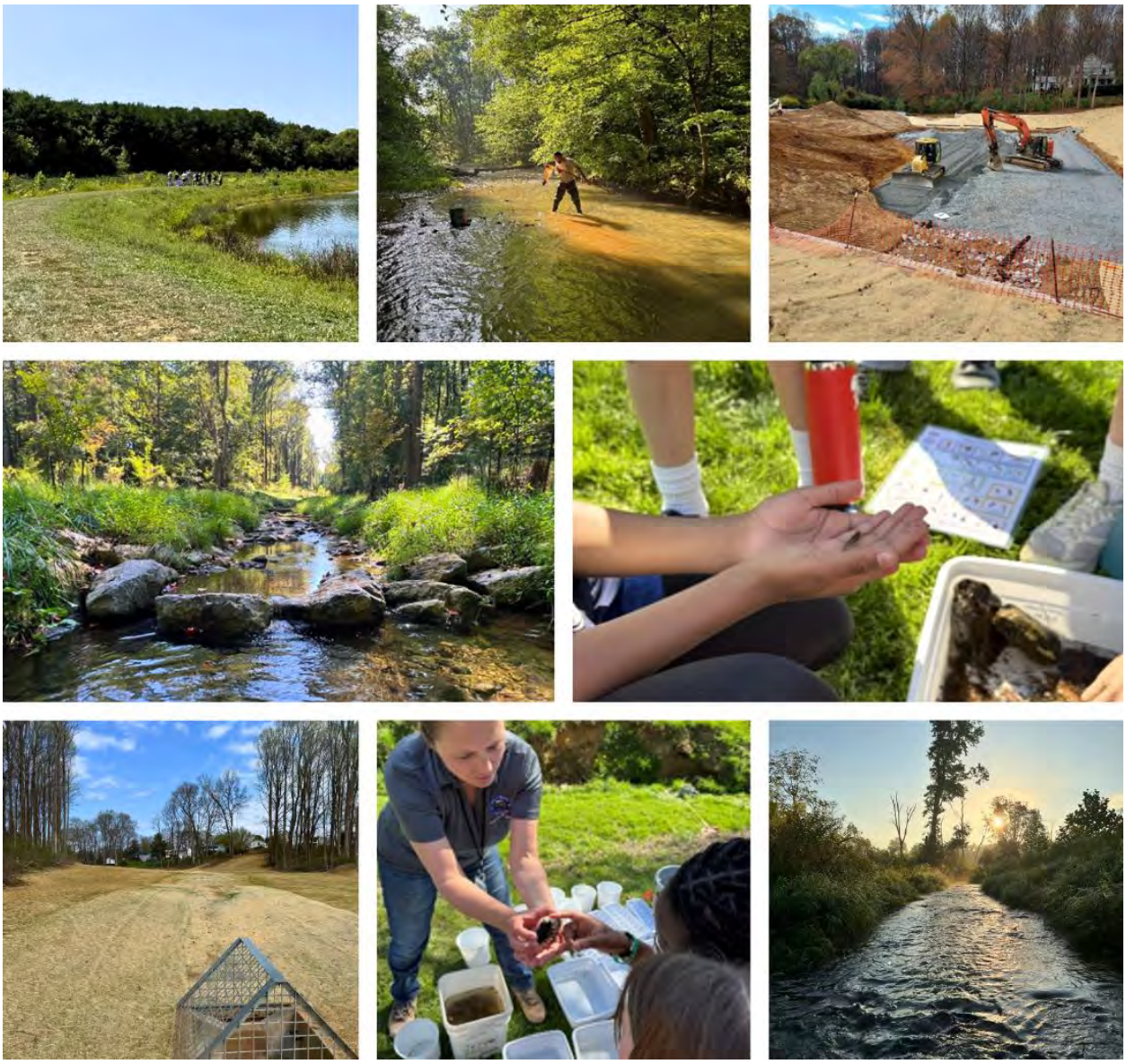
Carroll County Maryland



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
DISCHARGE PERMIT

2025 ANNUAL REPORT

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Carroll County

NPDES ANNUAL REPORT

2025

CARROLL COUNTY, MARYLAND
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

PERMIT

Preface

This document summarizes Carroll County, Maryland's compliance efforts taken in response to conditions attached to the National Pollutant Discharge Elimination System Permit No. 22-DP-3319 (MD0068331) issued for the County's municipal storm sewer systems. Permit No. 22-DP-3319 is required under Section 1342 (p) of the Clean Water Act (ref.: USC, Title 33, Ch. 26, Sub. Ch. IV). It is in response to the specific requirements in 40 CRF122.42(c). This report provides compliance efforts from July 1, 2024, to June 30, 2025.

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MDE Prior Year Annual Report Assessment Response

On April 9, 2025, the Maryland Department of the Environment (MDE) acknowledged receipt of the Carroll County 2024 Annual Report. The letter acknowledged the work performed by the County and did not have any significant comments or concerns to be addressed.

Minor comments included:

- The County should ensure that all BMPs are inspected and maintained. The Annual Report indicated several inspections are scheduled for FYs 2025-2027. In the next Annual Report, please confirm that the 53 BMPs not inspected within the past three years are included within this schedule.
    - The County has confirmed that all BMPs have been inspected within the past three years.
- The County reported 270 BMPs with a PE of 0. Please confirm these PEs are correct and provide updated values as needed.
    - These values are correct. These BMPs were designed and approved under historic stormwater management requirements and provide only quantity management. One BMP does stand out as an exception, being a redevelopment BMP at a site where a stormwater quantity and quality requirements waiver request was approved.
- Please correct BMP CR05RST000001 with a built date of "1/1/9999".
    - This BMP record has been updated with an as-built date of 05/11/2021.
- Seven [Alternative] BMPs had no inspections within the last three years, and of these, four did not have inspections since 1996 or 1991. Please ensure that these BMPs are brought back into a three-year inspection cycle.
    - The County has confirmed that all BMPs have been inspected within the past three years.
- BMP CR22ALN000001 had a reported cost of $0. Please ensure that all cost data are reported.
    - This BMP has been updated with a cost of $353,560.
- Please clarify where the [outfall] prioritization process document is located for the Department's review and approval. The Department recommends that the County incorporate the prioritization process into the IDDE SOPs.
    - The outfall prioritization process was submitted in the FY2023 Annual Report Narrative as Appendix F. The County received correspondence from MDE on July 3, 2024, granting approval of the prioritization process developed by the County.
    - The IDDE Manual is intended to be a guidance document that remains applicable across permit years and permits. Because the prioritization process is specific to the fifth-generation permit only, the County would prefer to keep the prioritization as a separate document. Please let us know if this is acceptable.

Part I. Identification

A. Permit Number

22-DP-3319 (MD0068331)

B. Permit Area

This permit covers all stormwater discharges from the municipal separate storm sewer systems (MS4s) owned or operated by Carroll County, Maryland (permittee), and the following incorporated municipalities: the Towns of Hampstead, Manchester, Mount Airy, New Windsor, Sykesville, and Union Bridge and the Cities of Taneytown and Westminster (co-permittees).

C. Effective Date

December 30, 2022

D. Expiration Date

December 29, 2027

Part II. Definitions

Terms used in the Carroll County permit are defined in relevant chapters of the Code of Federal Regulations (CFR) or the Code of Maryland Regulations (COMAR). Terms not defined in CFR or COMAR shall have the meanings attributed by common use, unless the context in which they are used clearly requires a different meaning.

Part III. Water Quality

The permit requires all permittees to manage, implement, and enforce a stormwater management program (SWMP) in accordance with the Clean Water Act (CWA) and corresponding stormwater National Pollutant Discharge Elimination System (NPDES) regulations. According to the Maryland Department of the Environment (MDE) "Basis for Final Determination to Issue Carroll County's NPDES MS4 Permit," the goals of Carroll County's MS4 permit are to control stormwater pollutant discharges and unauthorized discharges into the MS4, to improve water quality within the County's urban watersheds, and to work toward meeting water quality standards.

In alignment with these goals, 402(p)(3)(B)(iii) of the CWA requires the County to implement "…controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and

such other provisions as the administrator or state determine appropriate for the control of such pollutants." Carroll County and its co-permittees have aggressively and consistently pursued measures to improve water quality and work towards compliance with its NPDES MS4 permit, effectively prohibiting pollutants in stormwater discharges or other unauthorized discharges into the MS4.

The County and its co-permittees fully support its stormwater program through strong fiscal commitments, adequate staffing resources, and interjurisdictional cooperation. The County has successfully met and exceeded ambitious impervious reduction goals, provided extensive annual public outreach, and coordinated among a diverse group of jurisdictions to strive for compliance with the NPDES MS4 permit. Fiscal expenditures and capital budgeting – past, present, and planned – demonstrate the continual commitment to this program. This is further reinforced by the Memorandum of Agreement (MOA) signed by all co-permittees, which obligates funding for the capital costs of the permit's impervious surface restoration requirements and defines overall administrative support responsibilities.

The U.S. Environmental Protection Agency (EPA), MDE, and the courts have determined that the impervious acre restoration requirements and associated pollutant reductions are consistent with Maryland's Phase III Watershed Implementation Plan and satisfactory for addressing both the Chesapeake Bay and other applicable Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs). The County and the municipal co-permittees continue to actively implement an adaptive and substantial restoration program. As shown in Part IV.H. Program Funding, the resources needed to support the operating expenses of this program and permit administration, as well as the funding necessary to address the impervious restoration requirement, have been planned and budgeted for the permit term. Additionally, Part IV.D. Management Programs and Part IV.H. Program Funding demonstrate that the programmatic structure is in place to develop and implement restoration plans to address WLAs and approved TMDLs for all County watersheds with a TMDL requirement.

Part IV. Standard Permit Conditions

A. Permit Administration

The legal responsibility for maintaining the conditions included in this permit lies with the Carroll County Board of Commissioners. In addition, the previously referenced municipal MOA also outlines specific programmatic and legal responsibilities between the County and co-permittees. The Commissioners have delegated responsibility to the Carroll County Department of Planning and Land Management (PLM), formerly known as the Department of Land and Resource Management, to provide administrative and technical implementation of the NPDES MS4 permit. The PLM Director provides direct administration of the permit. An organizational chart for program administration can be found in Appendix A.

Within PLM, the Resource Management Division (RMD) provides vital NPDES MS4 operational and technical support, including fieldwork, GIS operations, monitoring, inspections,

compliance, watershed restoration, and various other responsibilities. The RMD holds the primary responsibility for external environmental compliance through the administration of Carroll County Government's environmental and land development codes, ordinances, and standards. These include stormwater management, floodplain management, forest conservation, landscape enhancement, water resource management, grading, erosion and sediment control, and environmental management of storm sewer systems.

RMD has two dedicated NPDES Compliance Coordinators on staff assigned specifically to the NPDES MS4 program. These positions are jointly funded by Carroll County and the eight incorporated municipalities. This arrangement was coordinated by the Water Resource Coordination Council (WRCC), a cooperative partnership between the County, municipalities, and Carroll County Health Department that addresses issues related to water, wastewater, and stormwater management. The NPDES Compliance Coordinators implement certain aspects of NPDES MS4 program requirements. Key responsibilities for these positions include:

- Serving as technical liaisons to MDE;
- Coordinating, managing, and implementing certain permit requirements in accordance with federal, state, and local laws;
- Coordinating with County/municipal personnel, other government officials, and citizens regarding NPDES compliance issues;
- Conducting and coordinating illicit discharge inspection screenings and routine surveys with County/municipal personnel to discover and eliminate pollutant sources;
- Coordinating with County/municipal personnel in the development of pollution reduction good housekeeping practices for property management and maintenance;
- Coordinating with County/municipal personnel in the design, implementation, and maintenance of the County's NPDES Geographic Information System (GIS) and MDE geodatabase (GDB) submission for NPDES MS4 compliance; and
- Coordinating development of compliance education, training, and outreach programs.

The County/municipal joint permit eliminates political boundaries as a factor in watershed planning and restoration. Specific responsibilities related to permit reporting and support from the municipalities are outlined in the MOA. This working relationship has made compliance with the NPDES MS4 requirements more purposeful and effective. The NPDES Compliance Coordinators support each municipality in storm sewer system mapping, illicit discharge detection and elimination inspections/investigations, visual surveys, training, 20SW permit applicability, property management and maintenance practices, and public education and outreach efforts.

Annual written agreements between the County and each municipality further delineate the services the County provides for implementation of and compliance with the permit. These agreements also define the environmental and land development codes, ordinances, and standards that uphold the County's program. **Table 1** shows the assignment of responsibilities for review, inspection, and bonding for each municipality.

Compliance with various other specific permits (e.g. 20SW) is the responsibility of the individual County agencies or co-permittee municipalities that oversee the permitted facilities.

Coordination between these agencies and PLM regarding NPDES compliance remains a priority. In addition, the County continues to work jointly with the municipalities to ensure ongoing implementation of compliance responsibilities. Any future changes in the administration of this permit will be reported to MDE.

Table 1
Review, Inspection, and Bonding: Assignment of Responsibilities

Carroll County Code & Activity	Hampstead	Manchester	Mount Airy	New Windsor	Sykesville	Taneytown**	Union Bridge***	Westminster
Floodplain								
Review*	C/C	C/C	C/C	C/C	C/C	C/C	C/M	M/M
Bond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Inspection	C	C	C	C	C	C	C	M
Easement	C	C	C	C	C	C	M	M
Grading								
Review*	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
Bond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Inspection	C	C	C	C	C	C	C	C
Sediment Control								
Review*	SCD/S	SCD/S	SCD/S	SCD/S	SCD/S	SCD/S	SCD/S	SCD/S
Bond	C	C	M	C	M	M	C	C
Inspection	C	C	C	C	M/C	C	C	C
Stormwater Management								
Review*	C/C	C/C	C/C	C/C	C/C	C/C	C/M	C/M
Bond	C	C	M	C	M	M	M	M
Inspection	C	C	C	C	C	C	C	C
Easement	M	M/C	M	M	M	M	M	M
Landscape								
Review*	C/C	C/C	C/M	C	C/M	C/C	M/M	M/M
Bond	C	C	M	C	M	C	M	M
Inspection	C	C	M	C	M	C	M	M
Forest Conservation								
Review*	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
Bond	C	C	C	C	C	C	C	C
Inspection	C	C	C	C	C	C	C	C
Easement	C	C	C	C	C	C	C	C
Water Resources								
Review*	C/No Code	C/C	C/C	C/C	C/C	C/No Code	M	C/No Code
Bond	N/A	N/A	N/A	N/A	N/A	N/A	M	N/A
Inspection	N/A	C	N/A	C	C	N/A	M	N/A
Easement	N/A	C	M	C	C	N/A	M	N/A
Key:	**C = County**		**M = Municipality**		**S = State**	**SCD = Carroll Soil Conservation District**		

Source: Carroll County Resource Management Division
** Review performed by / whose code*
***County assumed responsibilities associated with stormwater management in April 2025.*
****County assumed responsibilities associated with stormwater management in December 2015.*

On April 27, 2018, MDE issued a National Pollutant Discharge Elimination System General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (General Discharge

Permit No. 13-IM-5500, General NPDES No. MDR055500). This Phase II permit covers the Frederick County side of the Town of Mount Airy. On October 23, 2014, the Town of Mount Airy and the seven other municipalities within the County entered into an MOA relating to the NPDES MS4 Phase I requirements covering the portion of the town which is located within Carroll County. This MOA was subsequently updated and re-affirmed on October 7, 2021. It was revised at this time to become a perpetual agreement that would not have to be resigned at the end of each permit term. Additionally, a separate MOA was executed with Mount Airy on May 10, 2022, to address the Frederick County side of Mount Airy. MDE provided direction to the Town in June of 2024 that the Town will not need to apply for a new Phase II MS4 Permit during the ongoing renewal period. Their review concluded that the entirety of the Town is covered under the Phase I MS4 Permit, and there is no longer a need to permit the Frederick County side separately. The Town and County are working to update the MOA to reflect these changes. The County will continue to support the Town with administration of permit requirements. All capital expenses related to work on the Frederick County side of Mount Airy have been and will continue to be funded by the Town.

Programs specified in the Phase II general permit (e.g. stormwater management, erosion and sediment control, IDDE, and public education) have been implemented in partnership with Carroll County and reported in the County's Annual Report and Geodatabase submissions. Information relating to impervious acreage baseline, restoration planning and implementation, and Minimum Control Measures are highlighted in Appendix G, "Town of Mount Airy Phase II Permit Requirements." With the shift from Phase II to Phase I permitting, Appendix G will be retired in future annual reports. All reporting for the Frederick County portion of the Town of Mount Airy will be incorporated into the main body of the report.

B. Legal Authority

Continuation of Established Authority – The legal authority established under this permit remains within the Carroll County Code of Public Local Laws and Ordinances ("County Code"). In addition, the MOA between the County and incorporated municipalities dated October 2021 establishes cost-sharing and co-permittee responsibilities in complying with this permit.

Chapter 53 of the County Code, "Environmental Management of Storm Sewer Systems," or an equivalent municipal ordinance, provides Carroll County and municipal co-permittees a practical, effective regulatory tool that provides standards to manage and protect the MS4.

C. Source Identification

The permit requires identification of sources of pollutants in stormwater and the systems that convey stormwater runoff. Carroll County maintains staff dedicated to NPDES MS4 compliance, concentrating on those efforts that relate to storm drain system delineation and facility compliance. GIS technology is employed to assist in mapping and data analysis to help identify drainage systems exhibiting stormwater quality deficiencies. GIS also provides detailed locations for issues identified during the watershed assessments, which aids in developing and implementing effective restoration plans.

In 2015, MDE published a geodatabase (GDB) to support reporting of the data required in the MS4 permits. Over the last several years, MDE has been redesigning portions of the GDB in order to provide a more streamlined schema and to incorporate new fields and domains that capture evolving permit requirements. Carroll County is appreciative of the cooperative approach being taken and has been providing feedback to MDE during the redesign process.

The latest version of the schema was provided by MDE in the fall of 2024. Carroll County has migrated its data into the new schema, and this effort has generated another round of comments, questions, and suggestions for MDE, which are included in Appendix F. The County will continue to work with MDE to refine the database design and perform quality assurance reviews of the data. Further opportunities remain for improving the GDB and its functionality, and the County requests that MDE formalize the identified issues with the next schema release.

1. Storm Drain System GIS Database

Carroll County maintains an inventory of storm drain infrastructure to facilitate the identification of source pollutants in stormwater runoff within the County and co-permittee municipalities. System mapping maintenance efforts include the utilization of as-built surveys of newly submitted storm sewer systems in digital format, as required through the development review process. Other sources for data capture include archived records, desktop reviews, outfall screenings, and public works staff observations. Data representing stormwater infrastructure and related information is managed within a County GDB using ArcGIS Pro 3.5.4 software. This GDB has been structured to incorporate the MDE data reporting requirements, allowing the County to simultaneously meet internal recordkeeping requirements and maintain the reporting parameters of the MDE GDB.

The storm drain system has been provided with this annual report as a supplemental GDB, as required by the permit. A subset of features is also provided within the Outfall feature class of the MDE GDB, which includes major NPDES outfalls and other targeted outfalls monitored and screened for Illicit Discharge Detection and Elimination (IDDE) purposes. These GDBs are provided on the Appendix B CD.

The storm drain infrastructure database includes an owner classification field to clarify County, municipal, and non-MS4 owner/operator status. This helps to define MS4 and non-MS4 interface connections in tracking potential source pollutants and system property management and maintenance responsibilities. County and municipal co-permittee personnel provide local system knowledge, mapping, and field verification in maintaining this data. Digital storm drain system map files and hard copy maps are available as a quick reference tool to each municipality and County agency as needed. The County has also reached out to other agencies and businesses who own and maintain infrastructure within county limits to confirm ownership. Over the last several years, County staff have also met with State Highway Administration (SHA) to compare data and maintain open lines of communication between the two agencies regarding GIS data and MS4 coordination.

2. Industrial and Commercial Sources

Carroll County maintains an inventory of industrial and commercial land use areas that it has determined to have the potential to contribute significant pollutants to the MS4 and watershed drainage areas. This inventory is maintained in a geodatabase with periodic additions and subtractions based on the previous year's visual survey observations. In response to a 2017 IDDE program field review by MDE, the selection criteria methodology was adjusted, expanding the inventory for the program. The program update was found acceptable per MDE's 2019 Annual Report review comments. The industrial and commercial source data has been provided with this annual report as a supplemental GDB on the Appendix B CD.

3. Urban Best Management Practices (Stormwater Management Facility Data)

The RMD manages stormwater management facility data for the County and municipalities in the County GDB. The GDB contains information related to facility location, ownership, reviews and approvals, drainage area, impervious area, inspections, and other information. At the conclusion of the last permit year, there were 3,929 active BMPs across the County (1,062 structural practices and 2,867 ESD practices). The BMP feature class contains 4,173 features, 41 of which are "planned" BMPs for restoration crediting. Of the 3,929 active BMPs, 3796 are new development BMPs (970 structural and 2826 ESD), and 80 are Restoration BMPs (73 structural and 7 ESD). All facilities, drainage areas (3,949 total), and outfalls have been mapped, and associated data are provided on the Appendix B CD.

These values include those from the City of Taneytown, which has historically maintained its own stormwater review, inspection, and maintenance program independent of the County. In April of 2025, these responsibilities were transferred to the County. Section D.1., Stormwater Management, provides additional details on these programmatic changes. For the FY2025 Annual Report, data related to Taneytown is reported individually, as in years past, because the programs were separate for the majority of the permit year. Beginning with the FY2026 Annual Report, this data will be incorporated into County totals.

