW) recently completed a multi-disciplinary monitoring effort from 2009 to 2024 in the Wheel Creek watershed to assess the performance of stream and stormwater management restoration investments. The watershed, which is located in the Bush River Basin in the central portion of Harford County near Bel Air, was the subject of planning efforts documented in the Bush River Watershed Restoration Strategy (WRAS; MDNR 2002), the Bush River Watershed Management Plan, and the 2008 Wheel Creek Watershed Assessment. The Wheel Creek watershed is in the Piedmont ecophysiographic region.

The watershed drains 435 acres of land. The headwaters (uppermost area of the catchment) of Wheel Creek consist mostly of high-density residential and commercial use., while the remainder of the watershed consists of medium to low-density residential and forested land. The streams in the watershed have been altered and impacted by changes in hydrology and pollutant transport associated with urbanization and historical agricultural land use. Development over the last three decades has led to an increase of impervious surfaces to 27% leading up to the restoration and monitoring efforts.

Harford County conducted monitoring to document any measurable changes in sediment and nutrient loads, physical stability of stream banks and instream habitat, and the quality of fish and benthic macroinvertebrate communities. As a collaborative monitoring effort, Harford County DPW, Maryland Department of Natural Resources (DNR), the United States Geological Survey (USGS), and two consulting firms (Versar Global Solutions [Versar] and KCI Technologies, Inc. [KCI]) performed specific data collection activities at various times during the monitoring period. The study design consisted of monitoring conditions during both pre-construction (i.e., baseline) and post-construction restoration conditions associated with specific projects.

Wheel Creek Small Watershed Assessment

Seven priority restoration projects recommended in the 2008 Wheel Creek Small Watershed Assessment have been constructed. The following is a summary of each project along with the completion date.

Constructed
Gardens of Bel Air SWM Retrofit (2013)
Calvert's Walk Stream Restoration (2013)
Festival at Bel Air SWM Retrofit (2015)
Country Walk 1A SWM Retrofit (2015)
Phase 1 - Lower Wheel Creek Stream Restoration and WQ Facilities (2016)
County Walk 1B SWM Retrofit (2017)
Phase 2 - Lower Wheel Creek Stream Restoration (2017)

Project success was evaluated through a pre- and post-construction monitoring effort that included chemical, biological, and physical monitoring components that began in January 2009.

Wheel Creek Chemical Monitoring Sites

Three permanent water quality monitoring stations were established in the Wheel Creek watershed between the summer of 2010 and the spring of 2011.

Station WC002 (In-stream)
Located on the mainstem of Wheel Creek just downstream of Wheel Road

Station WC003 (Outfall)
Located on the Middle Branch of Wheel Creek
Outfall from the instream SWM facility on Cinnabar Lane

Station WC004 (In-stream)
Located upstream of WC003 on the Middle Branch near Wheel Court

Wheel Creek 15-Year Comprehensive Monitoring Effort Results

Wheel Creek Water Chemistry and Stream Flow

Post-restoration water chemistry concentrations were compared to pre-restoration concentrations to assessing the effectiveness of the restoration projects. Box plots of the grouped pre-restoration and post-restoration stormflow and baseflow concentrations were developed for comparison.

Scientists calculated the percentage reduction in pollutants between the pre-restoration and post-restoration phases to characterize aggregated restoration performance within the contributing catchments to each station. A non-parametric Kruskal-Wallis test was used to determine the significance of the changes between pre-restoration and post-restoration concentrations.

- Continuous measurements shall be recorded for the parameters listed below at the in-stream monitoring station or other practical location based on the approved study design:
- Data collected from stormwater, baseflow, and continuous monitoring shall be used to estimate annual and seasonal pollutant loads and reductions, and for the calibration of watershed assessment models; and
- If the County elects to continue monitoring Wheel Creek or selects a new BMP effectiveness study for monitoring, the County shall submit a revised sampling plan for approval to address the new monitoring parameters provided above with the first annual report. An approved sampling plan under a prior MS4 permit for the County shall continue until the Department approves a new sampling plan proposed under this permit.