Taneytown currently has 47 active stormwater BMPs (36 structural and 11 ESD), two of which are Restoration BMPs. The city has located and confirmed as-built plans for 33 facilities, and County staff are assisting the city in acquiring or developing the remaining facility plans.

4. Impervious Surfaces

The Permit Impervious Surface Analysis for Carroll County (**Figure 1)** provides a breakdown of the historical and current impervious area restoration program. Restoration requirements began in the third-generation MS4 permit and have continued with subsequent fourth- and fifth-generation permits.

During the third-generation permit term, 10% of untreated impervious area was required to be treated. The baseline during that permit was 6,720 acres of untreated impervious area in the

County; this number did not include the municipalities (Phase II jurisdictions). A total of 688 acres of impervious area were treated during that permit term, which exceeded the 672 required acres, yielding a remaining 6,032 acres of untreated impervious area.

As agreed upon with MDE, at the expiration of the third-generation permit, the County was permitted to work toward addressing the next 20% treatment requirement, which was anticipated to be part of the fourth-generation permit issued on December 29, 2014. In December 2014, the County entered into a MOA with the eight municipalities to join together as a Phase I jurisdiction on the existing permit. The untreated impervious acreage associated with the municipalities (2,265 acres) was then added to the remaining County untreated impervious areas (5,805 acres, determined during a re-evaluation of the County's impervious acreage) for a new baseline of 8,070 acres. The 8,070-acre baseline was affirmed and approved by MDE's review correspondence, dated December 13, 2018, for the 2018 Annual Report. The County concluded the fourth-generation permit in December 2019 with 1,629 acres of impervious area treated, exceeding the 1,614 acres required (20% of 8,070 acres).

The fifth-generation permit was issued on December 30, 2022. It requires the County to restore an additional 1,217 impervious acres during the permit term, equivalent to 14% of the baseline untreated impervious acres. Restoration work completed since January 1, 2020, when the previous permit expired, has been applied to the current fifth-generation permit. During this time period, the County has restored 1,085 impervious acres, which is equivalent to treating 13.5% of the baseline.

Activities associated with treatment efforts taken during each permit term are listed in **Table 10**. Total impervious acres treated as of June 30, 2025, are 3,402. The County has met both the third- and fourth-generation permit requirements and has made significant progress toward the impervious area treatment for the fifth-generation permit.

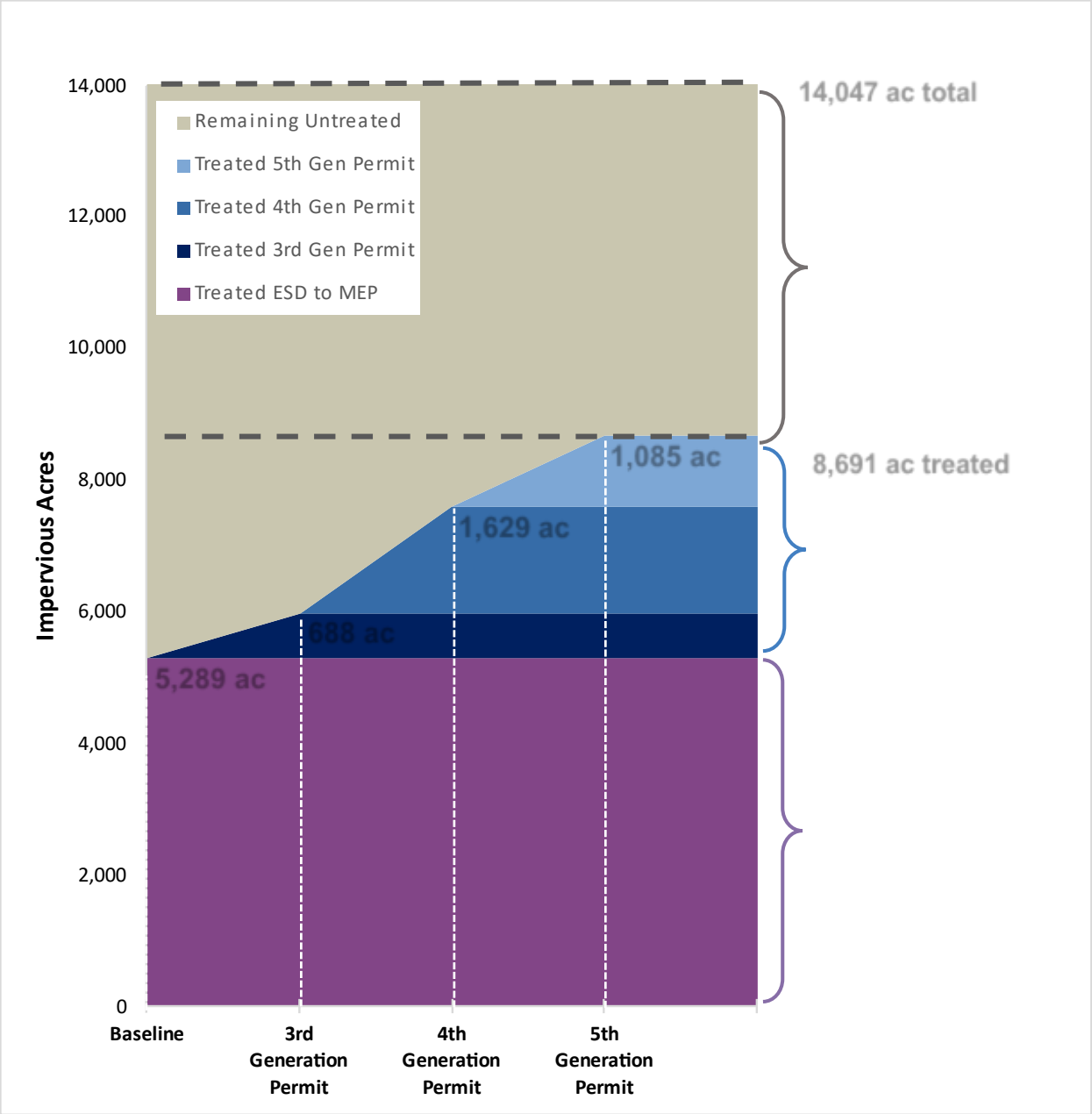


Figure 1: Carroll County Permit Impervious Surface Analysis

5. Monitoring Locations

Water quality monitoring and watershed assessment efforts required within the County's NPDES MS4 permit fall under the responsibility of the RMD. The results of chemical, biological and physical data collection efforts are integral to measuring program success of NPDES MS4 project implementation. The County's MS4 chemical, biological, and physical monitoring locations are discussed in more detail within Section IV.G.1, BMP Effectiveness Monitoring, and Section IV.G.2., Watershed Assessment Monitoring.

In addition to the MS4 BMP effectiveness and watershed wide monitoring requirements, the RMD also conducts internal and grant-funded monitoring programs.

Chesapeake Bay Trust Restoration Research

Stormwater runoff from inadequately managed impervious surfaces can cause accelerated streambank erosion in downstream channels. As pervious land is converted to impervious, the proportion of rainwater that infiltrates into the ground decreases. This, in turn, causes an increase in runoff and an increase in the volume and velocity of flow in downstream receiving channels. The increase in volume and velocity intensifies erosion and increases sediment loads within the stream corridor.

There are two approaches to reducing the destabilizing velocities in the receiving channel. The first is traditional stream restoration, which involves increasing the plan form and bank resistance. The second is upland stormwater management, which can include storing the total runoff volume and dissipating the acquired kinetic energy as turbulence in the water pool.

In the Piedmont region, where Carroll County is located, many areas that were developed prior to 1982 were constructed without stormwater management. Subsequently, developments were designed with peak flow controls that only matched existing conditions but did not return runoff characteristics to predevelopment conditions, as required now by COMAR 26.17.02.01. Meeting only the existing runoff conditions failed to address existing streambank instability, restore streams, and reduce nutrient and sediment export to the Bay.

A foremost goal of stormwater management is to maintain or return to pre-development hydrologic conditions. For over 10 years, Carroll County has been experimenting with the use of enlarged, enhanced sand filters as primary stormwater management practices. An analysis of the County's standard design determined that these practices reduce the two-year storm peak flow to below that of the equivalent forested watershed in good condition. The potential stormwater management, water quality, and stream restoration benefits resulting from this are substantial.

Because the two-year flow is thought to control bank geometry, the ability to achieve pre-development two-year hydrologic conditions using sand filters holds high potential for improving downstream bank conditions. The extent to which these effects stretch downstream is dependent on various additional factors, including soil type and land use in the unmanaged portion of the watershed below the sand filter.

In November 2002, RMD initiated fieldwork with the Center for Watershed Protection, who received funding from the Chesapeake Bay Trust's Restoration Research Program to continue evaluating the impact of hydraulic-controlling BMPs on the self-recovery of stream channel stability in urban watersheds. The original restoration research grant was awarded to Carroll County in May of 2016 to study the effect of stormwater retrofits on the hydrogeomorphology of downstream channels and associated nutrient and sediment load reductions. The grant concluded in December of 2020. During the four-year pre- and post-restoration paired watershed study, the retrofits performed as designed to reduce the magnitude, duration, and frequency of erosive flows, substantially decreasing the measured runoff curve numbers and simulating a hydrologic regime close to that of the "woods in good condition" performance standard. Therefore, it is likely that these channels will begin to stabilize, show less erosion potential, and reconnect to the floodplain over time.

Data collected during the original study indicate that the downstream channels are on a trajectory towards stabilization. Because bank stability and geomorphic response will take longer to develop than the duration of the original grant, the County has continued monitoring the study sites to provide documentation of a definitive stream channel response. During the next four-year study, a stage-discharge relationship will continue to be generated, but the primary focus will shift to the geomorphic component through annual cross-section surveys, pebble counts, and longitudinal profiles.

Although streambank regeneration is not currently an approved practice in the Wasteload Allocation Guidance Document (MDE, 2020), the guidance states that innovative practices can be used to provide jurisdictions additional options for watershed restoration activities. These include practices that are not listed in the Maryland Stormwater Design Manual (MDE, 2000) and without an assigned pollution removal efficiency from MDE or CBP, provided there is sufficient documentation and monitoring to verify pollutant removal efficiencies acceptable to MDE. The goal is that these long-term monitoring results will inform recommendations to credit upland stormwater practices as a hydrogeomorphic stream stabilization technique for sediment reductions.

6. Water Quality Improvement Projects

Carroll County continues to determinedly pursue its watershed restoration efforts through impervious surface mitigation and water quality improvements. Projects are designed, managed, and implemented by RMD through a capital improvement program, titled "Watershed Assessment and Improvement (NPDES)" in the Carroll County Community Investment Plan (CIP). Funding for operating (administrative and technical) and capital (engineering and construction functions) is discussed in detail in Part IV.G. of this report.

The County continues to plan, design, and implement restoration projects, including the following:

- rehabilitating and upgrading older stormwater management facilities to current standards or greater,
- implementing BMPs to manage existing untreated impervious areas,
- planting stream buffers, and

- restoring stream systems through natural channel design and floodplain reconnection projects.

During the last permit year, construction was completed on one structural stormwater management restoration project and numerous alternative practices, treating 15.8 acres of untreated impervious area. The *Carroll County TMDL Stormwater Implementation Plan* summarizes how restoration efforts are applied to local WLAs and Chesapeake Bay TMDL reductions. It is provided with this annual report as a separate document, as requested by MDE.

D. Management Programs

As required by the permit, Carroll County maintains six management programs to help control stormwater discharges and address water quality issues: Stormwater Management, Erosion and Sediment Control, Illicit Discharge Detection and Elimination (IDDE), Litter and Floatables, Property Management and Maintenance, and Public Outreach. The Environmental Inspections Office (EIO) of the RMD is responsible for all inspections and enforcement actions necessary to ensure that conditions established in the review, approval, and permitting phases of development are met. The EIO also contributes to compliance with the County NPDES responsibilities by providing stormwater management facility maintenance inspections and assistance with illicit discharge inspections and visual surveys.

1. Stormwater Management

The County Stormwater Management Program is the responsibility of the RMD and implements Chapter 151 of the County Code, "Stormwater Management." The implementation of Chapter 151 is applied to the municipalities of Hampstead, Manchester, Mount Airy, New Windsor, Sykesville, Union Bridge, and the City of Taneytown. The City of Westminster has its own approved stormwater management code, which is implemented by the County. The City of Taneytown implemented its own approved stormwater management code independent of the County (see **Table 1**) until adoption of *Ordinance 04-2025* by the Taneytown mayor and city council on April 14th, 2025. Implementation of Chapter 151 stormwater management review duties for Taneytown projects were henceforth transferred to the RMD.

Reviews performed by the County are the responsibility of the Stormwater Program Engineers, Stormwater Reviewer, and the Stormwater Management Review Assistant. Review and approval of stormwater management during this permit year consisted of 128 plan reviews and 92 as-built plan approvals.

Residential stormwater management facilities and storm sewer systems in unincorporated areas are owned by the County, while the municipalities own the residential facilities in their respective jurisdictions. All commercial and industrial facilities in the County and municipalities are maintained by the property owners. Database information on stormwater facilities is contained in Appendix B of this report within a separate GDB.

According to COMAR 26.17.02, preventative maintenance inspections of all ESD treatment systems and structural stormwater management facilities must be conducted on at least a triennial basis. This function is now performed by the County for all municipalities. During FY2025, all stormwater management facilities in the City of Taneytown were inspected by the City's contracted engineer together with public works staff support (see section below). The County is developing a plan to bring inspection of these facilities into a triennial inspection cycle, as County RMD staff will be conducting these inspections going forward.

During FY2025, inspections of facilities in the County and seven of the eight municipalities were handled by the EIO. This includes both publicly and privately owned facilities. Each facility is inspected every three years, with letters sent to the owner indicating the condition of the facility and, if deficiencies exist, the amount of time allowed for compliance to be achieved. In the case of County-owned structures, the notice is sent to the Division of Facilities, Division of Roads Operations, or RMD. The EIO performed 452 inspections this year on 371 individual structural facilities. Follow-up inspections are performed to ensure compliance has been achieved in a timely matter. Of those 371 structural facilities, 22 facilities needed corrective action, and 15 were brought into compliance as of June 30, 2025. In cases where violations still existed, 10 facilities were issued Notices of Violation. At the conclusion of FY2025, there were 1,012 structural stormwater management facilities on the list to be inspected. Of these, 288 will be inspected during FY2026, 347 will be inspected in FY2027, and 377 will be inspected in FY2028.

Currently, there are 2,867 non-structural ESD practices throughout the County. In FY2025, 1,126 inspections were performed on 1,108 practices. Of these, 43 ESD practices needed corrective action, and 15 were brought into compliance by the end of the permit year. The EIO inspectors will be scheduling inspections over the next three years to spread the inspections over the three-year period. At least 830 are planned to be inspected in FY2026, 1,060 in FY2027, and 625 in FY2028.

City of Taneytown

As noted above, The City of Taneytown implemented its own approved stormwater management code independent of the County until adoption of *Ordinance 04-2025* by the Taneytown mayor and city council on April 14th, 2025. Implementation of Chapter 151 stormwater management review duties for Taneytown projects were henceforth transferred to the RMD. During FY2025, stormwater management structures and infrastructure intended for ownership by the City of Taneytown were inspected as constructed, typically by City staff and the City's consultant engineer. Frequency of inspections, and reports of those inspections, were determined by project-specific factors. Reports, including narratives and photographs, were submitted to the City Department of Public Works (DPW) for maintenance per the Department's State-approved records retention schedule. Facilities intended to be deeded to the City were typically the product of residential development projects, which may have included storm sewer system improvements, ESD features, stormwater management structures, and transfer of real property or deeds of easement.

Projects involving stormwater management on City-owned properties or involving City-owned facilities were also subject to construction inspections by the City or its contractor. Park development projects and construction of or improvements to existing water, sewer, or stormwater infrastructure are typical of these projects. These projects followed the same construction inspection, reporting, and report retention processes as other projects intended for City ownership.

Stormwater management facilities, whether ESD practices, structural BMPs, or other features that were intended to remain under private ownership, were inspected during construction by the developer's engineer in accordance with approved construction drawings, utilizing an inspection schedule incorporated into the stormwater management plan. The City's consultant engineer reviewed and approved stormwater management plans prior to construction. Upon completion of projects and prior to the release of construction surety, they also completed a review of stormwater as-built drawings, certified by the developer's engineer. The City's DPW also provided inspection of completed stormwater facilities and coordinated with the City consultant engineer on approvals. As-built plans are maintained by the City's Planning and Zoning Department in accordance with the Department's State-approved retention schedule. The City is currently working to compile a list of as-built stormwater management plans and dates said plans were certified.

The City of Taneytown was required to inspect all public and private stormwater management facilities every three years under the City of Taneytown's stormwater management ordinance. Per the City's "Stormwater Management Facilities Inspection Report" prepared by the City's consulting engineer, all stormwater management facilities within the City of Taneytown were inspected on a triennial basis. The consulting engineer inspected all 47 of the facilities during the 2025 permit year. Now that stormwater facility inspections will be conducted by CC EIO staff, the Carroll County RMD will work with the City to incorporate the inspection of Taneytown facilities into the County's triennial maintenance inspection schedule.

2. Erosion and Sediment Control

The EIO of the RMD is responsible for inspection and enforcement of erosion and sediment control in accordance with Chapter 152 of the County Code, "Grading and Sediment Control." In 2024, MDE performed a review of the County program and granted the County's request for continued delegation of erosion and sediment control enforcement authority for two years, effective through June 30, 2027.

Grading permits are issued on all projects with disturbance in excess of 5,000 square feet. Pre-construction meetings are held with the contractor to discuss the sediment and erosion control plan associated with the project. Site meetings are held periodically with the foreman who holds a valid "Responsible Personnel Certification" throughout the duration of the project. As part of the NPDES permit requirements, grading permits issued with earth disturbance in excess of one acre are reported quarterly to MDE.

Statistics related to grading permits and inspections during the reporting timeframe included 104 grading permits issued (74 of which were greater than one acre of disturbance) and 2,350

sediment control inspections performed. All inspections are recorded and field investigations reports sent, regardless of the site conditions. There were 309 total violations recorded. In 17 cases, Stop Work Orders were posted for violations, which in most cases required compliance within 36 hours. There were no court cases nor fines collected, and there are no outstanding violations currently moving through the enforcement process. The grading permits are included in the GDB on the Appendix B CD.

3. Illicit Discharge Detection and Elimination (IDDE)

The NPDES permit requires the implementation of an inspection and enforcement program to ensure that all non-stormwater discharges are either permitted by MDE, exempted under the NPDES Phase I MS4 permit, or eliminated. The RMD performs illicit discharge monitoring, detection, and elimination and assists with municipal co-permittee responsibilities. The MOA between the County and the municipalities, wherein services are provided in support of the permit, satisfies part of this requirement. No modifications were made this permit year to municipal ordinances or regulations related to Chapter 53 of the County Code, "Environmental Management of Storm Sewer Systems." For continued program improvement, a comprehensive evaluation of the IDDE program's procedures was performed and updated in the RMD's IDDE Guidance Manual and submitted with the 2024 Annual Report with Appendix B**.** The updates included approved elements of the IDDE program, a section for the Visual Survey component, updated standard operating procedures for outfall screening, and guidance on addressing sanitary sewer overflows and the MS4.

Dry Weather Outfall Screenings

Dry weather field screenings of at least 100 outfalls are conducted annually by EIO inspectors and NPDES Compliance Coordinators for the Carroll County Phase I MS4 permit. Carroll County staff participate in annual IDDE inspector training prior to the outfall screening season. Standard operating procedures (SOPs) are included in the County's IDDE Guidance Manual. Screenings are grouped by election district and assigned to staff most familiar with the stormwater facilities and land use activities in each district. Outfalls located in the eight municipalities are inspected by an NPDES Compliance Specialist in cooperation with municipal staff most knowledgeable of their local environs. In addition, at least eight outfalls (20% of all outfalls) are screened within the Frederick County portion of the Town of Mount Airy Phase II MS4 permit area by agreement and MDE approval. These outfalls are prioritized to select a combination of major outfalls and new outfalls that have not been screened previously.

During the last permit year, a total of 109 outfalls were screened for illicit discharges. For the Carroll County Phase I MS4 Permit, 101 outfalls were screened. Of these, 54 outfalls were in the County and 47 within co-permittee municipalities. Carroll County MS4 Permit outfall screenings were distributed among six watersheds: Liberty Reservoir (50), Double Pipe Creek (20), South Branch Patapsco River (17), Upper Monocacy River (4), Prettyboy Reservoir (9), and Loch Raven Reservoir (1). Eight additional municipal outfalls were screened for the Town of Mount Airy Phase II MS4 Permit (Frederick County portion) within the Lower Monocacy River watershed. See Mount Airy Phase II Report in Appendix G for screening details of these outfalls. See outfall screening map in Appendix C for all location details.

There were 19 outfalls with dry-weather flows, each of which was chemically analyzed using a field screening test for the parameters defined by the permit. One illicit discharge was detected with a slightly elevated phenol level from a stormwater wet pond BMP outfall with its typical flow rate for the time of year screened. Algal blooms were observed on the pond surface. These residual indicators were attributed to a previous known and resolved public sanitary sewer overflow, which had discharged to the pond through the storm drain system. At the time of the overflow, Carroll County Division of Utilities had been notified and responded immediately, locating and clearing a blockage to eliminate the discharge. MDE and Carroll County Health Department (CCHD) had both also been notified for additional corrective measures. Carroll County IDDE compliance staff were notified and tracked the pollutant discharge elimination process, as documented in Appendix C in the IDDE Incident Report Summary.