Using standard protocols for water chemistry monitoring, field staff collected data relevant to water chemistry and stream flow between 2010 and 2024. Efforts included continuous flow rate logging, automated storm runoff sampling, and manual baseflow sampling for each of the instream stations. Stage to discharge curves were prepared in accordance to USGS protocols annually. The USGS has several continuously logging rain gauges near the watershed, which provided data on accumulated rainfall near the monitored streams. Due to the use of multiple labs with different detention limits, data was compared, reviewed, and adjusted to the highest detection limit prior to statistical analysis.

Results for the adjusted data suggest that restorations might have helped improve the control of nitrate-nitrate and zinc from stormwater runoff, but other pollutants were not as effectively or consistently controlled. Results of the statistical tests on the data provided the following post-restoration observations for stormflow:

- Station WC002: Concentrations were significantly lower for nitrate-nitrite, total lead, and total zinc but significantly higher for ammonia

- Station WC003; Concentrations were significantly lower for BOD, nitrate-nitrite, total copper, and total zinc but significantly higher for ammonia, TKN, and phosphorus.
- Station WC004: Concentrations were significantly lower for BOD, nitrate-nitrite, total copper, and total zinc but significantly higher for ammonia.

Results for the data suggest that restorations might have helped to improve controls of nitrate-nitrate in baseflow conditions, but other pollutants were not as effectively or consistently controlled. Results of the statistical tests on the data indicate that for baseflow sampling:

- Station WC002: Post-restoration concentrations were significantly lower than pre-restoration for BOD and nitrate-nitrite but higher for ammonia, TKN, and total phosphorus.

- Station WC003: Post-restoration concentrations were significantly lower than pre-restoration for nitrate-nitrite, phosphorus, total copper, and total zinc but higher for ammonia and TKN.

- Station WC004: Post-restoration concentrations were significantly lower than pre-restoration for ammonia, nitrate-nitrite, total copper, and total zinc but higher for TKN and phosphorus.

During stormflow, the restoration projects performed well for reducing key metals associated with particulates. The restored watershed significantly reduced total zinc at all stations, with gradually higher percent reductions when proceeding from upstream to downstream (e.g., WC004: 18.1%, WC003: 30.2%, WC002: 38.6%). The restoration projects also performed well for reducing total copper; however, Station WC003 provided the best reduction (52.1%) and the reduction result at Station WC002 (45.5%) was not significant. The reduction in metals aligned with the restoration performance for TSS, which ranged from a slight increase in TSS at Station WC004 to a decrease at Station WC002 of 36.3%; none of the results were significant.

The restored system provided mixed results for controlling nutrients transported during storm events. The restored watershed significantly reduced nitrate-nitrite, a component of inorganic nitrogen applications, such as fertilizer. The reduction was significant for all stations, with the greatest reductions at the two upstream stations (e.g., WC004: 46.6%, WC003: 47.8%, WC002: 25.4%). Restoration improved BOD, with significant reductions at the two upstream stations (e.g., WC004: 22.8%, WC003: 54.3%). At Station WC002, BOD increased by 22.5%. Total phosphorus increased at all stations between the pre- and post-restoration periods. Concentrations of ammonia significantly increased at all stations after the restorations, and the greatest increase was documented at the most downstream station. Ammonia is a component of TKN, and relative concentrations of TKN also increased at all stations; the highest and only significant result for ammonia was at Station WC003.

During baseflow, the restored watershed's capacity to control metals was similar to the results under stormflow conditions. In contrast to stormflow, however, the greatest reductions in concentrations for total zinc were at the upstream station, and reductions were gradually less in areas further downstream (e.g., WC004: 40.9%, WC003: 39.5%, WC002: 22.5%). Reductions in total copper were greater than 90%, and significant, at the upstream stations, but the average copper concentration increased at Station WC002. The performance of the system in the reduction of TSS was mixed and consisted of non-significant results.

The measured performance of the restoration projects for controlling nutrients had mixed results. The system reduced nitrate-nitrite significantly, with the greatest reduction at Station WC003 (e.g., WC004: 13.6%, WC003: 43.1%, WC002: 26.3%). The average concentration of BOD significantly decreased at Station WC002, increased at Station WC003, and decreased slightly at Station WC004. The results were based on low numbers of samples that had readings above the detection limits at all stations. Ammonia significantly increased during the post-restoration period at Station WC002 and Station WC003; the chemical significantly decreased at Station WC004; however, the result was based on a very small number of detectable results. TKN increased significantly at all stations (e.g., WC004: 69.0%, WC003: 757%, WC004: 2900%), Orthophosphate and total phosphorus followed similar patterns, with increases at Station WC004 and Station WC002 and a decrease in average concentration at Station WC003. All changes in average concentrations for total phosphorus were significant; however, the results at Station WC003 were based on a very low number of detectable concentrations.

ii. Biological Monitoring:

- Benthic macroinvertebrate samples shall be gathered each spring between the outfall and in-stream stations, or other practical locations based on a Department approved study design; and
- The County shall use the Maryland Biological Stream Survey (MBSS) sampling protocols for biological and stream habitat assessment.

<u>Wheel Creek Biological Monitoring Results</u>

Field staff followed standard protocols during site visits in the spring and summer index periods to collect, process, and analyze data consistent with the MD-DNR Maryland Biological Stream

Survey (MBSS) monitoring program. Staff collected biological monitoring data in the Wheel Creek watershed during the period between 2009 and 2024, and complete sets of physical habitat data during the period from 2020 through 2024; staff collected partial data for physical habitat metrics (most parameters) during the period from 2009 through 2019. Field efforts included collecting measurements of physical in situ water quality parameters, conducting physical habitat assessments, and collecting samples of benthic macroinvertebrates, fish, crayfish, herpetofauna, and freshwater mussels to inform biological condition assessments for each of the stations.

Trends in FIBI scores from the four stations (2009 through 2024) indicated slight declines in fish community health at three stations (ATKI-101-X, ATKI-102-X, and LWIN-108-X). The strongest negative trend was evident in data from ATKI-102-X ($R2 = 0.67$); data from ATKI-003-X exhibited a slightly positive trend in fish community condition ($R2 = 0.02$). Only ATKI-102-X exhibited FIBI scores that were significantly lower in the post-restoration period compared to the pre-restoration period ($p = 0.02$).

The relative amounts of a pollution-tolerant indicator taxa in the benthic community populations increased at most stations, and the relative amounts of species with clinging habits in stream habitats and pollution-intolerant species decreased at all stations during the reporting period. There were variable results in the trends for the percentage of pollution-tolerant Chironomidae collected at each of the four stations during the period from 2009 through 2024. No significant differences were noted between pre- and post-restoration percentages, but a declining trend was observed for Station ATKI-102-X while Chironomidae percentages increased at Stations ATKI-003-X, ATKI-101-X, and LWIN-108-X. Declining trends were seen across all four monitoring stations for the percentage of macroinvertebrate clinger species and the percentage of taxa intolerant to urban influence. While these declines were not significantly different between pre- and post-restoration periods in the Wheel Creek watershed, they were significantly different at the reference site (percent clingers: $p = 0.03$; percent urban intolerant: $p = 0.01$). The disparity in the trends demonstrates that restoration activities in the watershed are likely reducing the impacts of urban influences compared to streams with no improvement projects, but urban influences in the region are still negatively impacting the most sensitive benthic macroinvertebrate species.

Trends of data results from samples collected at each of the four stations monitored during the period from 2009 through 2024 illustrated that the fish populations at the stations in the watershed gained relatively more generalist and stress-tolerant species over time, especially after restoration activities. Fish populations at the reference station were relatively stable by the same measures in comparison. The trends had variable results for the percentage of general omnivores, percentage of lithophilic spawning fish, and percentage of species present that are

tolerant to urban influence. The percentage of general omnivores per sample increased at all four stations; the trends were more relatively pronounced at the Wheel Creek stations than at the reference station. Declining trends were evident across all four monitoring stations for the percentage of lithophilic spawning fish. The differences between pre- and post-restoration periods were significant for both general omnivores increase and lithophilic spawner decrease at Stations ATKI-003-X ($p = 0.01$ and $p = 0.02$, respectively) and ATKI-102-X ($p = 0.01$ and $p = 0.01$, respectively). The results of the two measures, taken together, suggest that the fish population shifted to more generalist species after the restorations, and was likely still recovering from restoration disturbances through the end of the monitoring period. Similarly, trends over time demonstrate increases in the percentage of fish tolerant to urban influence at each; the fish population at the reference site showed a decreasing trend in the percentage of urban tolerant fish during the same period. Significant increases in the percentage of urban-tolerant fish per sample were noted between pre- and post-restoration data sets for Stations ATKI-003-X ($p = 0.01$) and ATKI-102-X ($p = 0.01$). The result suggests that restoration activities likely reduced the relative number of sensitive fish species in the habitats at the stations during construction, and that the fish communities in some reaches of the watershed have yet to recover.