All other flows in the screening process were attributed to groundwater sources and/or BMP stormwater facility retention flows. No other noteworthy indicators or activities were observed at outfalls with flows at the time of screening. Stormwater infrastructure condition or maintenance issues having potential to affect function or water quality are referred to the appropriate County or Municipal public works departments. Results of each outfall screening can be found in the GDB on the Appendix B CD.

To facilitate IDDE screening, a unique outfall identifier is assigned to major NPDES outfalls and other non-major outfalls that have been targeted for their high illicit discharge potential (e.g. commercial and industrial land uses, densely populated areas, aging sewer infrastructure areas, or areas with past screening history). These outfalls are regularly evaluated and updated to maintain a productive outfall screening program. Additionally, the fifth-generation permit required permittees to review all County outfalls to prioritize field screening efforts in areas with the greatest potential for polluted discharges. The County submitted this screening plan with the 2023 Annual Report (Appendix F) and received written approval from MDE on July 3, 2024. The RMD will continue implementing the approved plan for the current permit term**.**

Visual Surveys

In addition to the outfall screening program, annual visual surveys are conducted at industrial and commercial sites that have a high potential for generating and discharging pollutants per Part IV.C.2 of the permit. Prior to conducting IDDE visual surveys, NPDES Compliance Coordinators and EIO staff receive training and review permit regulations and procedures. SOPs for conducting visual surveys are utilized for discovering, documenting, and eliminating pollutant sources discharging to the MS4 or regulated waterways. A visual survey inspection form guides staff to identify significant pollutant sources that could be exposed to stormwater. The form focuses on key activities that are often hotspots for potential pollutants, evaluating the quality of related good housekeeping practices and their proximity to storm drain inflows or waterways.

If a significant pollutant source of concern or an illicit discharge is discovered, the property owner is contacted by the EIO staff, NPDES Compliance Coordinator, and/or respective municipal authority. The SOP guidelines and Chapter 53, relating to enforcement measures, are

followed until the source is eliminated. County or MDE Good Housekeeping/BMP information may be provided in-person or sent to businesses with potential significant sources identified during the visual survey process. A Litter Management Stormwater Pollution Prevention BMP flyer was developed for businesses during the permit term and is included in Appendix C.

A total of 93 visual surveys were conducted across four watersheds during the 2025 permit year. There were 92 commercial sites and 1 industrial site surveyed. A map of visual survey site locations and a summary of visual survey actions are provided in Appendix C. No illicit discharges were discovered during the surveys. However, one business was sent a notification letter by City of Westminster MS4 permit co-permittee, recommending corrective good housekeeping actions to prevent a potential discharge from occurring. MS4 stormwater pollution prevention educational information with BMP guidance information was included related to their primary industry activities. Follow-up observations found that corrective actions had been taken with conditions successfully improved. The site will remain in the inventory for future surveys and noted as a potential hotspot.

Of the 93 sites surveyed this year, 30 will be retained in the inventory due to their high pollution potential. The remaining 63 properties will be removed for having no or low potential for significant pollutants, no exposure conditions, or having an NPDES Industrial Stormwater Permit with a Stormwater Pollution Prevention Plan (SWPPP) that includes BMPs and regular inspections. Carroll County continues to work through and update its Visual Survey inventory.

Illicit Discharge Response

Carroll County is required to maintain a program to address and respond to illegal discharges, dumping, and spills. The County maintains a Stormwater Pollution Hotline, as indicated on County and municipal websites. "Illicit Discharge Incident Response" SOPs have been implemented and are documented in the County IDDE Guidance Manual to quickly respond to and eliminate potential or existing illicit pollutant discharges in the MS4. A pollutant discharge database is in place and managed by the EIO using the Accela software program. Calls from the public are investigated and processed within the program and tracked through to abatement. Protocols are also in place for quick response to inter-agency and co-permittee investigations and reports. The EIO closely coordinates with respective municipalities for elimination if an incident proves to be an illicit discharge. Carroll County initiated contact with Maryland Department of Transportation (MDOT) SHA's Westminster Maintenance Shop in 2024 and MS4 Permit and Reporting Water Programs Division in June of 2023 to discuss coordination between MS4s for resolving interjurisdictional investigations.

During the last permit year, 23 IDDE complaints were processed, a 32% decrease from the previous year. Of the 23 cases, 10 were from citizens via the Stormwater Hotline, 11 from trained County and Municipal employees, and two from other regulatory agencies (MDE and CC Health Department). Of these complaints, five were determined to be non-illicit discharges, four were potential illicit discharges, and 14 were confirmed illicit discharges. The 14 illicit events, a 41% decrease from the previous year, occurred at 5 commercial, 8 residential, and one institutional area. All illicit discharges were successfully eliminated through County, municipal, and other interagency enforcement efforts.

The County and municipal co-permittees have been working to update and implement SOPs for the improved reporting, tracking, and management of sanitary sewer overflows (SSOs) to the MS4. Through these efforts, seven incidents were addressed during the last permit year: four from private systems and three from public sanitary sewer systems. Specific protocols unique to processing SSOs to the MS4 were added to the revised 2024 IDDE Guidance Manual, submitted with last year's report on the Appendix B CD.

The success of the reporting and elimination of illicit discharges is attributed to program evaluation and enhancement through better integration of sanitary sewer overflow protocols, public education and outreach, employee/staff training for illicit discharge awareness, and interaction with multiple state agencies in the effort to protect and effectively improve water quality. An IDDE Incident Investigation Summary is included in Appendix C.

Chapter 53 of the County Code establishes methods for controlling the introduction of illicit discharges or pollutants into the MS4 to comply with permit requirements. The adoption of the County ordinance or an equivalent municipal ordinance by each municipality provides the necessary enforcement authority, either independently or by the County. All municipalities work in conjunction with RMD staff regarding investigation, regulatory guidance, and enforcement. **Table 2** lists the municipalities, the enforcement authority, and whether they have adopted County Code Chapter 53 or their own equivalent code.

Table 2
Municipal Adoption and Enforcement of Carroll County Code
Chapter 53, Environmental Management of Storm Sewer Systems or Municipal Equivalent

Municipality	Enforcement Code & Authority
Hampstead	County
Manchester	County
Mount Airy	Municipal
New Windsor	County
Sykesville	Municipal
Taneytown	Municipal
Union Bridge	County
Westminster	Municipal

4. Property Management and Maintenance

Industrial Stormwater Permit Coverage

MS4 permittees are required under Section Part IV.D.4. Property Management and Maintenance to ensure a Notice of Intent (NOI) is submitted to MDE for each permittee-owned facility requiring coverage under the "General Permit for Discharges from Stormwater Associated with Industrial Activities." MDE issued the MD General Permit No. 20SW, effective February 1, 2023. During the FY2024 MS4 permit year, facilities with existing 12SW permits continued to operate under MDE's administrative extension during the permit renewal process while each co-permittee evaluated their facilities under the new 20SW permit requirements to determine permit coverage. Co-permittees also evaluated any other potential facility to determine if coverage was

needed at this time. **Table 3** lists 10 facility registrations under the 20SW permit renewal process, and one No Exposure (NE) Certification for Exclusion registration for the Town of Mount Airy WWTP, which no longer has SWPPP requirements.

Table 3
Carroll County Co-Permittees – 20SW General Stormwater Industrial Permit Status

County- or Municipal-Owned Facility	NOI Submitted	MDE Review Status	MDE REGISTRATION
County Regional Airport	Yes	Issued	MDE Registration: 01/12/24 20SW1755/MDR001755
County Maintenance Center	Yes	Issued	MDE Registration:02/29/24 20SW1861/MDR001861
County Northern Municipal Landfill	Yes	Issued	MDE Registration:03/11/24 12SW0660/MDR000660
Manchester Public Works Maintenance Shop	Yes	Issued	MDE Registration: 06/05/23 20SW2201A/MDR02201
Mount Airy Public Works Maintenance Shop	Yes	Issued	MDE Registration: 08/15/23 20SW2257/MDR002257
Mount Airy Public Works WWTP	Yes*	Issued * No Exposure Certification	MDE Registration: 08/20/24 20NE2258/MDR002258
Taneytown Public Works Maintenance Facility	Yes	Issued	MDE Registration: 02/26/24 20SW2263 / MDR001743
Taneytown Public Works WWTP	Yes	Issued	MDE Registration: 01/29/24 20SW1743 / MDR001743
Westminster Public Works Streets Maintenance Shop	Yes	Issued	MDE Registration: 01/26/24 20SW2292/MDR002292
Westminster Public Works WWTP	Yes	Issued	MDE Registration: 02/25/24 20SW2252 / MDR002252
Westminster Public Works Utilities	Yes	Issued	MDE Registration: 02/25/24 20SW2455 / MDR002455

Under the Industrial Stormwater General Permit, registered 20SW facilities have SWPPPs that include site and key staff information, potential sources of pollutants, structural and non-structural good housekeeping BMPs, employee training, and recordkeeping. Depending on the facility, BMPs may address proper materials storage, fuel management practices, recycling, secondary containment, salt management, spill kits, and spill control measures. Inspections include Quarterly Routine and Visual grab samples. An Annual Compliance Evaluation performed by staff helps to determine if the SWPPP needs to be updated to improve on-site pollution prevention effectiveness. Three County facilities also have Spill Prevention, Control and Counter Measures Plans (SPCCs), per the SPCC rule, to help prevent a discharge of oil into regulated waterways.

Table 4 provides the latest Visual Quarterly Inspection dates during the MS4 permit reporting year, and the number of employees trained on-site for co-permittee industrial stormwater permitted facilities, which totaled 216 staff.

Table 4
MS4 Co-Permittee – 20SW General Stormwater Industrial Permit Facility Data

20SW Permitted Facility	Last Visual Quarterly Inspection Date	# Employees SWPPP Training 2025 Permit Year
County Regional Airport	05/28/25	2
County Maintenance Center	05/16/25	115
County Northern Municipal Landfill	05/22/25	12
Manchester Public Works Maintenance Shop	04/04/25	11
Mount Airy Public Works Maintenance Shop	05/28/25	9
Taneytown Public Works Maintenance Facility	04/03/25	11
Taneytown Public Works WWTP	06/09/25	3
Westminster Public Works Streets Maintenance Shop	06/09/25	27
Westminster Public Works WTTP	05/06/25	11
Westminster Public Works Utilities	06/10/25	15
	Total	***216***

Good Housekeeping Plans (GHPs)

Carroll County and the municipal co-permittees are required to develop, implement, and maintain a Good Housekeeping Plan (GHP) for permittee-owned properties where the 20SW Industrial Stormwater Permit is not required, but where certain activities are performed. These activities include maintenance or storage of vehicles or equipment and/or storage of fertilizers, pesticides, landscaping materials, hazardous materials, or other materials that could pollute stormwater runoff.

Over the last few years, RMD staff have worked with County and municipal property management and maintenance personnel to identify properties requiring a GHP and to list out the potential pollutant sources at each site. A total of 31 sites were identified as meeting GHP criteria. Additionally, RMD staff have discussed the permit requirements, expectations, and GHP resources with MDE MS4 staff to provide further clarification and affirm the process.

Throughout the last permit year, RMD staff successfully completed the development of each of the 31 GHPs in close coordination with municipal and County agencies. Best practices were developed and standardized for common activities, and an individualized plan was then developed for each site. Staff worked with site managers to develop each GHP as a practical tool that provides guidance for users in a thorough but concise manner. A customized map is provided with each plan, as well as key contact information for property staff. As required by the permit, the GHPs are being submitted with this third-year annual report on the Appendix B CD.

Training

NPDES Stormwater Pollution Prevention training is provided to pertinent County and municipal managers, supervisors, and staff throughout the permit year. Each fall, an annual NPDES Stormwater Pollution Prevention training event is held for administrative and supervisory-level personnel of several County agencies and the eight municipal co-permittees. This workshop is geared toward pollution prevention through on-the-ground property management and maintenance implementation of permit requirements. Topics typically include permit overview, anticipated changes for the next generation MS4 and Industrial Stormwater General permits (if applicable), stormwater pollution prevention good housekeeping BMPs, winter salt management, spill prevention, control and clean-up, and IDDE. In the November 2024 Workshop, presentations included: "NPDES MS4 Permit Overview," by the PLM Director, "MS4 Permit Property Management & Maintenance" by RMD NPDES Compliance staff, "Vehicle Washing Groundwater Discharge and Maintenance Shop Pollution Prevention" by MDE Ground Water Discharge Permits Division, "New 20SW Industrial Stormwater Permit Implementation" by Maryland Environmental Service, "Spill Response Preparedness/Safety Data Sheets" by Director/Chief of CC Department of Fire and Emergency Services, and "Employee Training Requirements and Resources" by NPDES Compliance staff. The agenda for the workshop is provided in Appendix C.

Eight County agencies and eight co-permittee municipalities provided training for their respective staff, which typically includes: general NPDES MS4 permit awareness, stormwater pollution prevention good housekeeping BMPs related to property management and maintenance activities, winter salt management, and spill prevention and clean up. County and municipal public works staff are also trained by their respective departments to perform visual inspections of storm drain systems during their workday and to report potential illicit discharges to supervisors and the appropriate authorities.

During the permit year, a total of 272 County and municipal employees received training that covered the MS4 permit, general stormwater pollution prevention, good housekeeping BMPs, and IDDE. Of those 272 employees, 216 received 20SW Industrial Stormwater SWPPP training, as described in the previous section, and 225 staff (148 County and 77 municipal) participated in winter weather salt management training. A total of 42 contractors also participated in salt management training: 28 CC Division of Roads Operations, nine CC Department of Recreation and Parks Maintenance, one CC Facilities, three Union Bridge, and one Westminster.

Pollutant Reduction

The permit requires the County to implement a program to reduce pollutants associated with maintenance activities at County-owned facilities, including parks, roadways, and parking lots. In a cumulative effort, County and municipal co-permittees reduce pollutants through BMPs for various maintenance activities. The RMD maintains a guidance document titled, "Carroll County MS4 Property Management and Maintenance Resource Guide: Municipal Stormwater Pollution Prevention Guidance for MS4 Co-Permittee Personnel." It is designed to provide practical, user-friendly resources to maintenance staff for the purpose of reducing pollutants associated with municipal facilities.

There are eight County agencies involved with property management and maintenance activities. County-owned facilities are maintained by numerous agencies under the Carroll County DPW. The Division of Facilities provides general maintenance for 29 main building complexes and properties. Eleven park sites were transferred to the Division of Parks. The Division of Fleet Management/Warehouse manages the County's fleet maintenance operation, which includes a garage/shop, fuel island area, fleet wash facility, and warehouse, and uses applicable BMPs such as auto fluid recycling. The Division of Roads Operations provides routine maintenance of County roads, including roadside vegetation management, pavement patching, pavement line striping, drainage work, pipe cleaning and replacement, tree trimming and removal, storm drain maintenance and repair, and surface sealing operations. This Division is responsible for approximately 988 miles of predominantly rural open-section roadways, 154 bridges, and 6 salt dome facilities. The Carroll County Regional Airport (CCRA) is maintained by DPW Airport Operations and has a 5,100-foot runway, supporting tarmac, and parking lot. The Division of Utilities maintains water and wastewater treatment plants, a small maintenance facility, and access roads and parking lots. The Division of Solid Waste maintains access roads to and from the County's active landfill and convenience drop-off location.

In addition to DPW, the Division of Parks within the Department of Recreation and Parks maintains facilities for 28 properties, including three main natural resource-related park venues in addition to the other County recreational parks and athletic fields. The Department of Economic Development provides maintenance for the Carroll County Farm Museum tourism venue.

County staff continue to develop and implement the use of an electronic form to aid in submission of property management and maintenance data from County agencies and municipal co-permittees. The web application, JotForm, is used for this purpose. **Table 5** provides a summary of permittee property management and maintenance pollution reduction efforts.

Table 5
MS4 Permittee Reported Pollution Reduction Activities Associated with Facility Maintenance Activities (Parks, Roads, Parking Lots, etc.)

MS4 Co-Permittee	Street Sweeping	Inlet Inspection and Cleaning	Vegetation Management	Salt Management	Good Housekeeping BMP Training	Litter Control & Tracking
Total MS4	✓	✓	✓	✓	✓	✓
Carroll Co.	✓ Roads (3,4)	✓ (4,5)	✓ (6,7)	✓ (9,10,11,12,14,15,16)	✓ (17)	✓ (18)
	✓ Solid Waste (2,3)	✓ (2,5)	✓ (6,7)	✓ (9,10,11,12,14,15)	✓ (17)	✓ (18)
	✓ Utilities (3)	✓ (5)	✓ (6,7)	✓ (See CC Facilities)	✓ (17)	✓ (18)
	✓ Facilities (3)	✓ (5)	✓ (6,7)	✓ (9,10,11,12,13,14,15)	✓ (17)	✓ (18)
	✓ Fleet/Warehouse (3)	N/A	N/A	✓ (See CC Facilities)	✓ (17)	✓ (18)
	✓ Airport (3)	✓ (5)	✓ (6,7)	✓ (No Deicer Applications)	✓ (17)	✓ (18)
	✓ Parks (3)	✓ (5)	✓ (6,8)	✓ (9,10,11,12,14,15)	✓ (17)	✓ (18)
	✓ Farm Museum (3)	✓ (5)	✓ (6,7)	✓ (9,10,11,12,14,15)	✓ (17)	✓ (18)
Hampstead	✓ (1,2,3,4)	✓ (1,2,5)	✓ (6,7)	✓ (9,10,11,12,14,15,16)	✓ (17)	✓ (18)
Manchester	✓ (1,2,3,4)	✓ (1,2,4,5)	✓ (6,7)	✓ (9,10,11,12,14,15,16)	✓ (17)	✓ (18)
Mount Airy	✓ (1,2,3,4)	✓ (4,5)	✓ (6,7)	✓ (9,10,11,12,14,15,16)	✓ (17)	✓ (18)
New Windsor	✓ (1,2,3,4)	✓ (4,5)	✓ (6,7)	✓ (9,10,11,12,13,14,15,16)	✓ (17)	✓ (18)
Sykesville	✓ (3,4)	✓ (4,5)	✓ (6,7)	✓ (9,10,11,12,14,15,16)	✓ (17)	✓ (18)
Taneytown	✓ (1,2,3,4)	✓ (4,5)	✓ (6,7)	✓ (9,10,11,12,14,15,16)	✓ (17)	✓ (18)
Union Bridge	✓ (1,2,3,4)	✓ (1,2,4,5)	✓ (6,7)	✓ (9,10,11,12,14,15,16)	✓ (17)	✓ (18)
Westminster	✓ (1,2,3,4)	✓ (1,2,4,5)	✓ (6,7)	✓ (9,10,11,12,13,14,15,16)	✓ (17)	✓ (18)

Key Activity Details

Street Sweeping/Inlet Inspection Cleaning

1) Activity meets criteria for alternative BMP restoration credit
2) Scheduled/periodic frequency
3) As needed - Construction/special event
4) MDOT SHA MS4 roadway periodic sweeping & inlet cleaning – State routes within county or municipality
5) As needed - Complaints/clogging

Vegetation Management

6) Primary mechanical control methods (mowing, weed trimming, weed pulling, mulching, etc.)
7) Uses one or more herbicide IPM/IVM practices e.g. mechanical methods, research, veg. cycle, BMPs, qualified applicators, product label, spot spraying, selective herbicides, alternative methods (heat), training, or evaluations
8) No herbicide usage

Salt Management

9) Written Salt Management Plan or Standard Operating Procedures (County agencies follow CC Roads SMP & facility SOPs)
10) Product research, tech. information, weather forecast data, tracking & reporting
11) Winter weather operations preparation: employee training, contractor training (if applicable)
12) Equipment checks, salt spreader calibration, road clearing SOPs, storage/loading BMPs
13) Pre-wet salt, salt brine use (anti-icing)
14) Supervision - Real time event decision making and post event evaluation
15) Tracking & reporting
16) Public education outreach – Homeowners (agency/municipal website and/or may also website link to CC MS4 and MDE 411 website)

Training

17) MS4 Stormwater Pollution Prevention, Good Housekeeping BMP, IDDE

Litter Prevention & Control

18) Litter prevention, control, collection & tracking

Street Sweeping

Street sweeping programs are implemented in numerous municipal urban and suburban areas, as shown in **Table 5**. Carroll County does not have a street sweeping program for their predominantly rural open section roadways; however, SHA, under its MS4 permit restoration program, regularly performs street sweeping of state routes throughout the County and within the municipalities. The County Division of Solid Waste sweeps weekly or as needed at the Northern Landfill (Resource Recovery Park). During the permit reporting year, approximately 121 lane miles were swept countywide at varying frequencies. These services are performed by a combination of County, municipal, and contractor operations. Municipal co-permittees typically prioritize downtown commercial business districts and higher density residential areas with heavier traffic patterns, expanding out through primary ingress and egress routes to commercial and residential suburb areas. Street sweeping also occurs in all permittee jurisdictions as a BMP, when necessary, for emergency management, construction-related activities, or after special events. Alternative BMP restoration credits for these practices are included in the GDB on the Appendix B CD.

Inlet Inspection and Cleaning

All co-permittees conduct regularly scheduled, complaint-driven, or clog-driven inlet inspection and clean-out programs. Several municipalities perform regular inlet inspection and cleaning. Under the County MS4 permit, approximately 774 storm drain inlets were cleaned countywide using manual or vacuum methods during the permit reporting year, resulting in 24.38 tons of collected debris. **Table 5** shows each co-permittee's pollution reduction efforts associated with maintenance activities. Alternative BMP restoration credits for eligible practices are included in the GDB on the Appendix B CD. Additionally, SHA, under its MS4 permit restoration program, performs inlet inspection and cleaning on state routes throughout the County and within most municipalities.

Reducing the Use of Pesticides, Herbicides, Fertilizers, and Other Pollutants Associated with Vegetation Management through Increased Use of Integrated Pest Management

Carroll County and co-permittee municipalities employ various Integrated Pest Management (IPM) and, more specifically, Integrated Vegetation Management (IVM) practices, primarily through mechanical control to reduce herbicide usage. During the last permit year, total overall herbicide usage associated with vegetation management and maintenance activities decreased from 196.12 gallons (prior year adjusted) to 175.21 gallons of concentrate. This was a 10.66% overall decrease from the previous year reporting under the Carroll County MS4. Various ongoing programmatic efforts and changes are highlighted below.

Carroll County Division of Roads Operations reported that mowing crews typically average two rounds of mowing on grass shoulders of all County roads (approximately 988 miles) during the growing season. Due to the discontinuance of a County-run inmate weed trimming program, a targeted guardrail herbicide spray test program was initiated in the spring of 2019 to help control vegetation. Roads Operations reported equipment acquisitions and increased use of articulated boom mowers to control vegetation behind guardrails, in addition to hand trimming, spot spraying, and training, in the effort to reduce herbicides applied for the permit year. Roads

Operations guardrail safety weed control program used 90 gallons of herbicide concentrate, for a 5.26% decrease from the previous year. Each spraying application was documented and recorded as required per Maryland Department of Agriculture (MDA) regulations. All staff applicators maintain MDA licensing and certifications and are required to complete an MDA-approved training program. MDA training and certification sessions cover new laws, regulations, or policies and new pest control or pesticide technologies. Carroll County Roads Operations uses SOPs and evaluates methods for program improvement for the efficient use of limited herbicide application as part of their vegetation management program.

The Carroll County Division of Facilities manages over 29 properties. The Division's existing integrated vegetation management program consists primarily of mechanical controls (e.g. mowing, hand trimming, and hand pulling weeds). The Division also implements effective weed prevention and control practices in landscape beds, including the use of landscape planning, shallow cultivation, weed barriers, hardscapes, mulching, plant selection, and spot spraying, in a significant effort to reduce herbicide usage. Herbicide applications are performed by their trained MDA-licensed and certified staff. The Division's herbicide use varies each year, depending on the planned program. During the last permit year, the Division of Facilities used 30.00 gallons of herbicide concentrate for weed control for a 25% increase from the prior permit year's amount of 24 gallons of concentrate (adjusted).

The Carroll County Division of Parks Maintenance manages pollution reduction efforts at 28 parks and athletic fields including three natural resource-related parks venues (e.g. Piney Run Park) and other County recreational parks and athletic fields, where they conduct a mechanical-only vegetation control program that includes mowing, weed pulling, and mulching. Parks Maintenance uses licensed herbicide contractors only when necessary, with no applications reported for the permit year.

The Carroll County Regional Airport (CCRA) facility uses mowing, hand trimming, spot spraying, mulching, weed pulling and employee training to manage vegetation and weed control. CCRA has gradually reduced the use of herbicides for vegetation management and weed control over time by using crack sealant in tarmac areas and by reducing the application width along perimeter fencing. Herbicide applications are by MDA-licensed and certified staff.

The Carroll County Division of Utilities reported the implementation of mowing and non-chemical alternative weed control practices for the permit year. The Carroll County Farm Museum reported primary practices of mowing, increased hand trimming, mulching, and weed pulling vegetation management with no herbicide applications during the permit year for weed control.

All municipal co-permittees reported the use of mechanical methods including mowing, hand trimming, mulching, and weed pulling as their primary practices for vegetation management. Herbicide usage for all municipal co-permittee vegetation maintenance programs varies and fluctuates by municipality, with an overall 35% decrease for the last permit year. The City of Westminster's reduced herbicide usage is partially influenced by its commitment to becoming a "Bee City USA" affiliate in 2021 and employing alternative vegetation management practices. The Town of Manchester has installed weed barrier and stone hardscape under some sections of guardrails to control vegetation and weed growth. The Town of Sykesville noted playground

areas are manually or mechanically weeded. Many municipalities report spot spraying to reduce herbicides when feasible.

All County and municipal co-permittees reported no fertilizer usage for vegetation maintenance for the permit year.

County Division of Resource Management staff continue to provide technical materials and training to all County agencies and municipal co-permittees related to integrated vegetation management practices to facilitate the reduction of herbicide usage in vegetation management and weed control where possible.

The overall management of noxious weeds along County Road rights-of-way and on private properties occurs through an agreement with MDA in accordance with state law. Contracted MDA-licensed and certified personnel perform spot spraying along State and County rights-of-way, as well as on private lands, to protect agricultural cropland. Related herbicide usage for this application is reported and regulated through MDA.

A summary of integrated vegetation management practices for MS4 co-permittees is included in **Table 5**. Chemical use data is provided in the GDB on the Appendix B CD.

Deicing Materials

The management of roadway deicing and anti-icing material distribution and applications are the responsibility of all permittees within their legal jurisdictional boundaries and summarized under this section. Staff from County and municipal agencies strive to reduce the use of winter weather deicing materials through research, continual testing and improvement of materials, equipment calibration, and employee training, as shown in **Table 5**. Research and materials, salt management, and equipment calibration are periodically covered in training. All permittee jurisdictions have been provided a copy of the SHA salt management plan and other salt management technical resources. Carroll County Roads Operations has installed "Limit of Maintenance" signs that mark jurisdictional boundaries for road crews for efficient and effective salt applications and to avoid overlap. A total of 225 employees under the MS4 permit (148 from County agencies and 77 from municipalities), as well as 42 contractors, received salt management training during the permit year.

Total road salt usage for the MS4 was 14,631 tons during the permit year, which corresponds to a 63% increase from the previous year. This was due to an increase in snowfall events. CC Roads Operations reported 10 winter weather events where materials were applied. Other County agencies and municipalities reported between five and 12 events where salt and/or brine were applied, due to climatic variations throughout the County. The County and municipal co-permittees continue to improve efforts to reduce the use of solid deicers through improved equipment technology, ongoing training, improved salt brine mixing equipment, tracking and record keeping, and effective decision making by managers and staff.

Carroll County Roads Operations continues to improve its salt brine operations in recent years, acquiring a new brine making unit that enables faster and more accurate production of salt brine.

They have also increased brine storage capacity, acquired versatile truck delivery units, and are working to develop experienced operators. Reported salt brine applications, manufactured from solid tons, was 43,610 gallons, a 7% decrease from the prior year. Brine was applied for anti-icing purposes by County Roads, accounting for 58% of the total amount, and the City of Westminster, at 42% of the total amount. Carroll County and the municipal DPWs maintain a good working relationship with the local SHA shop in a progressive effort to advance the total MS4's anti-icing, de-icing, and technical capabilities toward salt application efficiency and reduction.

Carroll County DPW hosted a Winter Weather Workshop for the 2024/2025 winter season on Wednesday, November 7, 2024, from 1:30 to 3:00 P.M. at the Carroll County Office Building. The annual event provides an opportunity for winter weather interagency coordination, safety and winter operations education for elected officials, emergency medical services, fire, law enforcement, public safety (emergency communications and emergency management), SHA, and winter weather operations public works representatives from co-permittee municipalities, the County, and the State. Presentations included: Winter Prep for Your Home, Weather Forecasting – National Weather Service (NWS) Long-Range Discussion, Carroll County Winter Operations by Divisions of Roads Operations and Facilities, MDOT, and SHA, with an opportunity for reports, comments, and discussion.

Carroll County and municipal co-permittees have completed the development of written Salt Management Plans (SMPs) and SOPs, as reported in **Table 5,** and will be formally implementing them for the 2025/2026 winter season. The County and municipalities are submitting their respective SMPs and employee salt training presentation materials with this third annual MS4 report, as required by the permit, which can be found on the Appendix B CD. County Roads Operations, having previously developed their SMP in 2020, continues to implement and refine their guidance document based on SHA's SMP updates and other resources. The plan was developed incorporating their own SOPs, SHA salt management plan guidelines, staff input, and other resources. Carroll County Roads Operations also provides general information to educate the public about their Snow and Ice Removal Guidelines that will assist maintenance staff and ensure an efficient and safe snow removal process. The plan can be downloaded, and resource information reviewed at:
https://www.carrollcountymd.gov/government/directory/public-works/roads-operations/carroll-county-department-of-public-works-bureau-of-roads-operations-salt-management-plan/.

Carroll County Roads Operations also provides an outline of their SOPs and a contact number at: https://www.carrollcountymd.gov/government/directory/public-works/roads-operations/snowice-removal-guidelines-for-carroll-county-md/operations/.

Outreach materials for educating homeowners on best practices for salt management will continue to be developed and/or distributed via County Roads Operations, as well as the other public education outreach outlets of the Carroll County Government and municipal co-permittee websites, as discussed in the Public Education section of this report.

The Board of County Commissioner's Environmental Advisory Council (EAC) developed, presented, and published the *"Guide to Salt Management for Carroll County Homeowners."* The EAC is comprised of members from a broad cross-section of the community that work with County staff to research environmental policy issues. The EAC advises the Board of County Commissioners to foster environmental education and generally act in the best interest of County residents by promoting effective environmental protection and management principles. The public can download the new salt management guide from the County EAC website at: https://www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council/other-eac-publications-topics/.

Carroll County Roads Operations hosted a Snow-Salt Management Practices training event on November 27, 2024, for pertinent County staff and contractors. This included 92 County Roads Operations staff and 28 contractors who participated in the winter weather pre-season training. Carroll County employs SOPs for salt management that cover the use of salt from delivery, storage, and handling at salt storage locations, to its placement on roadways during winter storms, to post-storm clean-up operations. Training also includes anti-icing/deicing, weather forecasting, and selection of materials used in the effort for public safety applied in an environmentally safe manor. Salt training also includes calibration of salt truck equipment, SOPs for snow removal, brine preparation and application, and material tracking logs for both County staff and contractors.

Planning and preparing are necessary to utilize available resources in an effective and efficient manner. Carroll County Roads Operations begins planning up to four days in advance, and staff continue daily meetings until the day of the event. On the day of the event, meetings are increased to every four hours. Trucks are loaded well in advance of the predicted storm start time. Traffic cameras positioned around the state are used to track the conditions in real time. Supervisor vehicles are equipped with thermometers to monitor air and surface temperatures.

Every storm event is treated as a unique event, with decisions made based on actual conditions. Pollution reduction measures include area supervisors performing real-time road inspections to determine if application rates are sufficient and efficient to deliver the best road conditions possible for public safety in a cost-effective manner and in the most environmentally sound way, when practicable. Gravel roads do not receive deicer applications. Stone applications are provided as needed to improve traction. Citizen information is provided on the Roads Operations' webpage, "Clearing the Way Through Carroll County Efficiently," which provides instructions for the public that help salt crews limit the number of return passes necessary to clear roadways and reduce the amount of salt applied. Staff research materials, methods, and technologies and attend national and regional seminars and local workshops, when possible, to stay current on winter road maintenance practices and affordable deicer/chemical technologies with reduced environmental impact.

In the County and the City of Westminster, the use of salt brine is utilized whenever feasible for pre-treatment of road surfaces in advance of winter storm events forecasted by national and local winter weather advisory sources. Plowing and salt application procedures are designed to limit the number of passes necessary to prevent overlap and overuse of deicer materials.

The County and municipalities manage their salt storage facilities through employee training and the use of good housekeeping BMPs that include sweeping up residual materials into the salt storage structures. On-site spill kits are available at each facility in case of equipment failure during loading operations.

Deicers are used at pertinent facilities managed by the Carroll County Division of Facilities and the Carroll County Farm Museum when winter weather conditions affect public and employee safety. Appropriate applications of chemicals are used at facilities having year-round usage, but not where facilities are inactive during the winter season, which is a pollution reduction practice. County Facilities has been transitioning and modifying equipment to significantly improve targeting deicer applications to sidewalks. The sidewalk and walkway deicer used by the County Division of Facilities and the Farm Museum is a product that is more effective at lower temperatures and less corrosive. County Division of Facilities salt training includes winter weather anti-icing/deicing and best management practice for sidewalks, parking lots, driveways, weather forecasting, and selection of materials used in the effort for public safety applied in an environmentally safe manor.

Proper management of snow and ice at CCRA is essential for safe winter operations. This includes aircraft and support equipment movements during servicing, taxiing, and takeoff. Ensuring safe conditions on the tarmac for outside boarding of passengers, flight crews, and maintenance ground personnel activities is crucial. No deicing of aircraft is performed at the facility, thereby reducing potential pollutants. Additionally, keeping ahead of winter storm events by using proper mechanical practices minimizes chemical usage until conditions necessitate the use of deicers in dry form. Effective decision-making regarding deicer usage is facilitated through Federal Aviation Administration (FAA) regulations and guidelines, national and local winter weather warning and forecast information, regular surface winter condition inspections, and good communication between experienced Fixed Base Operator (FBO) and CCRA airport management personnel. Research for effective, economical deicers that reduce pollutants includes keeping current with industry-related technical resource bulletins and information.

Litter

The MS4 program requires permittees to address problems associated with litter and floatables in waterways that adversely affect water quality. Under the fifth-generation permit, the County is required to evaluate current litter control problems associated with discharges into, through, or from portions of its MS4. To date, the County has not identified any significant issues related to litter and floatables within areas evaluated during watershed assessment efforts, nor are there any State listings or identified TMDLs within Carroll County related to litter and floatables. In an effort to promote the continuation of proper litter and floatable disposal, the County provides regular and ongoing education and outreach to residents.

During the 2025 reporting year, Carroll County implemented several programs to reduce and control litter along roadways, which ultimately reduce litter to County waterways. The programs for the County and the municipalities included a combination of trash receptacles along streets and in parks, litter ordinances, street sweeping, trash and recycling collection service, litter

collection along roads and in public spaces, and trash guards at storm drain inlets. Public education was provided through newsletters, websites, social media, informational materials, and special events. Special events included clean-up days, festivals, and fairs.

The County DPW Division of Roads Operations has an Adopt-A-Road program to control and reduce litter along Carroll County's roadways, inviting public, individual, and civic groups to volunteer. Equipment is provided to volunteers, along with safety guidelines and tips for picking up trash along roadways. Signs recognizing individual or group efforts in helping to "Keep Carroll Clean" are provided by the County. During the last permit year, 13 groups actively volunteered to pick up trash along an individually designated mile stretch of roadway, once in the fall and once in the spring, as part of the Adopt-A-Road program.

County DPW staff also contributed to litter collection efforts directly. During the last permit year, staff spent 339 hours on roadside trash pickup. Additionally, the Division of Facilities provides trash and litter receptacles at facilities where they are considered practicable. Trash nuisance remediation in the County is primarily complaint-driven and site-specific. Contractors hired by the Carroll County DPW's Roads Operations assist to abate the trash. In the last permit year, 22 complaints were received, and one site was abated by County contractors.

Carroll County's Recycling Operations offer recycling opportunities for all Carroll County residents and businesses. Curbside, single-stream recycling has been implemented since 2007, making it easy and convenient for residents to participate. Most standard household recyclables can simply be placed at the curb. For residents or businesses who wish to haul their own waste and recyclables to the landfill, the County provides a drop-off site for waste and a full-service Recycling Center at the Resource Recovery Park. Carroll's Resource Recovery Park is conveniently located in the center of the county. Currently, there is no charge for recycling at the County's drop-off location.

The Recycling Center accepts all materials recycled through the County's curbside program, plus many items that are not eligible for curbside pickup, including textiles, rigid plastics, electronics, car and truck batteries, used motor oil, antifreeze, and cooking oil. Aluminum can reimbursement is also available and fluctuates with the market value. White goods and scrap metal are also accepted, and the Habitat for Humanity ReStore offers onsite recycling of reusable building materials and other household items.

Yard waste is prohibited from being mixed with household waste or in plastic bags for disposal. Citizens countywide can dispose of grass, leaves, and branches in the yard waste area of the Resource Recovery Facility. These items are mulched by a third party. Several municipalities offer curbside yard waste pickup. Citizens are also encouraged to consider backyard composting. Hampstead, Manchester, Mount Airy, Sykesville, and Westminster provide bulk trash pick-up to encourage proper disposal of trash and debris to help promote better water quality. The Town of New Windsor also hosts an annual bulk trash collection event allowing residents to drop off bulk items at the town's DPW facility for proper disposal. In addition, several municipalities have an oil and antifreeze recycling program managed by either the municipality or Maryland Environmental Service (MES).

The Carroll County Recycling Office has developed and implemented a county-wide public education and outreach program to reduce littering and increase recycling. The Recycling Office hosts a webpage that provides extensive public education materials and opportunities (www.recyclecarroll.org). The homepage provides general information and materials on recycling, as well as information targeted to recycling in the home, at schools, and for businesses. All recycling events are posted on the website, and related educational materials and documents are available as well. The Recycling Office also hosts a Facebook page for disseminating regular information and updates.

Recycling Office staff attend many festivals and community events where an educational booth and materials are provided, and staff are available to answer questions. Staff have also partnered with the Carroll County Public Schools (CCPS) Science, Technology, Engineering, & Math (STEM) programs upon request to educate and engage students, usually in elementary school, on issues related to recycling that coincide with the curriculum.

The Recycling Office offers a semi-annual household hazardous waste collection to ensure household chemicals are properly discarded. During the last permit year, Household Hazardous Waste drop-off events took place on October 19, 2024, and April 12, 2025. Events such as these provide county residents with a safe means for disposing of household chemicals, shredding documents, and learning about measures to protect the environment.

The County's annual rain barrel and compost bin sale was held again during the spring, providing these items to residents at a reduced cost. Rain barrels and compost bins were pre-ordered for pick up at the County Office Building on Saturday, May 3, 2025. Composting information was available for residents as well as a demonstration for reducing waste.

In addition to the educational materials available on the Recycling website and at events, information is routinely disseminated to the public through mailers and advertisements on local print media, local cable channels, and local radio stations. Outreach information is provided to residents about hard-to-recycle items such as CFL bulbs, pharmaceuticals, kitchen oil, and latex paint. County residents are encouraged to dispose of unused prescription and non-prescription drugs at designated law enforcement agencies throughout the county.

The NPDES permit also requires the County to remove from or prevent from entering its MS4 11 tons of litter and debris annually. The County, municipalities, and local citizen groups work collectively to clean litter from roads, parks, streams, and other public spaces. During the last permit year, a total of 23.73 tons of litter was collected. Whenever litter was weighed directly, the precise weight was used for tracking. If not explicitly weighed, the number of bags or items were recorded, and weights were estimated based off best available data. For trash bags, an average weight of 15 or 20 pounds per bag was used for kitchen- or contractor-sized bags, respectively. The weight of bulk items was also estimated on best available information. For storm drain cleaning, the County used a factor of 8.9% of the total weight to estimate the portion that was litter, which is an approved method used by Baltimore County for assessing progress in their Trash TMDL. **Table 6** summarizes these efforts for the last permit year.

Table 6
Litter Cleanup Efforts for Last Permit Year

Category	Maintenance Program or Event Name	General Location & Additional Details	Staff or Public	Total Weight (lbs.)
Cleanup Event	Town of Mount Airy "Let's Talk Trash" Cleanup Contest	Town-wide, 4/26/25 - Challenge between other groups to collect trash on the same day	Public	2300
	Town of New Windsor Beautification Day	Yearly event to weed, clean up, mulch and plant flowers & shrubs at Town Parks and 1 Open Space Area	Both	80
	Town of Sykesville Spring Cleanup	Shannon Run Park - Volunteer litter collection	Public	100
	City of Taneytown Earth Day Parks Cleanup	Taneytown Public Parks, 4/26/25 - Volunteer litter collection	Public	840
	Carroll Co Resource Management Division Stream Cleanup	Copps Branch Walking Trail, 4/17/25 - Staff litter collection	Staff	300
	Monocacy River Board Stream Cleanup	Copps Branch, Westminster, 12/7/24 - Volunteer litter collection	Both	560
Group Litter Cleanup	Hampstead Main Street Cleanup	Main Street Hampstead - Business owners regularly perform litter cleanups together throughout the year	Public	625
	Town of Mount Airy Weed Warrior Program	Various locations in Mount Airy, year-round - Citizen volunteers perform regular litter cleanups and invasive species mitigation	Public	80
	Town of Mount Airy Adopt-A-Road Program	Various locations in Mount Airy, year-round - Volunteer litter collection	Public	2260
	City of Taneytown Community Service Volunteers	Taneytown Public Parks, year-round - Citizen litter collection	Public	520
	Friends of Liberty Reservoir Monthly Cleanup Events	Liberty Reservoir and nearby areas - Members of "Friends of Liberty Reservoir" perform group cleanups frequently throughout the year	Public	5950
	Helping Hands Keep Our Parks Green Program	Regular litter cleanups conducted at multiple county park locations	Public	1460
	CC Roads Department Adopt-A-Road Program	Year-round volunteer program administered by County DPW	Public	4540

Category	Maintenance Program or Event Name	General Location & Additional Details	Staff or Public	Total Weight (lbs.)
Staff Litter Cleanup	Town of Manchester DPW Staff Cleanups	Various locations in Manchester, year-round - Staff collect litter after town events and as-needed	Staff	350
	Town of Mount Airy DPW Staff Cleanups	Various locations in Mount Airy, year-round - Staff collect litter after town events and as-needed	Staff	6120
	Town of New Windsor DPW Staff Cleanups	New Windsor - Public Works staff maintains Town parks, open space, and water & sewer facilities on regular basis	Staff	240
	Town of Union Bridge Staff Cleanups	Various locations in Union Bridge, weekly - Staff collect additional litter after weekly trash collection has occurred	Staff	120
	Town of Union Bridge Parks and Tot Lot Cleanup	Various locations in Union Bridge, monthly	Staff	240
	City of Westminster Staff Litter Collection	The city of Westminster has 2 full-time employees dedicated to cleaning city streets, sidewalks, and parks of litter	Staff	15352
Storm Drain Cleaning	Town of Hampstead Storm Drain Cleaning	Town-wide throughout the year	Staff	2261
	Town of Manchester Storm Drain Cleaning	Town-wide throughout the year	Staff	1189
	City of Westminster Storm Drain Cleaning	City-wide throughout the year	Staff	890
SWM Facility Maintenance	Town of Hampstead Stormwater Facility Maintenance	Four staff cleanup events at Dams #503 (twice), #504, and #505	Staff	1025
	Town of Manchester Stormwater Facility Maintenance	Staff cleanup events at two municipal stormwater ponds	Staff	50
		Total Weight (tons)		***23.73***

5. Public Education

The permit requires Carroll County to implement a public education and outreach program to reduce stormwater pollutants. Outreach efforts may be integrated with other aspects of the County's activities.