iii. Physical Monitoring:

- A geomorphologic stream assessment shall be conducted between the outfall and in-stream monitoring locations or in a reasonable area based on the approved monitoring design. This assessment shall include annual comparison of permanently monumented stream channel cross-sections and the stream profile; and
- A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM) in the fourth year of the permit to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

<u>Wheel Creek Geomorphic Assessment</u>

Field staff followed standard geomorphic monitoring protocols in the spring to collect data consistent with the Rosgen methodology. Field efforts during the period between 2010 and 2024 included collecting measurements of longitudinal profile, cross-sections, and pebble counts for

each of the stations. Data were entered into Mecklenburg spreadsheets for calculations of bankfull metrics.

Overall, annual Rosgen classifications indicate consistently stable but vulnerable channels at Stations WC02 and WC04 over time. At Station WC03, conditions were mostly stable in the riffle, but highly unstable in the meander/bend. At Station WC01, conditions were mostly stable across both the riffle and meander features, but occasionally unstable in the meander/bend over time. Despite the general stable trend, the erosive forces from high-intensity flows continue to scour material, both vertically and horizontally, from unrestored upstream stations and redistribute the loosened material through aggradation in pool features in the downstream restored reaches.

Wheel Creek Habitat Monitoring

Data results from the stations that were monitored throughout the study period generally indicated declines in instream habitat conditions relative to the reference watershed, especially after restoration activities. All three stations within the Wheel Creek watershed (ATKI-003-X, ATKI-101-X, and ATKI-102-X) showed negative trends in percent shading, total number of woody debris, and total number of rootwads assessed during the period from 2009 through 2024; the trends for the three metrics increased at the reference station (LWIN-108-X) during the same time period. The visual trends were not statistically significant at any station with respect to woody debris between pre- and post-restoration periods. The visual trends in shading percentage were statistically significant between pre- and post-restoration conditions for all three stations in Wheel Creek (ATKI-003: $p = 0.01$; ATKI-101: $p = 0.02$; ATKI-102: $p = 0.01$); the negative trend was also significant for the number of rootwads at Station ATKI-102 ($p = 0.01$). Specific to the epifaunal substrate quality score, all four stations demonstrated negative trends over time, though not statistically significant. While there were visual, and some statistically significant, declines in the four metrics between pre- and post-restoration periods, the declines would be expected, due to the substantial changes to stream habitat characteristics resulting from the restoration activities in the watershed. The restorations included some tree clearing to allow construction access to the restoration locations, and materials were removed through the construction process; over time, replacement tree plantings should further mature, and likely contribute to increased shading and the addition of woody debris and leafy materials in the stream.

iv. Annual Data Submittal:

The County shall describe in detail its monitoring activities for the previous year and include the following:

- EMCs submitted on the Department's long-term monitoring MS4 Geodatabase as specified in PART V below;
- Chemical, biological, and physical monitoring results and a combined analysis for the approved monitoring locations;
- Any available analysis of surrogate relationships with the above monitoring parameters; and
- Any requests and accompanying justifications for proposed modifications to the monitoring program.

Harford County concluded 15 years of comprehensive monitoring activities in the Wheel Creek watershed in 2024. The report analyzes the results of biological and physical habitat, geomorphic data, baseflow, stormflow, and sediment transport monitoring methods, rainfall and flow rate logging methods, calculations used to determine EMC, pollutant loading rates, long term trend analysis, followed by a discussion of the data results and a comparison of pre and post restoration condition over the entire monitoring period. **The comprehensive report is in the draft review phase, and the final report will be completed in Q1 of 2026.** The final report will be submitted to MDE upon completion. The County is now participating in the pooled monitoring effort, and this will be the final year reporting on the Wheel Creek watershed.