Hotline

The permit requires maintenance of a compliance hotline or similar mechanism for public reporting of water quality complaints, including suspected illicit discharges, illegal dumping, and spills. Individuals, including those within the co-permittee municipalities, can call the non-emergency Stormwater Pollution Prevention Hotline at 410-386-2210. The hotline is readily visible on the Stormwater Pollution Hotline webpage.

- www.carrollcountymd.gov/government/directory/planning-land-management/protecting-carroll-county-waters-npdes/stormwater-pollution-hotline/

Websites

- Municipal Websites: All municipalities host websites that include links to various educational publications, electronic municipal newsletters, relevant Carroll County webpage(s), EPA, and/or MDE websites.

- "Planning & Land Management:" Carroll County PLM hosts several webpages that provide materials and resources to residents and local businesses.
  - https://www.carrollcountymd.gov/government/directory/planning-land-management/

- "Protecting Carroll County Waters (NPDES):" A dedicated NPDES webpage hosted by PLM, which is the primary hub for information related to the NPDES MS4 permit. The website includes links to the following pages, which are located either within the *Protecting Carroll County Waters* website or under the *Resource Management Division* website:
  - www.carrollcountymd.gov/government/directory/planning-land-management/protecting-carroll-county-waters-npdes/

  - "Stormwater Pollution Hotline:" This page contains the non-emergency stormwater pollution hotline phone number, as well as the emergency contacts for each public water and sewer system. There is a quick link to this page from the main webpage, and the municipalities provide a link to this page from their municipal websites.
  - "NPDES Permit:" This page contains the permit that is currently in effect for Carroll County and its municipal co-permittees.
  - "Annual Reports:" NPDES MS4 Annual Reports for each year since 2014 are available.
  - "Watershed Restoration Plans:" The RMD hosts this page which includes the characterization plan, stream corridor assessment, and watershed restoration plans originally approved by MDE for each of Carroll's nine watersheds.
  - "Stormwater Projects:" An interactive map provides information on planned, active, and completed stormwater projects.

  - "Public Outreach:" This page describes actions the average property owner may take to help prevent stormwater runoff pollution. Carroll County public outreach publications can be found here, along with outreach videos and workshop information.
  - "Carroll Clean Water Partnership:" Information is provided on this voluntary partnership program that encourages and recognizes local businesses that identify and address potential pollutants and good housekeeping measures.
  - "Links | Resources:" Links to additional information on the web regarding various aspects of the permit, stormwater pollution prevention, public outreach, and more are provided.

- "Resource Management Division:" In addition to hosting the Watershed Restoration Plans (called "Watersheds" on the RMD site) and Stormwater Projects webpages (called "Projects" on the RMD site), the RMD's "Resource Management" website hosts additional educational materials for both children and homeowners on its "Outreach" page. Links to various agricultural and urban BMPs are also available from this website. Copies of the Division's quarterly newsletter, *Down to Earth*, are available on the webpage, which include educational information and reporting on stormwater activities and program implementation.
  - "Resource Management:" www.carrollcountymd.gov/government/directory/planning-land-management/resource-management/
  - "Outreach:" www.carrollcountymd.gov/government/directory/planning-land-management/resource-management/outreach/

- "Water Resource Coordination Council:" The WRCC webpage provides access to the resolution creating the WRCC. The Memorandum of Agreement (MOA) and Memorandum of Intent (MOI) prescribing the coordination between the County and municipalities on permit implementation and compliance are also available for download.
  - carrollcountymd.gov/government/boards-commissions/water-resource-coordination-council/

- "Environmental Advisory Council:" The Carroll County EAC website provides access to materials related to stormwater pollution, TMDLs, recycling and solid waste reduction, and other relevant environmental topics. Presentations are posted on the website for public access and viewing. Reports and information related to relevant projects completed and topics discussed by the EAC are available to view as well. These include links to EAC-sponsored business and general public stormwater workshops and public education materials that have been developed.
  - *EAC:* carrollcountymd.gov/EAC/
  - "Stormwater:" www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council-eac/stormwater/

- "Stormwater Workshop for Homeowners:" This webpage provides information on workshops designed to educate homeowners and residents on minimizing stormwater runoff and preventing stormwater pollution from residential properties. Materials and resources related to stormwater pollution prevention and past workshop presentations are available for viewing by the public as well.

  - www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council-eac/stormwater/stormwater-workshop-for-homeowners/

- "Stormwater Workshop for Businesses:" This webpage provides information on workshops designed to educate Carroll County businesses on good housekeeping and BMPs that will protect water quality and prevent issues for these businesses in the future. Materials related to stormwater pollution prevention and past workshop presentations are available to the public as well.
  - www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council-eac/stormwater/stormwater-workshop-for-businesses/

- "Stormwater Workshop for Municipal Residents:" This webpage provides information and materials related to a workshop geared toward residents of Carroll's municipalities. The workshop shared information similar to the countywide general homeowner workshop but tailored the information to residents of the Hampstead and Manchester communities.
  - www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council-eac/stormwater/stormwater-workshop-for-municipal-residents/

- "Welcome to the Carroll County Recycling Office:" The Carroll County Recycling Office hosts a website which provides extensive public education materials and opportunities. In addition to waste diversion, promotion of recycling is also intended to reduce litter. The homepage provides general information and materials on recycling, as well as information targeted to recycling in the home, at schools, and at businesses. All recycling events are posted on the website, and related educational materials and documents are posted and available for download. The Recycling Office also hosts a Facebook page for followers to receive regular information and updates. Public Service Announcements are periodically run on WTTR (a local radio station), the County's social media outlets, and various other venues.
  - www.carrollcountymd.gov/government/directory/public-works/office-of-recycling/

Materials and Publications

All permittees provide stormwater pollution prevention materials at their municipal offices, at the Carroll County Office Building, on their websites, through social media, and at various events held throughout the year.

- "Protecting Carroll County Waters" and "Resource Management Division:" The Protecting Carroll County Waters (NPDES) website and the Resource Management Division website include resources related to the regulated community. Miscellaneous information, links, and materials are available. Brochures are available that describe good housekeeping practices applicable to specific types of businesses that tend to be more vulnerable to having illicit discharges. The materials are provided at public events and workshops, available online, and provided to property owners during visual inspections and courtesy visits. The "Protecting Carroll County Waters" website serves as a comprehensive hub for information relevant to NPDES MS4 information for Carroll County and its municipal co-permittees.

- "Down to Earth" Newsletter: The RMD produces a quarterly newsletter, *Down to Earth*, which is available on the website, emailed to recipients via a database of interested parties,

and available in hardcopy in multiple locations. The newsletter content includes educational articles for the general public, as well as updates on stormwater projects and events and other relevant happenings.

- Municipal Newsletters: Each municipality also produces a regular newsletter for its citizens. Municipal newsletters also periodically share event information, educational content, and other material relevant to stormwater pollution prevention.

- EAC E-Newsletter: The EAC sends out a periodic electronic newsletter which shares information related to EAC projects, including those related to stormwater, water quality, water reuse, recycling, litter, salt management, and other relevant projects.

- EAC Publications: The EAC has developed several public outreach publications to provide businesses and the general public with information on various related issues. These include guidance documents on tree planting, salt management, litter, invasive plants, and environmental stewardship in Carroll County.
  www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council/other-eac-publications-topics/

Events

All permittees participate in public outreach efforts during the permit year. The permit requires Carroll County to conduct a minimum of 25 outreach efforts per year. Stream clean-ups and tree plantings are implemented throughout the County and coordinated as a volunteer or outreach event when feasible. A complete listing of specific FY2025 events can be found in **Table 7**. The table also lists regularly scheduled events and outreach efforts.

Table 7
Carroll County Public Outreach Events FY2025

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Outreach Events								
Taneytown Movie in The Park	Taneytown Memorial Park - A city-hosted family event with information booth providing stormwater pollution prevention handouts to attendees	7/6/24 7:30pm to 11:30pm	5	50	1	4	N/A	Staff time, stormwater pollution prevention pamphlets
Taneytown Family Fun Food Truck Friday	Taneytown Memorial Park - A city-hosted family event with information booth providing stormwater pollution prevention handouts to attendees	7/19/24 5pm to 8pm	2	200	1	3	N/A	Staff time, stormwater pollution prevention pamphlets
Carroll County 4H Fair Children's Day	Carroll County Ag Center - County staff hosted a booth for children to create a stormwater-themed craft	7/30/24 9am to 2pm	7	600	2	5	200	Staff time, stormwater crafts, handouts, posters
McDaniel Wetlands Class Field Trip	Willow Pond Restoration Site, Westminster - County staff led college students on a field trip discussing watersheds, wetlands, and stormwater restoration projects	9/9/24 1pm to 3:30pm	10	17	2	3	N/A	Staff time, handouts, posters
Sykesville Fall Park Clean up	Cooper Park, Sykesville - General cleanup, flower planting and mulching	9/21/24	1	15	2	4	150	Staff & volunteer time, Public Works truck

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Westminster Fall Fest	Westminster City Park - A city-hosted public event with an information booth providing stormwater pollution prevention handouts to the public	9/26/24 - 9/29/24	2	Unknown	20	20	100	Staff time, stormwater pollution prevention pamphlets, ink/toner
Taneytown Harvest Festival	Taneytown Memorial Park - A city-hosted family event where county staff hosted the informational Water Resources Booth	9/28/24 11am to 3pm	4	300	2	4	N/A	Staff time, handouts, posters, watershed model
New Windsor Music on the Main	New Windsor Main Street - Town event with vendors, food & music; the town hosts a booth with various brochures & pollution prevention information	10/5/24 12pm to 6pm	10	2	12	6	N/A	Staff time, brochures & pamphlets
University of Baltimore & University of Palermo Field Trip	Hampstead area - County staff led graduate students on a field trip to different sites near Hampstead discussing wastewater treatment, stormwater management, and land preservation	10/10/24 9am to 3pm	7	15	1	4	N/A	Staff time, posters
Hampstead Fall Fest	Main Street/War Memorial Park, Hampstead - Provided pamphlets to the public that discussed stormwater pollution prevention	10/12/24 10am to 3pm	6	4	6	5	0	Staff time, NPDES Flyers and Salt Management Flyers

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Westminster Oyster Stroll	Main Street, Westminster - A city-hosted public event with an information booth providing stormwater pollution prevention handouts to the public	10/12/24 11am to 4pm	2	Unknown	2	5	100	Staff time, stormwater pollution prevention pamphlets, ink/toner
New Windsor Bulk Trash Day	Geer Lane, New Windsor - Residents bring bulk trash to the NW Public Works facility for responsible disposal	10/12/24 8am to 4pm	3	N/A	2	4	Cost of roll-off containers	Staff time, roll-off dumpsters & newsletter
Household Hazardous Waste Event - Fall	Carroll County Maintenance Center - Household hazardous waste collection and paper shredding	10/19/24 8am to 12pm	12	300	5	4	N/A	Staff time
3rd Annual Carroll County Environmental Symposium	CC Ag Center, Westminster - 3rd year of this annual public event including a Student Recycled Art Contest, the Water Resource Booth and outreach and networking by various environmental groups	10/26/24 9am to 12pm	2	200	4	6	N/A	Staff time, watershed model, handouts, posters
CC Career & Tech GIS Class Presentation	CC Career & Tech Center, Westminster - County staff gave a classroom presentation on the use of GIS software for stormwater management, illicit discharge detection, and environmental compliance work	11/22/24 10am to 11:30am	2	10	8	1.5	N/A	Staff time, power point presentation, pollution investigation game
Monocacy River Board Stream Cleanup	Copps Branch, Westminster - Volunteer litter collection	12/7/24	2	4	1	2	N/A	Staff & volunteer time, gloves, City of Westminster truck

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Taneytown Public Library Winter Reading Kick Off	Taneytown Branch of the Carroll County Public Library - Family event with information booth providing stormwater pollution prevention handouts to attendees	1/27/25 10am to 12pm	3	75	1	2	N/A	Staff time, stormwater pollution prevention pamphlets
4H GOES Field Trip	Hashawha Environmental Center - CC staff led a field trip educating children on aquatic insects, stream health, and healthy watersheds	3/25/25 6pm to 8pm	3	40	3	2	N/A	Staff time, dip nets, posters, identification keys
Sykesville Spring Park Clean up	Shannon Run Park Walking Trail, Sykesville - Volunteers collected litter along the walking trail	4/12/25	1	10	N/A	3	20	Staff & volunteer time, Public Works pickup truck
Household Hazardous Waste Event - Spring	Carroll County Maintenance Center - Household hazardous waste collection and paper shredding	4/12/25 8am to 12pm	12	300	5	4	N/A	Staff time
Mount Airy Shred and Battery Collection	Watkins Park, Mount Airy - Hosted by the Mt. Airy Recycling and Sanitation Commission, collected 9,350 lbs. of shredding and 168 pounds of batteries	4/19/25 9am to 12pm	1	9	Unknown	3	N/A	All-Shred Frederick shredding truck
Montessori Girl Scouts Presentation	Westminster Montessori School - County staff gave a classroom presentation to the Montessori Girl Scout Troop on healthy watersheds, stormwater, and aquatic biology	4/23/25	4	12	4	2	N/A	Staff time, handouts, posters

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Gerstell Academy Earth Day Field Trip	Carroll County Farm Museum - County staff hosted 2 stations at Gerstell Academy's Earth Day event teaching students about watersheds, stormwater management, and aquatic biology	4/24/25	7	300	10	6	N/A	Staff time, dip nets, posters, identification keys
City of Taneytown Earth Day Parks Cleanup	Taneytown Public Parks - Volunteer litter collection	4/26/25	4	45	Unknown	4	Unknown	Staff & volunteer time, gloves, trash bags
Westminster Wine Stroll	Main Street, Westminster - A city-hosted public event with an information booth providing stormwater pollution prevention handouts to the public	4/26/25 11am to 4pm	2	Unknown	2	5	100	Staff time, stormwater pollution prevention pamphlets, ink/toner
Mount Airy Let's Talk Trash Cleanup Contest	Roughly 65 locations across Mount Airy, including parks and roads - Citizens and municipal staff cleaned up litter and debris	4/26/25 8am to 10am	3	49	2	2	500	Staff & volunteer time, Rotary Club donated trash bags, gloves, snacks. Town paid for contest trophies.
Carroll County Rain Barrel & Composter Sale	Carroll County Office Building - Citizens purchased discounted Rain Barrels and Composters for residential use	5/3/25 8am to 1pm	5	118	5	5	N/A	Staff time

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Westminster Flower and Jazz Festival	Main Street, Westminster - A city-hosted public event with an information booth providing stormwater pollution prevention handouts to the public	5/10/25 10am to 4pm	2	10000	2	6	100	Staff time, stormwater pollution prevention pamphlets, ink/toner
Mount Airy Bulk Trash Day	Within municipal limits of Mount Airy - Collected 13.35 tons of bulk trash from residences for responsible disposal	5/10/25	Unknown	Unknown	N/A	N/A	$1094.84 disposal fee	Staff time, J & J Inc. Trash Service
Westminster Flower and Jazz Festival	Main Street, Westminster - County staff hosted the Water Resources Booth at this large public street fair event	5/10/25 10am to 4pm	4	10000	2	6	N/A	Staff time, watershed model, handouts, posters
Hampstead Day	Main Street, Hampstead - Provided pamphlets to the public that discussed stormwater pollution prevention	5/17/25 8am to 3pm	10	Unknown	10	7	0	Water Usage Flyers, NPDES Flyers, and Salt Management Flyers
Taneytown Flea Market	Taneytown Memorial Park - A city-hosted public event with an information booth providing stormwater pollution prevention handouts to attendees	5/17/25 9am to 2pm	3	250	1	5	N/A	Staff time, stormwater pollution prevention pamphlets
Westminster Beer and Barbecue Stroll	Main Street, Westminster - A city-hosted public event with an information booth providing stormwater pollution prevention handouts to the public	6/14/25 11am to 4pm	2	Unknown	2	5	100	Staff time, stormwater pollution prevention pamphlets, ink/toner

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Ongoing Outreach Initiatives and Programs								
New Windsor Town Bulletin Board and Information Table	New Windsor Town Hall - Various brochures available to the public with information on stormwater pollution prevention, water conservation, recycling, etc.	Year round	1	0	N/A	Year round	N/A	Informational brochures & pamphlets
New Windsor Quarterly Town Newsletter	Provides information on events such as Bulk Trash Day, Town Beautification Day, etc.	Quarterly	2	0	20-25 hours	Quarterly newsletter	1000	Staff time, paper, stamps, water quality related information
CC Resource Management Division Newsletter	Produced quarterly. This e-newsletter is sent to a subscribers list, posted on County website, and print copies made available in the County office building	Quarterly	5	1250	N/A	N/A	N/A	Staff time, printing resources
Municipal Newsletters	Typically produced quarterly, these newsletters discuss municipal news and provide locally relevant environmental information to residents living in the municipalities	Quarterly	16	N/A	N/A	N/A	N/A	Staff time, printing resources
Environmental Advisory Committee Newsletter	Digital newsletter sent out periodically to update subscribers on EAC activities and locally relevant environmental topics	Year-round	1	623	15	N/A	N/A	Existing County platform for electronic communications
Carroll Environment Facebook Page	Daily/Weekly Facebook Posts - Topics include watershed restoration, stormwater, flooding, water resources, recycling, etc.	Weekly	7	622	1	N/A	N/A	Staff time

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Carroll Co. Farm Museum Stormwater Educational Exhibits	CC Farm Museum, Westminster - Educational/interpretive signs that allow visitors to learn about stormwater BMPs, pollution reduction, and water quality	Year-round	N/A	N/A	N/A	N/A	N/A	Educational signage
Carroll County Adopt-A-Road Program	Countywide - Volunteer groups conduct litter cleanups to keep roadways and waterways clean	Year-round	5	14	N/A	N/A	N/A	Staff & volunteer time, trash bags, gloves, county trucks
Websites	County and municipal websites publicly host SW pollution prevention information, the IDDE hotline contact number, resource links, and environmental events information	Year-round	N/A	N/A	N/A	N/A	N/A	Staff time
Mount Airy Weed Warriors	Town of Mount Airy - Citizens and staff conduct invasive plant control and litter cleanups at various locations to preserve native plant biodiversity and canopy cover	Year-round	Unknown	Unknown	Unknown	Unknown	N/A	Staff time, gloves, trash bags
Mount Airy Sustainability Commission Meetings	Town of Mount Airy - Sustainability Commission members conduct regular meetings with town residents to discuss and plan environmentally friendly initiatives addressing litter, invasive plants, and water, among other topics	Year-round	Unknown	Unknown	Unknown	N/A	N/A	Staff time

Name of Event	Location & Description	Date/Time	# Staff Involved	# Other Participants	Prep Time (hours)	Event Length (hours)	Cost of Materials	Resources Used
Mount Airy Recreation & Parks Board Meetings	Town of Mount Airy - monthly meetings where various park topics are discussed along with ongoing environmental programs around the town	Year-round	Unknown	Unknown	Unknown	N/A	N/A	Staff time
Mount Airy Farmers Market: Town Info Booth	Watkins Park, Mount Airy - Town employees staffed an outreach booth at the Mount Airy Farmer's Market	May - June 2025 *every Wednesday*	2	N/A	N/A	4 each week	0	Staff time, recycling information materials

Media and Social Media

The County engages in regular outreach efforts through media resources, such as social media, press releases, and radio.

- Carroll Environment Facebook Page: The County hosts a Facebook page called "Carroll Environment" that is managed by PLM staff. Its purpose is to provide information to citizens on environmental topics, ranging from general education material to specific updates on RMD restoration projects and volunteer opportunities. Posts are made about four times per week, and the page currently has over 620 followers.
  https://www.facebook.com/carrollenvironment/

- Cable TV: The County actively utilizes cable TV resources to convey public service information. This may include upcoming events, presentations, good housekeeping BMPs, and other resources. In FY2018, PLM staff, in conjunction with Carroll's Community Media Center (CMC), produced a video on BMPs for homeowners entitled "Stormwater Pollution Prevention for Homeowners – Stormwater and Homeowners." The video introduces homeowners to stormwater and why it is important. The video continues to be available online and at the County's social media sites, including the County's YouTube channel.
  youtu.be/jtjcuGhihL8?list=PLwx-zJZmRR9swwLZb0WMo2r-sJDQ5lZDa

- Carroll Co. Office of Recycling Public Outreach: The Office of Recycling promotes source reduction and recycling through citizen education outreach efforts utilizing a variety of media including print, digital, and radio, and through in-person events and programs. Waste reduction and recycling education efforts undertaken by the CC Office of Recycling include:

  - Promotion of waste reduction and recycling through awareness campaigns including local newspaper and magazine advertising, direct mailing, and billboards.
  - Radio advertising spots and more in-depth segments on WTTR's "Community Briefing" program.
  - Participation in events such as the Carroll County EnviroFest, the 4-H Fair's "Children's Day" event, and school events such as family fun fairs.
  - Educational recycling programing for Scout groups, service organizations, Carroll County Public Libraries, schools, housing communities, and collaborations with the Carroll County Master Gardeners.
  - Maintenance of the County's recyclecarroll.org website (https://www.carrollcountymd.gov/government/directory/public-works/office-of-recycling/) and the Office of Recycling's social media accounts to share up-to-date information and promote recycling and source reduction
  - Implementation of a mobile and web-based app (Recycle Coach) to guide residents toward reuse and recycling options for waste rather than landfilling

- Lawn Clippings Outreach Video: In addition to their website public outreach information, Carroll County Road Operations has been posting public outreach videos on the County's

Facebook social media site entitled *"Keeping Lawn Clippings on Your Lawn"* for road safety and environmental protection. Roads Operations also periodically posts winter weather storm event preparation efforts and emergency snow plowing emergency operations information.

💻 facebook.com/CarrollCountyGovernmentMD/videos/1099263520258841/?__so__=channel_tab&__rv__=all_videos_card

Many of the municipalities also provide information on stormwater pollution prevention and other related topics through social media and cable television.

Appointed and Staff Groups

- Environmental Advisory Council (EAC): Carroll County continues to provide an open forum on environmental issues and concerns through the Carroll County EAC. This Commissioner-appointed citizen board holds monthly meetings that are open to the public. The EAC functions at the direction of the Carroll County Board of Commissioners, works cooperatively with County environmental staff to research environmental policy issues, advises the Board of County Commissioners on environmental issues, fosters environmental education, and acts in the best interest of County residents by promoting effective environmental protection and management principles.

  💻 www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council-eac/

  - Environmental Action Awards: In its role to promote environmental awareness and outreach, every other year, the EAC accepts nominations for Environmental Action Awards. Winners are recognized in an awards presentation, in the press, and on the EAC's website, historically in conjunction with Earth Day and/or Arbor Day, but more recently as part of the annual Carroll EnviroFest event. Information about the award winners is available on the EAC webpage and is disseminated through a news release, social media, and newsletters (hardcopy and electronic). The next awards cycle will be held in 2027.

    💻 www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council-eac/environmental-awareness-awards/

  - Environmental Stewardship in Carroll County: The EAC's booklet, which is updated every other year, is available on the website and is provided at various venues. The booklet describes efforts and initiatives undertaken by the County to demonstrate environmental stewardship and protection, including stormwater mitigation and management projects and progress. The booklet was updated and published in July 2025.

    💻 www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council-eac/environmental-stewardship-in-carroll-county/

- Carroll County Monocacy River Board: The Carroll County Monocacy River Board serves to advocate for the Monocacy River, its watershed, and the varied resources contained within. The Board is charged with promoting best management practices, advocating for

sustainable land uses, and encouraging the restoration and enhancement of the natural resources within the Monocacy River Watershed. This mission is accomplished through public education, voluntary participation, and fostering multi-jurisdictional partnerships that will maintain and improve the river's water quality and ecological health while respecting the property rights of landowners within the watershed.

- https://www.carrollcountymd.gov/government/boards-commissions/carroll-county-monocacy-river-board/

- Maryland Recycling Network: In addition, the Carroll County Recycling and Conservation Manager sits on the Board of Directors for the Maryland Recycling Network, which provides an additional resource to the County for public education content and influence.

- Water Resource Coordination Council: The WRCC was formed in 2007 through a cooperative partnership between the County, the eight municipalities, and the Carroll County Health Department by a formal joint resolution to discuss and address issues related to water resources. The WRCC discusses and collaborates on pertinent issues related to water, wastewater, and stormwater management. The monthly meetings, which are open to the public, provide a valuable opportunity for members to coordinate on various current issues. NPDES technical and administrative issues are discussed on a regular basis, including monthly updates on co-permittee stormwater projects.
  - www.carrollcountymd.gov/government/boards-commissions/water-resource-coordination-council/

- Mount Airy Water and Sewer Commission: This Commission was created to monitor all functions of the Town's water and sewer infrastructure and contribute useful research to improving system efficiency. This also includes detailed research and analysis into water and sewer operations, costs, and rates for the Town's citizens. These meetings are open to the public.

- Annual Clean-Up Days: Several municipalities hold an annual clean-up day to collect trash from streams, wetlands, floodplains, and/or stormwater facilities, as well as other activities that improve the watershed and reduce the amount of trash and other pollutants to streams and waterbodies. The Mount Airy Parks and Recreation Commission promotes ongoing clean-up efforts for the Rails to Trails right-of-way from the downtown area to Watkins Park.

- Municipal Councils and Planning Commissions: The town/city councils and the municipal planning commissions meet regularly. Discussions related to the expenditure of funds and approval of stormwater projects may take place at these meetings, which are open to the public. **Table 8** provides the regular meeting time for each of the co-permittee's public bodies.

Table 8
Co-Permittee Elected Officials and Planning Commissions
Regular Meeting Schedule

Jurisdiction	Elected Body	Planning Commission
Board of County Commissioners	Every Thursday	3rd Tuesday & 1st Wednesday of month
Hampstead	2nd Tuesday of month	4th Wednesday of month
Manchester	2nd Tuesday of month	3rd Tuesday of month
Mount Airy	1st Monday of month	Last Monday of month
New Windsor	1st Wednesday of month	4th Monday of month
Sykesville	2nd & 4th Monday of month	1st Monday of month
Taneytown	2nd Monday of month	Last Monday of month
Union Bridge	4th Monday of month	3rd Thursday of month
Westminster	2nd & 4th Monday of month	2nd Tuesday of month

Public Outreach Plan

The Public Outreach Plan was updated in December 2022 for the fifth-generation permit requirements. The primary goal of the *Carroll County and Municipalities NPDES MS4 Public Outreach Plan* is compliance with the permit. This plan provides a review of the public outreach opportunities currently available to residents and businesses in Carroll County and the municipalities regarding specific requirements of the permit and related stormwater program activities. As a result of this review, activities were suggested to round out those opportunities and improve outreach. The intent is to raise public awareness and encourage residents and businesses to take measures to reduce and prevent stormwater pollution. This is a dynamic, iterative plan, which will be revised on a regular basis as projects are completed and other needs arise. **Table 9** indicates the activities/programs under the Public Outreach Plan objectives that have been implemented thus far. The full Public Outreach Plan was submitted with the first annual report (FY2023) of the fifth-generation permit.

Table 9
Public Outreach Plan: Activities Implemented Under Plan Objectives

Objective	Activity/Program	Page	Implementation
7.1 Enhance comprehensive user-hub website to provide additional information and accessibility	Continue to add materials to website to address broader range of issues and needs	27	▪ Ongoing effort. ▪ "Protecting Carroll County Waters" website was developed at the hub for NPDES information. Information continues to be added as available and needed. ▪ Maintained by RMD.
7.1 Continue to offer opportunities & materials for increased public awareness & access to permit-related water quality information	Continue to engage public through Carroll Environment Facebook page and expand the relevant content	27	▪ Posts 3+ times per week. Topics include restoration, stormwater, flooding, water resources, litter, recycling, and more.
	Explore feasibility of expanding social media engagement to other social media platforms	27	▪ Not yet implemented.
	Produce the next video in the Stormwater for Homeowners video series	27	▪ Not yet implemented.

Objective	Activity/Program	Page	Implementation
	Periodically present to municipal councils to educate and update, as requested	28	▪ Ongoing effort, as needed.
	Prepare 1-page overview of new permit requirements to share w/ elected officials and public	28	▪ PLM presented the NPDES MS4 permit program to the Board of County Commissioners in a public forum and streamed online, which included new permit requirements. ▪ The new MS4 permit is available to the public on the MDE website.
	Continue to participate in community activities that provide an opportunity to raise public awareness and increase volunteerism	28	▪ Ongoing effort. ▪ The EAC worked on the biennial update of the *Environmental Stewardship in Carroll County* booklet. ▪ PLM, RMD, and municipal co-permittees are actively involved in offering public education outreach and volunteer involvement opportunities
7.1 Build connections and partnerships between PLM, local environmental groups, and citizens to increase awareness and provide mutual assistance	Plan and conduct an environmental symposium as opportunity for local environmental groups to network with each other, to find common threads where they can work together, and to educate and engage the public	28	▪ The first annual Environmental Symposium was held on November 12, 2022. This event showcased Carroll County community groups focused on environmental stewardship. It was free and open to the public. Groups had the opportunity to network, to solicit volunteers, and to build a cooperative relationship with PLM. The event also featured a recycled art contest open to high school students. ▪ As a result of symposium, an information sharing network was developed among many of the local groups, including PLM. ▪ The third Symposium and planning of the fourth, now renamed as "EnviroFest", occurred during this reporting year.
7.1 Attract and engage volunteers to assist with maintenance of environmental areas (i.e., tree plantings, stream clean-ups, etc.) and serve on environment-related boards and commissioners	Use Carroll Environmental Facebook as an avenue to engage volunteers	29	▪ PLM has shared information regarding events held by local community grounds and their call for volunteers.
	Plan and conduct an environmental symposium as opportunity for PLM staff and local environmental groups to increase volunteer participation	29	▪ The first annual Environmental Symposium was held on November 12, 2022. This event showcased Carroll County community groups focused on environmental stewardship. It was free and open to the public. Groups had the opportunity to network, to solicit volunteers, and to build a cooperative relationship with PLM. ▪ The third Symposium and planning of the fourth, now renamed as "EnviroFest", occurred during this reporting year.
	Engage students at McDaniel College to learn about and participate in stormwater outreach activities and projects	29	▪ Staff from the RMD have hosted several field lectures with McDaniel College students at restoration project locations throughout the County.
	Engage students at Carroll Community College to learn about and participate in stormwater outreach activities and projects	29	▪ During the spring semester of 2023, staff from the RMD worked with the Carroll Community College STEM Scholars program in the classroom as well as in the field to establish a water quality monitoring study.

Objective	Activity/Program	Page	Implementation
	Partner with local colleges and high schools to offer internships to students considering a career related to water quality	29	▪ Ongoing effort. During the spring semester of 2023, on continuing through the end of 2023, RMD provided an internship in the Water Resource Division to a student from McDaniel.
7.1 Educate businesses about permit requirements, good housekeeping measures, and pollution prevention	Develop self-inspection checklist for businesses to identify additional measures they could take	30	▪ Self-inspection evaluation and checklists developed under previous permit term available to interested businesses upon request.
	Update slide shows & associated handouts to be part of Department speakers' bureau	30	▪ Ongoing effort. ▪ Custom presentations are made upon business industry need or upon request. ▪ Business handout materials are maintained and available to general public. Also used in IDDE program as educational tool to businesses.
	Update existing materials, as needed, to address good housekeeping measures for businesses in the target audience	30	▪ Ongoing effort. ▪ Selected business handout materials developed and maintained for specific business industries, e.g. auto, food/restaurant, etc. in correlation to general trends observed in IDDE compliance program.
	Develop an outreach campaign to commercial property management companies w/ varied businesses and sources of pollutants	30	▪ Not yet implemented.
7.2 Develop education materials related to best salt management practices.	…for homeowners	31	▪ The EAC developed a Guide to Salt Management for Homeowners (deicing and water softeners), completed in October 2022. The publication is available on the EAC's website, has been shared via the Carroll Environment Facebook page, and has been available at various events. ▪ Graphics and other informational posts were developed and posted on the Facebook page.
	…for businesses	31	▪ MDE launched the Maryland Smart Salting Professional Training Program, a salt applicators education and certification program. Carroll County Government is working to become familiar with the program and increase its awareness.
7.3 Continue to deliver effective Reduce/Reuse/Recycle public outreach campaign	Take advantage of and share existing resources and initiatives available through Keep America Beautiful (KAB)	32	▪ Ongoing effort.
7.3 Continue to provide educational materials related to litter	Develop additional materials to focus on reducing the amount of litter that reaches waterways	32	▪ Separate materials for businesses and homeowners were developed and added to the following webpages: Stormwater Workshop for Businesses, Homeowner Workshop, Carroll Clean Water Partnership, Municipal Residents Workshop, Stormwater Public Outreach Publications. Educational materials are continuously provided by the Recycling Office and posted online or sent out by mail, social media, or news release.
	Update and refresh comprehensive guide to recycling in Carroll County	32	▪ This guide is updated annually.

Objective	Activity/Program	Page	Implementation
7.3 Continue to improve and foster the Adopt-a-Road campaign	Update the Adopt-a-Road video on the website	32	▪ Not yet implemented. ▪ Adopt-a-Road Brochure: www.carrollcountymd.gov/media/1910/clean-car.pdf
7.4 Provide opportunities for public participation during the development of watershed assessments and restoration plans	Maintain list of interested parties for notification of TMDL development actions	33	▪ The County has maintained a list of individuals and organizations who provided input during the initial restoration plan development public comment period, and any additional interested parties will be added to the list for notification as requested. ▪ Regular updates on restoration projects are provided through the RMD Quarterly Newsletter and Carroll Environment Facebook page, which individuals can subscribe to.
	Provide notice on County's webpage outlining how public may obtain information on development of TMDL stormwater implementation plans and opportunities for comment	33	▪ Upon the approval or establishment of a new TMDL by EPA, Carroll County will notify the public through the County's webpage for opportunities to provide comment.
	Provide copies of TMDL stormwater implementation plans to interested parties upon request	33	▪ The individual watershed restoration plans are available to view or download on the RMD website on the Watersheds page. One combined countywide TMDL implementation plan is developed each year and submitted with the Annual Report, both of which are available online.
	Allow minimum 30-day comment period before finalizing TMDL stormwater implementation plans	34	▪ Upon the approval or establishment of a new TMDL by EPA, Carroll County will notify the public and hold a 30-day public comment period prior to finalization of newly developed restoration plans.
	Document in final TMDL stormwater implementation plans how County provided public outreach and adequately address all relevant comments	34	▪ Public outreach for all previously approved TMDL restoration plans is documented in the Countywide TMDL implementation plan. Upon the approval or establishment of a new TMDL by EPA, Carroll County will notify the public and hold a 30-day public comment period prior to finalization of newly developed restoration plans to incorporate any relevant public comments.
	Revise/update existing, approved restoration plans as needed and per MDE guidance	34	▪ Each individual 8-digit watershed restoration plan will be updated once each permit term. One Countywide TMDL implementation plan has been developed to document and summarize all completed BMPs, programmatic initiatives, alternative control practices, as well as an analysis of the net pollutant load reductions achieved annually for each TMDL stormwater WLA. This plan is available online.
7.5 Continue to build or improve existing partnerships between the County and other entities to promote action, awareness, and recognition	County & Municipalities: WRCC	35	▪ Ongoing effort. PLM continues to work with the municipalities, the Heath Department, and Carroll County DPW to coordinate and collaborate on water resources related projects. The WRCC meets monthly.
	County & Municipalities: EAC	35	▪ Ongoing effort. PLM continues to work with the EAC to coordinate and collaborate on public outreach efforts and providing information and recommendations to the Board of County Commissioners regarding relevant environmental issues. The EAC meetings monthly.

Objective	Activity/Program	Page	Implementation
	County & Municipalities: MOA	35	▪ The WRCC drafted a Memorandum of Agreement (MOA) to address how this cost-share will take place and to delegate the administrative responsibilities of the Permit. The final MOA represents many hours of WRCC discussion, review and input by all jurisdictions' attorneys and discussion and approval by each set of elected officials. Originally signed by the Board and the Mayors on October 23, 2014, the Board and the Mayors of all Carroll County municipalities met jointly to discuss the MOA and officially sign the MOA. Prior to the issuance of the next generation permit on December 30, 2022, the WRCC reviewed the MOA. It was revised to become a perpetual agreement that would not have to be resigned at the end of each permit term. The MOA then was reaffirmed and resigned on October 7, 2021.
	PLM staff & Economic Development staff	36	▪ Ongoing effort. PLM continues to monitor Economic Development projects to identify partnering opportunities to provide more than the minimum water quality requirements for projects to the mutual benefit of developers and the County.
	PLM staff & DPW staff	36	▪ Ongoing effort. PLM regularly coordinates with DPW regarding the follow related activities: • Illicit Discharge Detection and Elimination • Storm drain mapping • A-StoRM efforts • Litter/trash collection • Street sweeping • Inlet cleaning • Maintenance of facilities • Stormwater restoration
	Public Engagement – Volunteer Opportunities: Individuals / Groups	36	▪ Ongoing effort. Events such as Carroll EnviroFest bring various community organizations together and connect individuals with groups. Events such as stream cleanups and tree planting maintenance provide opportunities for involvement.

Community Partnership

- Carroll Clean Water Partnership (CCWP): This program was initiated in January 2016, with its kickoff at the January 5, 2016, workshop, "Carroll County Businesses for Clean Water." The CCWP is a cooperative effort of PLM staff, the EAC, and the WRCC. The sponsors of the CCWP hope to foster a business-friendly environment for local businesses to identify and address potential pollutants and good housekeeping measures, and, as a result, gain community recognition as "Partners" for their contribution to achieving clean water. The program aims to encourage Partners to voluntarily implement stormwater pollution prevention good housekeeping BMPs. A webpage was developed and provides informational materials, the self-inspection checklist, event information, the list of Partners (as they are designated), and other relevant information. This page can be found on the Protecting Carroll County Waters (NPDES) website hub. The program is currently being reviewed and restructured.

www.carrollcountymd.gov/government/directory/planning-land-management/protecting-carroll-county-waters-npdes/carroll-clean-water-partnership/

- Stormwater Pollution Prevention Self-Inspection Checklist: Businesses start by assessing their current activities and identifying any specific actions needed to prevent pollution and improve water quality stewardship. For this assessment, a self-inspection checklist, titled "Completing Your Stormwater Pollution Prevention Self-Inspection Checklist and Action Plan," is available to guide business owners in identifying good housekeeping measures that could be implemented. This checklist can then be used as an internal action plan for the business to assist in planning. A copy of the checklist is available online. County staff are available to assist in this process if desired.
  www.carrollcountymd.gov/media/5611/selfinspectionchecklist.pdf

Other Outreach Activities

In Carroll County, staff are continuously involved in environmental education efforts. PLM staff regularly volunteer to speak at schools, community organizations, club meetings, and other venues to help provide effective and timely environmental information to the community.

- CCPS Outdoor School Program: Staff partner with the CCPS Outdoor School Program to educate and engage sixth grade students on issues related to water quality that coincide with the curriculum. Sessions are provided on topics such as biological stream health, stormwater, and the importance and benefits of tree planting. This program did not take place during the 2025 permit year but is anticipated to continue in future years.

- Helping Hands Keep Parks Green: Carroll County Department of Recreation and Parks launched a campaign to encourage additional community involvement to help keep County parks clean. The Helping Hands Keep Parks Green initiative is modeled after similar efforts, such as Adopt-A-Road, and is designed to invest community members in the care of parks. While volunteer recreation councils already perform countless hours of maintenance related to athletic fields, the Helping Hands campaign is focused more on general park cleanliness, trash pickup, and trail maintenance. It focuses on soliciting volunteers from organizations, such as service clubs, scout troops, churches, homeowner associations, and local businesses.

- Carroll County Farm Museum BMPs Showcased: In addition to the education events for school-aged youth included in **Table 7**, the Carroll County Farm Museum showcases several different types of structural and non-structural stormwater BMPs onsite. Five stormwater management practices onsite at the Carroll County Farm Museum serve as educational exhibits for visitors to learn about the importance and function of stormwater pollution mitigation practices, including a rain garden, landscape infiltration, rain barrel, drywell, and bioretention facility. Each practice features detailed signage to explain the practice and how it works. These exhibits are included in tours or in educational events for school-aged youth.

E. Stormwater Restoration

The MS4 permit requires Carroll County to restore impervious acres that have not been treated to the maximum extent practicable (MEP) by implementing stormwater BMPs, programmatic initiatives, or alternative control practices. Carroll County continues to implement an aggressive program of watershed restoration projects. **Table 10** indicates the restoration efforts that have been completed for the third-, fourth-, and fifth-generation permit requirements, as well as planned projects through the next six years. Projects listed in blue indicate restoration efforts that addressed the initial 10% restoration requirement of the third-generation permit, providing 688 acres of impervious treatment. The County's restoration achievements under the fourth-generation permit, which ended in December 2019, are listed in green and provided treatment of 1,629 impervious acres. Projects shown in orange have been completed since the end of the fourth-generation permit, between January 1, 2020, and June 30, 2025, and provide 1,085 acres of treatment as part of the County's current fifth-generation permit.