2. Watershed Assessment Monitoring

By April 30, 2023, or by July 1 of each year, the County shall notify the Department which option it chooses for watershed assessment monitoring. The County must implement one of the two options as follows:

a. The County shall collaborate with the Department in a Pooled Monitoring Advisory Committee administered by CBT for determining appropriate watershed assessment monitoring. To implement the required monitoring, the County shall pay $174,100 annually into a pooled monitoring CBT fund. Enrollment in the program shall be demonstrated through an MOU between the County and CBT to be signed by September 1 of each year. The terms of the Watershed Assessment Monitoring MOU are described in the 2021 Monitoring Guidelines. The County shall remain in the program for the duration of this permit term; or

b. The County shall submit a comprehensive plan for watershed assessment and trend monitoring by April 30, 2024, related to stream biology and habitat, bacteria, and chlorides and commence monitoring upon the Department's approval. The plan shall follow the 2021 Monitoring Guidelines and include:

i. Biological and habitat assessment monitoring at randomly selected stream sites using MBSS protocols;

ii. Bacteria (i.e., *E.coli*, Enterococcus spp., or fecal coliform monitoring); and

iii. Chloride assessments at one location.

The County elected to collaborate with the Department in a Pooled Monitoring Advisory Committee administered by CBT. A fully executed MOU between the County and CBT is included in Appendix G2. Members from the County participated in the pooled monitoring collaboration of the RFP questions along with the pooled monitoring forum. The quarterly update reports are also located in Appendix G2.

3. PCB Source Tracking

Within one year of permit issuance, Harford County shall develop a PCB source tracking monitoring plan for all applicable TMDL WLAs where watershed reductions are required to meet water quality standards. Harford County shall submit results and provide updates annually on the monitoring efforts.

Bush River Watershed PCB Source Track down Study

An updated restoration plan for Bush River PCB TMDL was submitted with the FY19 Annual Report. On April 27, 2020, MDE requested updates to the plan. The County submitted an Interim Report in March 2021. The report included a summary of the updates to address the comments. The County met with MDE on May 4, 2021, to review the Interim Report and requested the plan updates be incorporated into the plan using track changes. The updated plan was submitted to MDE in December 2021.

In FY24, Tetra Tech developed a Quality Assurance Project Plan (QAPP) in accordance with *EPA Requirements for Quality Assurance Project Plans (EPA QA/R-5)* and initialized the Phase II track down study by deploying samplers at locations throughout the Bush River Watershed. In FY25, Tetra Tech deployed passive samplers at 24 locations that were identified during the PCB desktop assessment. Sampling was conducted from summer to fall to capture in-situ measurements of PCBs in surface waters at the downstream portions of watersheds with the methods described in the Sampling and Analysis Plan. Sample were sent to a laboratory for testing to determine which subwatersheds warranted further monitoring in Phase II. Results indicate that thirteen (13) sites had total dissolved PCBs less than the reference threshold of 69.2 pg/L, four (4) sites had total dissolved PCBs greater than the reference threshold (69.2 pg/L) but less than the TMDL water column endpoint of 120 pg/L, and four (4) sites had total dissolved PCBs greater than the TMDL water column endpoint value. **Harford County's Phase I PCB Sampling Report was submitted to MDE for comments on June 25th, 2025**. To date, no comments have been received. The sampling report is included in Appendix G3.

H. Program Funding

1. Annually, a fiscal analysis of the capital, staffing, operation, and maintenance expenditures necessary to comply with all conditions of this permit shall be submitted by Harford County as required in PART V below.

During this reporting period, the MS4 Office issued purchase orders totaling $14.4 M. The following is a summary of expenditures for this reporting period (Appendix H):

FY24 Expenditures - $14.4M
Capital - $11.8M
Maintenance - $720K
Monitoring - $1.7M
Planning- $25K
Outreach - $40K

Approved FY25 Budget | Harford County, MD (harfordcountymd.gov)

2. Adequate program funding to comply with all conditions of this permit shall be maintained. Lack of funding does not constitute a justification for noncompliance with the terms of this permit.

In June 15, 2025, the County Council approved the fiscal year 2026 budget. The full budget document is available at the following link.

Approved FY26 Budget | Harford County, MD (harfordcountymd.gov)

FY26 Projected Revenue - $1.04B
Property Tax - $375M
Income Tax - $342M
Recordation Tax - $24M
Other Revenue - $299M

Projected FY26 revenue and appropriations breakdown for Watershed Management Fund.