Projects planned or in design that are scheduled for completion between FY2026 and FY2031 are shown in red and will address impervious acre and nutrient reduction requirements in the fifth-generation permit and beyond. To date, these projects reflect approximately 817 acres of restoration. These acres keep the County moving in a positive direction for addressing both untreated impervious acreage and local and Chesapeake Bay nutrient reduction requirements.

Figure 2 depicts the number of acres restored (blue) and acres in planning and design phases (red) for projects to restore impervious surfaces to the mitigation projects. This graph provides an excellent representation of the level of true watershed restoration accomplished through the County's restoration efforts.

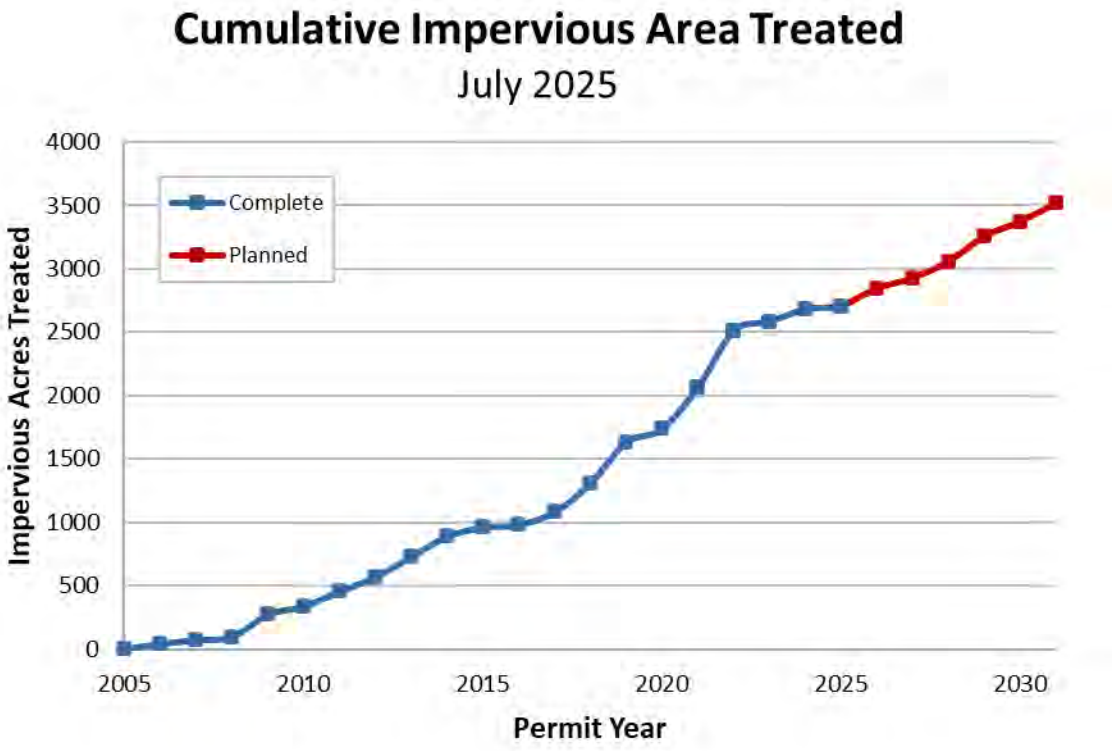


Figure 2: Impervious Surface Acres Treated: Projects Completed and Planned

Table 10
Listing of NPDES Watershed Restoration Efforts
July 2025

Carroll County First Permit Requirements					
Year	**Project Name**	**Project Type**	**Project Status**	**Impervious Area Credit**	**MDE Watershed**
1997	Longwell County Park	600 LF Stream Restoration	Completed	142.80	Liberty Reservoir
1998	Carroll County Times	200 LF Stream Restoration	Completed	0.50	Liberty Reservoir
1999	Piney Run	936 LF Stream Restoration	Completed	258.07	Loch Raven Reservoir
1993-2005	Forest Buffer Easements	Forest Buffer	Completed	147.47	
1993-2005	Grass Buffer Easements	Grass Buffer	Completed	139.43	
Completes 1st permit term requirement of 10% treatment				**688.27**	

Carroll County Second Permit Requirements - Completed December 31, 2019					
Year	**Project Name**	**Project Type**	**Project Status**	**Impervious Area Credit**	**MDE Watershed**
2005	Eldersburg Elementary School	Retrofit	Complete	1.40	Liberty Reservoir
2006	Chung	Outfall Restoration	Complete	10.00	S Branch Patapsco River
2007	Marriott Wood I Facility #1	Retrofit	Complete	0.60	Liberty Reservoir
2007	Winfield Fire Department Addition	New Construction	Complete	0.20	S Branch Patapsco River
2009	Bateman SWM Pond	New Construction	Complete	6.20	Liberty Reservoir
2009	Collins Estate	Retrofit	Complete	3.90	Liberty Reservoir
2009	Hickory Ridge	Retrofit	Complete	6.60	Liberty Reservoir
2009	Marriott Wood I Facility #2	Retrofit	Complete	2.80	Liberty Reservoir
2009	Marriott Wood II	Retrofit	Complete	1.90	Liberty Reservoir
2009	South Carroll High School	New Construction	Complete	12.90	S Branch Patapsco River
2009	Westminster Airport Pond	Retrofit	Complete	93.50	Liberty Reservoir
2010	Brimfield	Retrofit	Complete	12.60	S Branch Patapsco River
2010	Elderwood Village	Retrofit	Complete	3.40	Liberty Reservoir
2010	High Point	Retrofit	Complete	0.90	Liberty Reservoir
2010	Oklahoma II Foothills	Retrofit	Complete	8.10	Liberty Reservoir
2010	Upper Patapsco Phase I - Naganna Pond	New Construction	Complete	13.90	Liberty Reservoir
2010	Upper Patapsco Phase II - Hoff Pond	New Construction	Complete	4.10	Liberty Reservoir
2011	Arthur Ridge	Retrofit	Complete	6.60	S Branch Patapsco River

Carroll County Second Permit Requirements - Completed December 31, 2019					
Year	Project Name	Project Type	Project Status	Impervious Area Credit	MDE Watershed
2011	Edgewood	Retrofit	Complete	16.70	Liberty Reservoir
2011	Heritage Heights	Retrofit	Complete	4.10	Liberty Reservoir
2011	Oklahoma Phase I	Retrofit	Complete	10.00	Liberty Reservoir
2011	Quail Meadows	Retrofit	Complete	23.25	Liberty Reservoir
2012	Hampstead Impervious Area Removal	Impervious Removal	Complete	0.13	Prettyboy Reservoir
2012	Clipper Hills – Gardenia	Retrofit	Complete	15.24	S Branch Patapsco River
2012	Clipper Hills – Hilltop	Retrofit	Complete	25.49	S Branch Patapsco River
2012	Harvest Farms 1A	Retrofit	Complete	15.47	S Branch Patapsco River
2012	Parrish Park	Retrofit	Complete	18.20	S Branch Patapsco River
2012	Sunnyside Farms	New Construction	Complete	3.30	Double Pipe Creek
2012	Wilda Drive	New Construction	Complete	1.63	Liberty Reservoir
2013	Westminster Community Pond	New Construction	Complete	87.85	Liberty Reservoir
2013	Westminster High School	New Construction	Complete	44.81	Liberty Reservoir
2013	Tree plantings	Tree plantings	Complete	7.13	
2014	Benjamin's Claim	Retrofit	Complete	20.55	S Branch Patapsco River
2014	Carrolltowne 2A Gemini Drive	Retrofit	Complete	47.26	S Branch Patapsco River
2014	Carrolltowne 2B	Retrofit	Complete	14.27	S Branch Patapsco River
2014	Diamond Hills Section 5	Retrofit	Complete	16.27	Liberty Reservoir
2014	Friendship Overlook/Diamond Hills Section 2	Retrofit	Complete	18.58	Double Pipe Creek
2014	Tree plantings	Tree plantings	Complete	9.64	
2006-2014	Forest Buffer Easements	Forest Buffer	Complete	177.59	
2006-2014	Grass Buffer Easements	Grass Buffer	Complete	119.48	
2015	Benjamin's Claim Basin B	Retrofit	Complete	0.56	S Branch Patapsco River
2015	Braddock Manor West	Retrofit	Complete	10.52	S Branch Patapsco River
2015	Eldersburg Estates 3-5	Retrofit	Complete	11.22	S Branch Patapsco River
2015	Tree plantings	Tree plantings	Complete	20.25	
2016	Tree plantings	Tree plantings	Complete	11.97	
2017	Carroll County Maintenance Center	Retrofit	Complete	34.44	Double Pipe Creek
2017	Farm Museum - Bioretention A	New Construction	Complete	0.50	Double Pipe Creek
2017	Farm Museum - Bioretention B	New Construction	Complete	2.55	Double Pipe Creek

Carroll County Second Permit Requirements - Completed December 31, 2019					
Year	Project Name	Project Type	Project Status	Impervious Area Credit	MDE Watershed
2017	Farm Museum – Drywell	New Construction	Complete	0.03	Double Pipe Creek
2017	Farm Museum - Landscape Infiltration	New Construction	Complete	0.06	Double Pipe Creek
2017	Farm Museum - Rain Barrel	New Construction	Complete	0.01	Double Pipe Creek
2017	Farm Museum - Rain Garden	New Construction	Complete	0.05	Double Pipe Creek
2017	Finksburg Industrial Park	Retrofit	Complete	22.34	Liberty Reservoir
2017	Jenna Estates	Outfall Restoration	Complete	0.50	S Branch Patapsco River
2017	Miller/Watts	Retrofit	Complete	35.24	Liberty Reservoir
2018	Blue Ridge Manor	Retrofit	Complete	11.25	Double Pipe Creek
2018	Central Maryland (Wet Facility)	Retrofit	Complete	35.51	Liberty Reservoir
2018	Eldersburg Business	Retrofit	Complete	70.36	Liberty Reservoir
2018	Exceptional Center	Retrofit	Complete	16.57	Double Pipe Creek
2018	Feeser Property	New Construction	Complete	1.72	Liberty Reservoir
2018	Hawks Ridge	Retrofit	Complete	25.10	S Branch Patapsco River
2018	Random House	Retrofit	Complete	22.52	Liberty Reservoir
2018	Small Crossings Bioretention	New Construction	Complete	0.53	Prettyboy Reservoir
2018	Small Crossings Sand Filter	Retrofit	Complete	11.02	Prettyboy Reservoir
2018	Tree plantings	Tree plantings	Complete	7.13	
2019	Aspen Run	Retrofit	Complete	1.86	Liberty Reservoir
2019	Central Maryland (Dry Facility)	Retrofit	Complete	31.86	Liberty Reservoir
2019	Elderwood Village Parcel B	Retrofit	Complete	61.00	Liberty Reservoir
2019	Elmer Wolfe	Retrofit	Complete	4.85	Double Pipe Creek
2019	Merridale Gardens	Retrofit	Complete	28.39	S Branch Patapsco River
2019	Oklahoma 4	Retrofit	Complete	19.96	Liberty Reservoir
2019	Shannon Run	Retrofit	Complete	46.89	S Branch Patapsco River
2019	Whispering Valley Phase 4	Retrofit	Complete	26.75	Prettyboy Reservoir
2019	Tree plantings	Tree plantings	Complete	5.40	
2015-2019	Forest Buffer Easements	Forest Buffer	Complete	59.46	
2015-2019	Grass Buffer Easements	Grass Buffer	Complete	30.14	
2019	Inlet Cleaning	Inlet Cleaning	Complete	16.00	
2019	Septic Upgrades to 2019	Retrofit	Complete	57.20	

Carroll County Second Permit Requirements - Completed December 31, 2019					
Year	Project Name	Project Type	Project Status	Impervious Area Credit	MDE Watershed
2019	Street Sweeping (updated yearly)	Street Sweeping	Complete	1.00	
	Completed toward 20% goal			**1629.25**	

Listing of Watershed Restoration Efforts January 1, 2020 to July 1, 2024					
Year	Project Name	Project Type	Project Status	Impervious Area Credit	MDE Watershed
	Offset Previous Permit Annual Practices			**-17**	
2020	Benjamins Claim – Jacobs	Retrofit	Complete	2.05	S Branch Patapsco River
2020	Manchester Impervious Removal	Impervious Removal	Complete	0.22	Double Pipe Creek
2020	Roberts Mill	Retrofit	Complete	91.80	Upper Monocacy River
2020	Shiloh Middle	Retrofit	Complete	19.61	Liberty Reservoir
2021	Greens of Westminster	Retrofit	Complete	22.15	Double Pipe Creek
2021	Langdon (Jantz)	New Construction	Complete	93.64	Double Pipe Creek
2021	Willow Pond Retrofit	Retrofit	Complete	106.09	Liberty Reservoir
2021	Willow Pond SR	Stream Restoration	Complete	28.20	Liberty Reservoir
2022	Mayberry SR	Stream Restoration	Complete	279.31	Double Pipe Creek
2022	Trevanion Terrace Retrofit	Retrofit	Complete	47.78	Upper Monocacy River
2022	Woodsyde One Retrofit	Retrofit	Complete	28.39	S Branch Patapsco River
2022	Woodsyde SR	Stream Restoration	Complete	59.57	S Branch Patapsco River
2022	Woodsyde Two Retrofit	Retrofit	Complete	1.58	S Branch Patapsco River
2023	Locust Wetland	New Construction	Complete	17.42	Double Pipe Creek
2023	North Carroll Library	New Construction	Complete	0.19	Prettyboy Reservoir
2023	Patapsco Valley Overlook	Retrofit	Complete	5.58	S Branch Patapsco River
2023	Stone Manor Retrofit	Retrofit	Complete	11.40	Liberty Reservoir
2024	Brynwood SR	Stream Restoration	Complete	65.54	Liberty Reservoir
2024	Stone Manor Pump Station	Stream Restoration	Complete	4.20	Liberty Reservoir
2024	Sun Valley II Retrofit	Retrofit	Complete	7.99	Double Pipe Creek
2025	Oklahoma Sediment	Outfall Stabilization	Complete	2.64	Liberty Reservoir
2025	St George's Gate Retrofit	Retrofit	Complete	7.23	Liberty Reservoir
2020-2024	Tree Plantings	Tree Plantings	Complete	125.10	
2020-2024	Forest Conservation	Protections	Complete	18.68	

Listing of Watershed Restoration Efforts January 1, 2020 to July 1, 2024					
Year	Project Name	Project Type	Project Status	Impervious Area Credit	MDE Watershed
2020-2024	Riparian Conservation Landscaping	Protections	Complete	13.22	
2020-2024	Non-Riparian Conservation Landscaping	Protections	Complete	13.67	
2020-2024	Septic Upgrades	Retrofit	Complete	11.04	
2021-2024	Inlet Cleaning (Increase over last permit)	Inlet Cleaning	Complete	5.05	
2021-2024	Street Sweeping (Increase over last permit)	Street Sweeping	Complete	13.12	
	Completed toward next permit			**1085.45**	

Carroll County Projects in Planning					
Year	Project Name	Project Type	Project Status	Impervious Area Credit	MDE Watershed
2026	Century High School Retrofit	Retrofit	Under Construction	30.41	Liberty Reservoir
2026	Friendship Valley Elementary	Retrofit	Design	11.61	Liberty Reservoir
2026	Hampstead Valley 4	New Construction	Design	25.68	Loch Raven Reservoir
2026	Meadow Ridge (2)	Retrofit	Design	7.22	Double Pipe Creek
2026	Melstone Valley Retrofit	Retrofit	Under Construction	3.11	S Branch Patapsco River
2026	Roberts Field Wet Pond Retrofit	Retrofit	Design	43.01	Loch Raven Reservoir
2026	Tree Plantings 2026	Tree Planting	Planned	12.50	
2026	Windemere	Retrofit	Design	12.43	Liberty Reservoir
2027	Manchester East	New Construction	Design	49.41	Prettyboy Reservoir
2027	Public Safety Training Center	Retrofit	Design	19.27	Liberty Reservoir
2027	Tree Plantings 2027	Tree Planting	Planned	12.50	
2028	Hampstead Valley 1 Retrofit	Retrofit	Design	17.09	Loch Raven Reservoir
2028	Hampstead Valley 2 & 3 SR	Stream Restoration	Planned	13.50	Loch Raven Reservoir
2028	New Windsor Wetland	New Construction	Design	23.45	Double Pipe Creek
2028	North Carroll Farms 4	Retrofit	Planned	6.89	Prettyboy Reservoir
2028	Piney Ridge Village	Retrofit	Planned	11.21	S Branch Patapsco River
2028	Tree Plantings 2028	Tree Planting	Planned	12.50	
2028	Windsong Estates	New Construction	Planned	11.76	Lower Monocacy River
2028	Winters Street	Retrofit	Planned	36.63	Liberty Reservoir
2029	Farm Museum Pond	Retrofit	Planned	38.73	Double Pipe Creek
2029	Freedom Village Shopping Center	Retrofit	Planned	34.18	S Branch Patapsco River

Carroll County Projects in Planning					
Year	**Project Name**	**Project Type**	**Project Status**	**Impervious Area Credit**	**MDE Watershed**
2029	Hampstead Regional	Retrofit	Planned	95.66	Liberty Reservoir
2029	Rt 97 Restoration	New Construction	Planned	7.65	Liberty Reservoir
2029	Tree Plantings 2029	Tree Planting	Planned	12.50	
2029	Valley Vista	New Construction	Planned	6.39	Prettyboy Reservoir
2030	Avondale Run Phase 2	Retrofit	Planned	5.81	Double Pipe Creek
2030	Church of the Open Door	Retrofit	Planned	50.44	Liberty Reservoir
2030	Edgewood 7	Retrofit	Planned	3.65	Liberty Reservoir
2030	Evapco	Retrofit	Planned	28.35	Upper Monocacy River
2030	Tree Plantings 2030	Tree Planting	Planned	12.50	
2030	Westminster Market	Retrofit	Planned	17.10	Liberty Reservoir
2031	Bennett Cerf Park	New Construction	Planned	21.47	Liberty Reservoir
2031	Bear Branch SR	Stream Restoration	Planned	20.00	Double Pipe Creek
2031	County Park Wetland	Retrofit	Planned	13.89	Liberty Reservoir
2031	Eagleview	Retrofit	Planned	20.02	Double Pipe Creek
2031	Eldersburg Crossing (Walmart)	Retrofit	Planned	23.91	Liberty Reservoir
2031	Lexington Run Section 1	Retrofit	Planned	6.64	S Branch Patapsco River
2031	Long Valley Road	New Construction	Planned	21.96	Double Pipe Creek
2031	Manchester Elementary	New Construction	Planned	3.48	Prettyboy Reservoir
2031	Tree Plantings 2031	Tree Planting	Planned	12.50	
	Planned impervious treatment			**817.00**	

The fifth-generation permit requires treatment of 1,217 impervious acres by December 29, 2027, which equates to 14% of the established baseline untreated impervious acres. With a cumulative completion of 1,085 acres of impervious treatment for the current permit, the County has met 89% of this restoration requirement. The County is on track to meet the requirement, as demonstrated in the planned projects of **Table 10** above. The BMP Portfolio for Year 4 (FY2026) is provided in **Table 11**. The County anticipates treating an additional 146 impervious acres during FY2026, which will result in completion of 101% of the restoration requirement for the permit term.

Table 11
Year 4 BMP Portfolio – FY2026

BMP ID	BMP Name	BMP Type	# BMPs	Length Restored (ft), Lane miles (miles), or Mass Loading (lbs.)	Impervious Acre Credits
CR22RST000001	Century High School Retrofit	FSND	1	N/A	30.41
CR24RST000001	Friendship Valley Elementary	FSND	1	N/A	11.61
CR21RST000003	Hampstead Valley 4	FSND	1	N/A	25.68
CR21RST000007	Meadow Ridge 2	FSND	1	N/A	7.22
CR18RST000011	Melstone Valley Retrofit	MSGW	1	N/A	3.10
CR22RST000003	Roberts Field Wet Pond Retrofit	MSGW	1	N/A	43.01
CR23RST000003	Windemere	FSND	1	N/A	12.43
Multiple	Tree Plantings 2026	FPU	1	N/A	12.50
				Total Planned IA Credit:	*145.96*

During the fourth-generation permit term, Carroll County utilized annual alternative control practices to meet the permit restoration requirements, which provided 17 acres of impervious acre credit. The County has replaced this annual crediting with a new permanent structural stormwater facility (CR16RST000015), which provides treatment for 17.42 impervious acres. This facility is provided in the GDB and indicated for crediting on the fourth-generation permit through the PRMT_ISSUANCE_YR_CREDIT field.

F. Countywide TMDL Stormwater Implementation Plan

For all approved SW-WLA TMDLs, a TMDL Stormwater Implementation Plan has been developed by Carroll County to document annually updated progress toward meeting all currently approved TMDL WLAs. The Countywide TMDL Implementation Plan includes a summary of all completed BMPs, alternative control practices, programmatic initiatives, as well as analysis and table summary of the net pollutant load reduction achieved for each TMDL stormwater WLA. The TMDL Implementation Plan also includes the County's biological, bacteria and chloride watershed assessment and monitoring efforts. The *Carroll County TMDL Stormwater Implementation Plan* is provided with this annual report as a separate document, as requested by MDE.