FY26 Watershed Restoration Fund - $9,08 M
Recordation Tax - $2.67M
Investment Income - $0.14M
Fund Balance (Recordation Tax) - $6.28M

FY26 Watershed Restoration Fund - $9.08M
Debt Services - $2.36M
Operating - $4.00M
Capital (paygo) - $2.75M

FY26 Watershed Restoration Fund (Debt Services) - $2.32 M
Principal - $1.43M
Interest - $0.89M
Insurance - $0.03M

For FY24, capital budgets for stormwater management not related to the implementation of the MS4 program were moved to a separate account. This remains the same for FY25 and FY26. The lower FY2023 reflects the removal of these capital budgets. The County Council approved the following capital budget for the Watershed Protection & Restoration Program. Less proposed grants, 90% of the budget is dedicated to the implementation of this permit.

FY26 Watershed Protection & Restoration Approved Capital Budget - $15.95M
Paygo - $2.75M
Future Bonds - $11.2M
Proposed Grants - $2.00M

The County Council approved the following operating budgets. The Watershed Protection & Restoration Program, funded through Recordation Tax, and Stormwater Management Programs, funded through General Funds.

FY26 Watershed Protection & Restoration Approved Operating Budget - $3.97M
Personnel (7.0) - $1.20M
Contractual - $1.51M
Other - $1.26M

FY26 Stormwater Management Approved Operating Budget - $1.62 M

Personnel (5) - $0.71 M

Contractual - $0.59 M

Other - $0.24M

Additionally, a portion of the operating budget for the Construction Inspections Office funds includes erosion and sediment control and stormwater construction inspectors.

In addition to permanent staff positions, the operating and capital budgets include supplemental staff, listed as FTE or full-time equivalent.

As discussed above under Permit Administration, staff from various other departments and divisions within the County assist the MS4 Office with the implementation of this permit (Appendix A).

Financial Assurance Plan and Watershed Protection & Restoration Program Report

The MS4 Financial Assurance Plan (FAP) for FY24 was introduced to Council on December 3, 2024. The public hearing is scheduled for early January 2025. The FAP was finalized and submitted to MDE in January once it was approved. A copy of the Final FAP is included in Appendix H.

A Watershed Protection & Restoration Program (WPRP) Annual Report for FY25 is also being submitted with the Annual Report as required by the Department.

PART V. PROGRAM REVIEW AND ANNUAL PROGRESS REPORTING

A. Annual Reporting

1. Annual progress reports, required under 40 CFR §122.42(c), will facilitate the long-term assessment of Harford County's NPDES stormwater program. The County shall submit annual reports on or before December 31st and post these reports on the County's website. All information, data, and analyses shall be based on the State's fiscal year and include:

   a. An executive summary on the status of implementing the County's MS4 programs that are established as permit conditions including:

      i. Permit Administration;

      ii. Legal Authority;

      iii. Source Identification;

      iv. Stormwater Management;

      v. Erosion and Sediment Control;

      vi. Illicit Discharge Detection and Elimination;

      vii. Property Management and Maintenance;

      viii. Public Education;

      ix. Stormwater Restoration;

      x. Countywide Stormwater TMDL Implementation Plan;

      xi. Assessment of Controls; and

      xii. Program Funding.

b. A narrative summary describing the results and analyses of data, including monitoring data that is accumulated throughout the reporting year;

c. Expenditures for the reporting period and the proposed budget for the upcoming year;

d. A summary describing the number and nature of enforcement actions, inspections, and public education programs;

e. The identification of water quality improvements and documentation of attainment and/or progress toward attainment of schedules, benchmarks, deadlines, and applicable stormwater WLAs developed under EPA established or approved TMDLs; and

f. The identification of any proposed changes to the County's program when stormwater WLAs are not being met.

2. All annual reporting specified in PARTs IV.C, D, E, F, and G, or required anywhere within this permit shall be made using the MS4 Geodatabase. A corresponding User's Guide provides guidance for data requirements and entry into the MS4 Geodatabase.

3. Because this permit uses an iterative approach to implementation, the County must continuously evaluate the effectiveness of its programs and report any modifications in each annual report. Where programs are determined by the County to be ineffective, modifications shall be made within 12 months that effectively show progress toward meeting stormwater WLAs developed under EPA approved TMDLs.

B. Program Review

In order to assess the effectiveness of Harford County's NPDES stormwater program for reducing the discharge of pollutants to the MEP and working toward meeting water quality standards, the permittee will cooperate with the Department during the review of annual reports, field inspections, and periodic requests for additional data to determine permit compliance. Procedures for the review of local erosion and sediment control and stormwater management programs exist in Maryland State law and regulations. The Department may require additional evaluations and field inspections to be conducted for IDDE, property management and maintenance, assessment of controls, and impervious surface area and Chesapeake Bay restoration to determine compliance with permit conditions.

C. Reapplication for NPDES Stormwater Discharge Permit

This permit is effective for no more than five years from the effective date unless administratively continued by the Department. In order to qualify for an administrative continuation of this permit beyond five years, Harford County must reapply for NPDES stormwater discharge permit coverage in its fourth year annual report. Failure to reapply for coverage constitutes a violation of this permit and can lead to a lapse of permit coverage and subject any discharges that occur without permit coverage to enforcement action and penalties. All requirements of this permit must be completed within the five-year permit term. An administrative continuance does not extend or modify any of the completion dates as set forth in the permit; the administrative continuance only provides permit coverage to allow County discharges until a new NPDES permit is issued and effective. Once a new NPDES permit is effective the administrative continuance automatically expires.

As part of this application process, the County shall submit to the Department an executive summary of its NPDES stormwater management program that specifically describes how each County watershed has been thoroughly evaluated, and the status of implementing water quality improvement projects and all schedules, benchmarks, and deadlines toward meeting stormwater WLAs. This application shall be used to gauge the effectiveness of the County's NPDES stormwater program and will provide guidance for developing future permit conditions. The application summary shall include:

1. The County's NPDES stormwater program goals;

2. Program summaries for the permit term regarding:

    a. Illicit discharge detection and elimination results;

    b. Impervious Surface and Chesapeake Bay Restoration status including County totals for impervious acres, impervious acres controlled by stormwater management, the current status of water quality improvement projects and acres managed, and documentation of progress toward meeting stormwater WLAs developed under EPA approved TMDLs;

    c. Pollutant load reductions as a result of this permit and an evaluation of whether TMDLs are being achieved; and

    d. Other relevant data and information for describing County programs;

3. Program operation and capital improvement costs for the permit term; and

4. Descriptions of any proposed permit condition changes based on analyses of the successes and failures of the County's efforts to comply with the conditions of this permit.

PART VI. SPECIAL PROGRAMMATIC CONDITIONS

Maryland's baseline programs, including the 1991 Forest Conservation Act, 1997 Priority Funding Areas Act, 2007 Stormwater Management Act, 2009 Smart, Green & Growing Planning Legislation, 2010 Sustainable Communities Act, 2011 Best Available Technology Regulation, and the 2012 Sustainable Growth & Agricultural Preservation Act effectively mitigate the majority of the impacts from new development. Any additional loads will be offset through Maryland's Aligning for Growth policies and procedures as articulated through Chesapeake Bay milestone achievement. Harford County shall reflect these policies, programs, and implementation as part of its net WLA accounting as stipulated in PART IV.F.3.b of this permit.

PART VII. ENFORCEMENT AND PENALTIES

A. Discharge Prohibitions and Receiving Water Limitations

Harford County shall prohibit non-stormwater discharges into, through, or from its MS4. NPDES permitted non-stormwater discharges are exempt from this prohibition. Discharges from the following will not be considered a source of pollutants when properly managed: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensation; irrigation waters; springs; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; de-chlorinated swimming pool discharges (not including filter backwash); street wash water; and firefighting activities.

Consistent with §402(p)(3)(B)(iii) of the CWA, the County shall take all reasonable steps in compliance with the terms of this permit to minimize or prevent the contamination or other alteration of the physical, chemical, or biological properties of any waters of the State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of the State, that will render the waters harmful to:

1. Public health, safety, or welfare;
2. Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial use;
3. Livestock, wild animals, or birds; and
4. Fish or other aquatic life.

B. Duty to Mitigate

Harford County shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

C. Emergency Reporting Requirements

Harford County shall report any non-compliance that may endanger human health or the environment to the Department's Compliance Program within 24 hours from the time when the County becomes aware of the circumstances. The 24-hour reporting can be accomplished by telephone at 410-537-3510 or by email to mde.wsacompliance@maryland.gov with the subject line "24-hour non-compliance report notification, Harford County MS4."

Within five days of the of the initial 24-hour report due, the County shall provide a written submission containing a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times; if the non-compliance has not been corrected, the anticipated time that it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance. A written summary of the incident and steps taken to prevent the recurrence of the emergency shall also be included in the subsequent annual report.

D. Duty to Comply

Harford County shall be responsible for complying with all conditions of this permit. Other entities may be used to meet various permit obligations provided that both the County and the other entity agree contractually, and that no stormwater restoration work for Chesapeake Bay or local TMDL stormwater implementation plans are double-counted. Regardless of any arrangement entered into however, the County remains responsible for permit compliance. In no case may this responsibility or permit compliance liability be transferred to another entity.

Failure to comply with a permit provision constitutes a violation of the CWA and State law and is grounds for enforcement action; permit termination, revocation, or modification; or denial of a permit renewal application. The County shall comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3 of the Annotated Code of Maryland.

E. Proper Operation and Maintenance

The County shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the County to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the County only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Sanctions

1. Penalties Under the CWA - Civil and Criminal

Section 309(g)(2) of the CWA, 33 USC §1319(g)(2) provides that any person who violates any permit condition is subject to a civil penalty not to exceed $10,000 per day for each violation, not to exceed $125,000. Pursuant to the Civil Monetary Penalty Inflation Adjustment Rule, 40 CFR Part 19, any person who violates any NPDES permit condition or limitation is liable for an administrative penalty not to exceed $16,000 per day for each such violation, up to a total penalty of $177,500. Pursuant to Section 309(c) of the CWA, 33 USC §1319(c), any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. Any person who knowingly violates any permit condition is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both.

2. Penalties Under the State's Environment Article – Civil and Criminal

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the County from civil or criminal responsibilities and/or penalties for a violation of Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation. Section 9-342 of the Environment Article provides that a person who violates any condition of this permit is liable to a civil penalty of up to $10,000 per violation, to be collected in a civil action brought by the Department, and with each day a violation continues being a separate violation. Section 9-342 further authorizes the Department to impose upon any person who violates a permit condition, administrative civil penalties of up to $5,000 per violation, up to $50,000.

Section 9-343 of the Environment Article provides that any person who violates a permit condition is subject to a criminal penalty not exceeding $25,000 or imprisonment not exceeding 1 year, or both for a first offense. For a second offense, Section 9-343 provides for a fine not exceeding $50,000 and up to 2 years imprisonment.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than 2 years per violation, or both.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who knowingly makes any false statement, representation, or certification in any records or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than 2 years per violation, or both.

G. Permit Revocation and Modification

1. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by Harford County for a permit modification or a notification of planned changes or anticipated noncompliance does not stay any permit condition. A permit may be modified by the Department upon written request by the County and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in COMAR 26.08.04.10 and 40 CFR §§122.62, 122.63, 122.64, and 124.5.

After notice and opportunity for a hearing and in accordance with COMAR 26.08.04.10, the Department may modify, suspend, or revoke and reissue this permit in whole or in part during its term for causes including, but not limited to the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary reduction or elimination of the authorized discharge;

d. A determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination;

e. To incorporate additional controls that are necessary to ensure that the permit effluent limit requirements are consistent with any applicable TMDL WLA allocated to the discharge of pollutants from the MS4; or

f. As specified in 40 CFR §§122.62, 122.63, 122.64, and 124.5.

2. Duty to Provide Information

The County shall furnish to the Department, within a reasonable time, any information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit; or to determine compliance with this permit. The County shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

H. Inspection and Entry

Harford County shall allow an authorized representative of the State or EPA, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter the permittee's premises where a regulatory activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and obtain copies at reasonable times of any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times, without prior notice, any construction site, facility, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

I. Monitoring and Recordkeeping

Unless otherwise specified by this permit, all monitoring and records of monitoring shall be in accordance with 40 CFR §122.41(j).

J. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State or local law or regulations.

K. Severability

The provisions of this permit are severable. If any provision of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

L. Signature of Authorized Administrator and Jurisdiction

Each application, report, or other information required under this permit to be submitted to the Department shall be signed as required by COMAR 26.08.04.01-1. Signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.