G. Assessment of Controls

1. BMP Effectiveness Monitoring

Introduction

Purpose

The State of Maryland has developed a database of discharge data collected by several permit holders to characterize stormwater runoff associated with various stormwater management efforts. Carroll County is required to conduct a discharge characterization as part of its NPDES permit conditions for the purpose of evaluating the efficacy of stormwater management. This component consists of monitoring the discharge from a stormwater management facility and assessing impacts to the receiving water body, as described further below.

Study Area and Requirements

The discharge characterization for the BMP effectiveness monitoring is implemented as part of the Assessment of Controls outlined within Part IV.G. of the permit, which delineates specific data collection and analysis efforts to be undertaken. Carroll County has been collecting data in support of this program since August 2000. Through the conclusion of the County's fourth-generation MS4 permit, monitoring had been located downstream of the Air Business Center stormwater management facility, just north of Westminster. With the issuance of the fifth-generation permit and changes in monitoring requirements and parameters from MDE, the County recognized this an opportune time to initiate a new long-term BMP effectiveness study at a new site.

The Robert's Field stormwater management facility, within the Town of Hampstead, was selected as the monitoring location. This structural facility was constructed as an extended detention wet pond in 1994 and is currently in design to be retrofitted through the County's restoration program.

The facility discharges to a first-order tributary of Piney Run within the Loch Raven Reservoir watershed. The constructed outfall for this facility serves as the "outfall" monitoring station for this study. While the outfall monitoring station principally receives stormwater output from the Robert's Field wet pond, it does also receive some untreated stormwater from several roadway inlets. This first-order tributary merges with a second first-order tributary approximately 100 feet downstream. This second-order tributary then merges with a third first-order tributary an additional 700 feet downstream. Another small tributary merges with the second-order tributary approximately 1,000 feet farther downstream; this confluence is just upstream of the second long-term monitoring station (the "instream" station), which serves as the outlet for the study watershed.

The location of the watershed where monitoring is conducted is shown in **Figure 3**. The study area is located near the topographic divide separating the eastern and western piedmont physiographic provinces. As shown in the map, this is a headwater stream draining the upper-

most extent of the watershed. The location of the monitoring stations and other watershed features are shown in **Figure 4**.

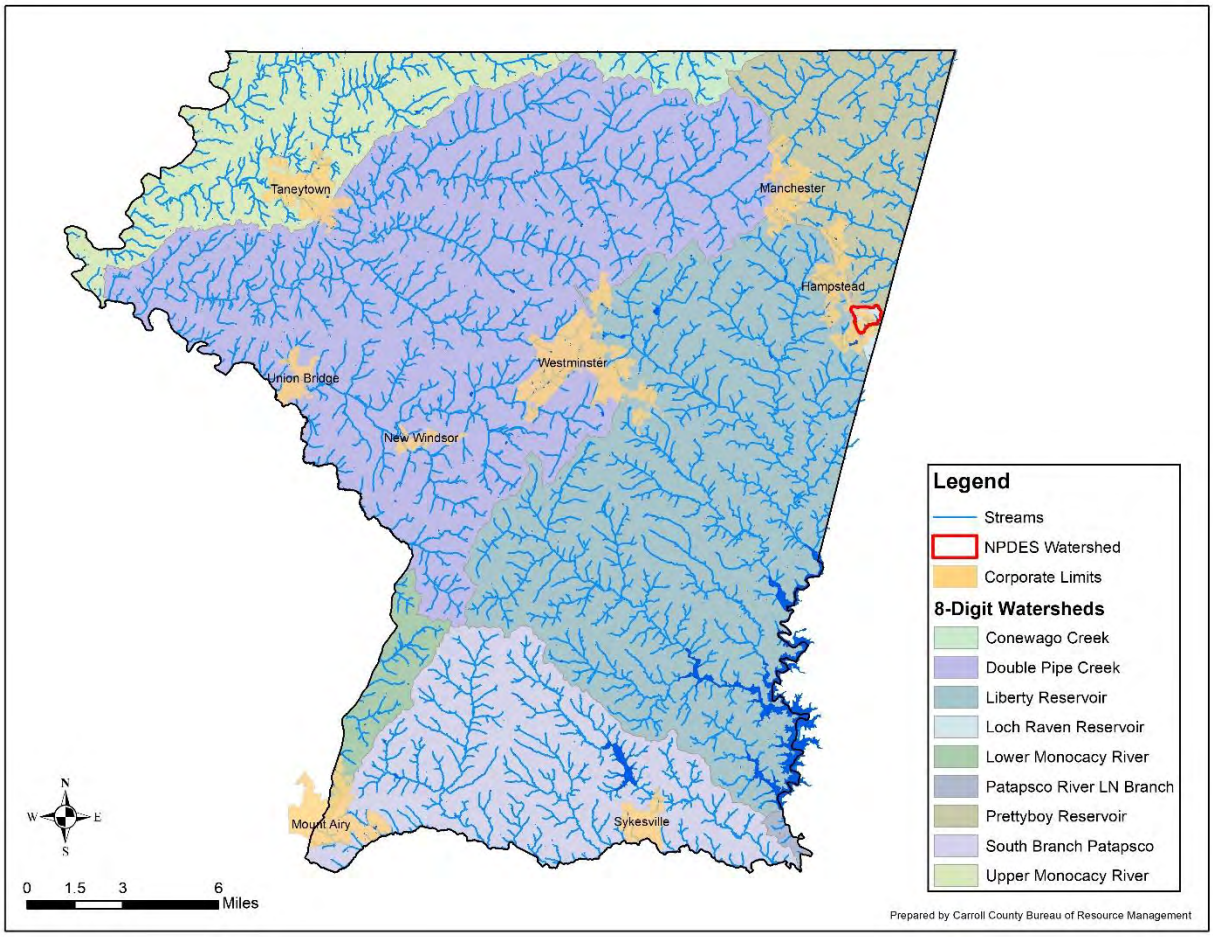


Figure 3: Carroll County NPDES Discharge Characterization Location

The overall study area contains 13 existing BMPs, including the Robert's Field stormwater facility mentioned above: two infiltration basins, four infiltration trenches, two dry wells, one extended wet detention structure, one extended dry detention structure, and three dry pond structures. In addition to the retrofit of the Robert's Field wet pond, there are also plans to complete a retrofit of one of the dry ponds, one stream restoration project, and one new structural stormwater facility.

Program Elements

The discharge characterization consists of three primary data collection efforts to assess the effectiveness of the stormwater controls on stream health: physical monitoring, chemical monitoring, and biological monitoring. These data are collected at and between the two

monitoring stations shown in **Figure 4,** where the cumulative effects of watershed restoration efforts can best be assessed.

Physical monitoring is conducted in the spring of each reporting year and consists of the following elements:

- Geomorphic stream assessment, including an annual comparison of permanently monumented stream channel cross-sections and a stream profile to evaluate channel stability;
- A stream habitat assessment for assessing areas of aggradation and degradation; and
- Analysis of the effects of rainfall discharge rate, stage, and continuous flow on geometry (if needed).

Chemical monitoring is completed throughout the reporting year and consists of the following elements:

- Samples of eight storm events at each monitoring location, with at least two occurring each calendar year quarter and four collected as quarterly base-flow samples.
- Sampling is completed with automated equipment and each storm limb is characterized individually.
- Laboratory analysis is completed for various chemical constituents and Event Mean Concentrations (EMCs) are calculated and reported.
- Continuous physical water quality measurements for the required analytes – temperature, pH, and specific conductance.

Biological monitoring is completed each reporting year above the instream station and consists of the following elements:

- Assessment of benthic macroinvertebrates to assess stream health.
- Completion of a spring habitat assessment; and
- Completion of a summer physical habitat assessment.

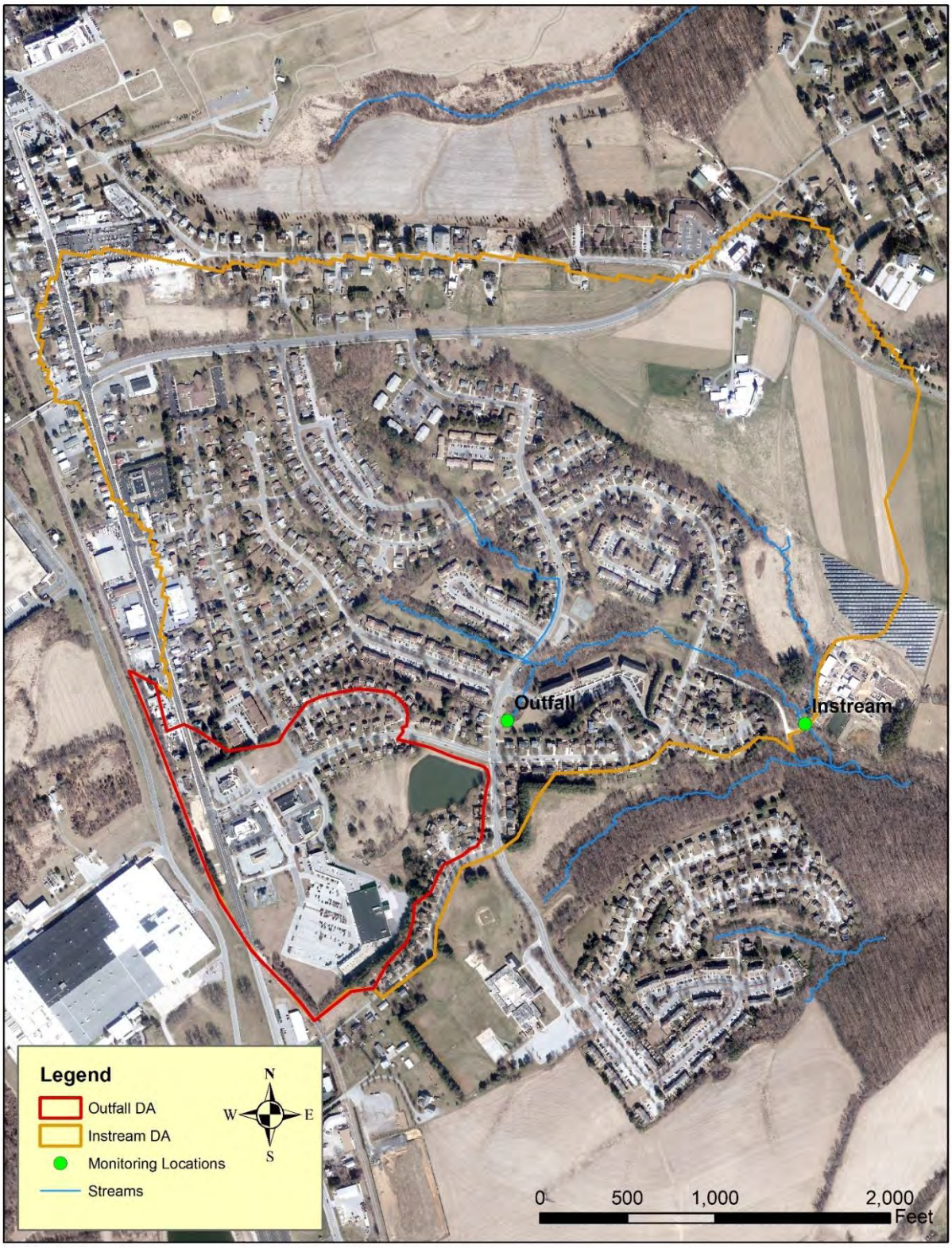


Figure 4: NPDES Discharge Characterization Watershed

Data Collection and Analysis Methods

Climatological

The climate of Carroll County is characterized as temperate and moderately humid (Meyer and Beall, 1958). Temperature and precipitation 30-year normal annual averages used in this report are based on data from the Millers 4 NE weather station, located approximately 8 miles northeast of the study site. This station is operated in accordance with National Weather Service Standards. The 30-year average temperature is 54° Fahrenheit (F), with monthly means ranging from 32°F in January to 75°F in July. The 30-year annual average precipitation at this location is 47.88 inches, with monthly means ranging from 2.94 inches in February to 5.11 inches in September. Precipitation data are collected at the Robert's Field pumphouse using a HOBO RG3 Rain Gauge Data Logger, which is operated and maintained by County staff. This rain gauge is located approximately one quarter of a mile south of the study location.

Hydrological

To characterize the hydrology of the study watershed, both monitoring stations (**Figure 4**) are equipped with instrumentation to collect continuous stream discharge data. This equipment is stored in protective boxes located near the station location and utilizes a 12-volt deep cycle marine battery for electric power. This hydrological equipment was installed at the end of December 2022. Hydrological and chemical data for these sampling locations began in January 2023.

The outfall station is equipped with an ISCO model 4230 bubble flow meter that records hydrologic data by converting the hydrostatic pressure required to maintain the bubble rate to stream stage and using Manning's equation to convert stage to discharge. The 4230 bubble flow meter uses a 1/8-inch vinyl bubble line that attaches to a sensor carrier on the outfall pipe's mounting ring. For the collection of stormwater samples, this station is equipped with an ISCO model 3700 portable sampler. A 3/8-inch vinyl suction line with strainer is used in conjunction with the model 3700 portable sampler.

The instream station is equipped with an ISCO model 730 bubbler flow module. The principle of operation for the model 730 is the same as the 4230 bubble flow meter. The model 730 bubbler flow module uses a 1/8-inch vinyl bubble line that attaches to a sensor carrier on a mounting plate embedded into the bottom of the instream station pipe. For the collection of stormwater samples, this station is equipped with an ISCO model 6712 portable sampler. Similar to the outfall station, a 3/8-inch vinyl suction line with strainer is used in conjunction with the model 6712 portable sampler.

At both stations, stage height is regularly checked at least twice weekly to verify that the instrumentation is functioning properly. Stage and discharge measurements are recorded at 5-minute intervals at both stations. Stormwater samples at both stations are collected, using the 3700 and 6712 samplers, as time-weighted discrete samples (uniform or non-uniform) before being manually composited into flow-weighted samples for each hydrograph limb. Flowlink Version 5.1 software by ISCO is used to complete hydrologic data analyses. Data collected at the

monitoring stations are downloaded to a computer in the field. New hydrologic data are appended to the existing data record for each station. The stream characterization data are exported from Flowlink to Excel for most analyses.

Physical Geomorphological

The physical geomorphological assessment consists of evaluating nine flagged and GPS-located cross-sectional stations for stream physical character, shape, and slope. Distances between cross-sectional stations range from approximately 75 feet to 650 feet. Cross Section 1 is located approximately 300 feet downstream of the Robert's Field Wet Pond outfall (the "outfall" monitoring station), just before the confluence with a first-order tributary. Cross Section 2 is 350 feet further downstream after the confluence with the first-order tributary. Cross Sections 3, 4, and 5 are located on a 900-foot stream segment on a second first-order tributary that merges approximately 375 feet downstream of Cross Section 2. The final four cross-sectional stations (6 through 9) are located downstream of this confluence, with Cross Section 9 being located approximately 250 feet upstream of the "instream" monitoring station. Physical data collection stations are shown in **Figure 5**.

During the spring of 2025, Carroll County conducted a geomorphologic assessment for the study area, from the outfall of the Robert's Field stormwater management facility to the "instream" station. As required, survey data were again collected at the nine cross sections. At each location, the County survey crew collected data for bank slope, toe, stream edges, thalweg, edge of water, channel bottoms, and tops.

Only two previous years of geomorphological data had been collected at this study location prior to this reporting year. In future reporting years, a Level 1 geomorphologic stream assessment will be conducted on the entire stream segment to assess potential geomorphologic changes to the stream. This assessment includes a physical evaluation of stream channel changes and an interpretation of those changes. The physical evaluation involves determining channel segment characteristics and assessing dimensional changes. The results of the physical evaluation are then translated into a channel response by comparing changes in channel geometry (e.g. cross-sectional dimensions) in the context of the physical setting.

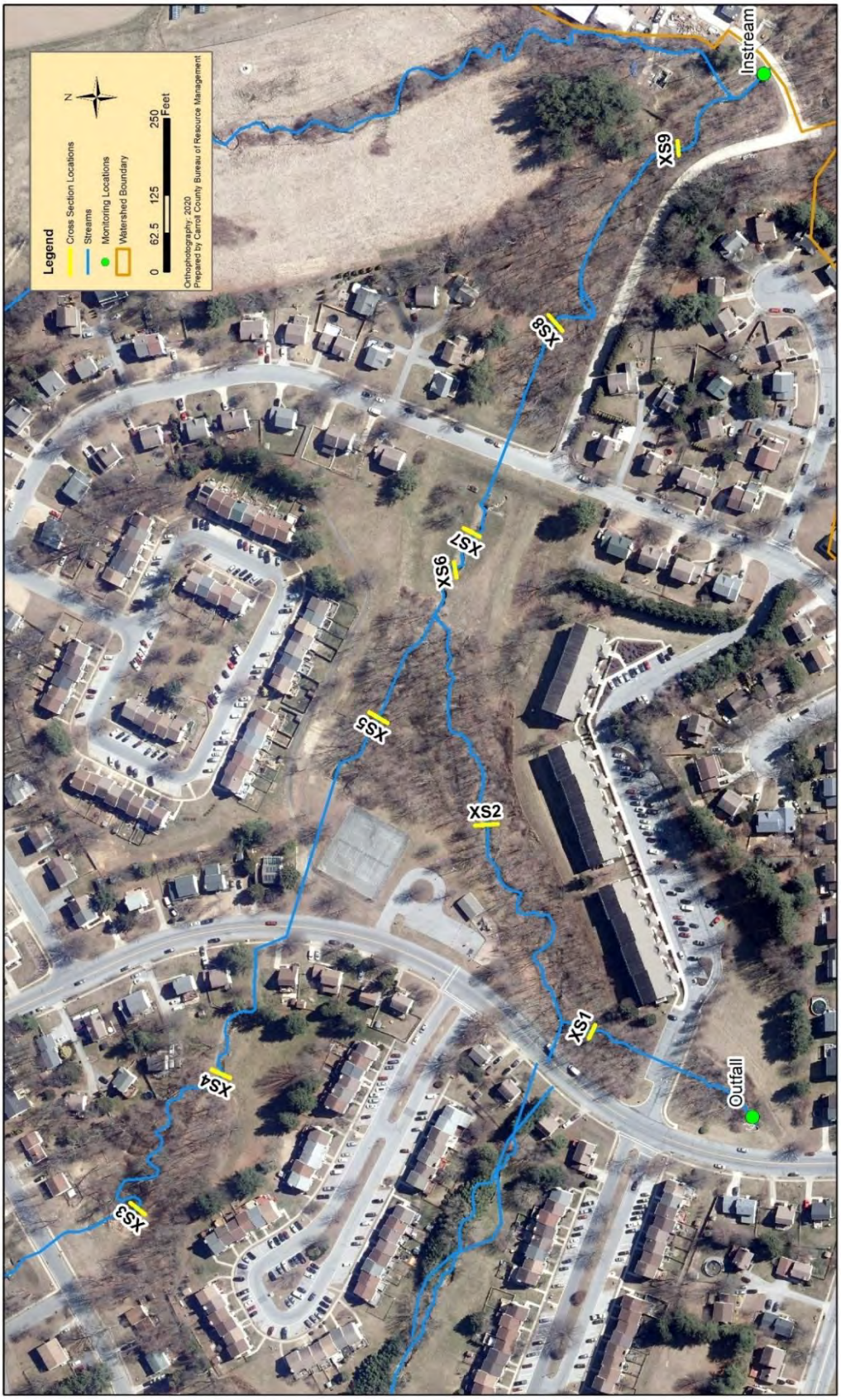


Figure 5: Physical Data Collection Stations

Chemical

Chemical assessments take place throughout the year at the outfall and instream monitoring stations (**Figure 4**). RMD staff collect all storm and baseflow chemical samples and contract with Martel Laboratories, Inc. in Baltimore, Maryland, for laboratory analyses. The sampling program consists of a first flush component for bacteriological constituents and physical parameters, as well as chemical parameters collected during each of the three storm limbs. For the continuous monitoring of temperature, pH, and specific conductance, a YSI EXO1 sonde is located within a run just upstream from the instream monitoring station. **Table 12** lists the required parameters for laboratory analysis, the laboratory method, and the corresponding method reporting limit. The method listed for temperature, pH, and specific conductance are all *in situ* methods.

Table 12
Laboratory Methods and Detection Limits for Parameters Tested

Parameter Tested	Method	Reporting Limit
First Flush Samples		
pH	EPA 150.1	-
Temperature	EPA 170.1	-
Specific Conductance	EPA 120.1	1.0 µmhos/cm
Escherichia Coli	SM 9221 E	1.0 organisms/ 100mL
Limb Samples		
Biological Oxygen Demand	SM 5210 B	2.0 mg/L
Total Suspended Solids	SM 2540 D	1.0 mg/L
Orthophosphate Phosphorus	SM 4500 PE	0.01 mg/L
Total Phosphorus	SM 4500 P	0.01 mg/L
Ammonia Nitrogen	SM 4500 NH3	0.2 mg/L
Nitrate/Nitrite Nitrogen	EPA 353.2	0.05 mg/L
Total Kjeldahl Nitrogen	SM 4500 NH3	0.5 mg/L
Total Nitrogen	Calculation	-
Chloride	SM 4500 CL E97	1.0 mg/L

The County uses storm event monitoring equipment manufactured by ISCO, Inc. to comply with this component of the County's NPDES permit, as described above in the Hydrological section. The flow monitoring and event mean concentration (EMC) calculation methods are the same as those used in the previous permit reporting years. Martel Labs sends results via e-mail to the County, where the new records are appended to the existing database. Required data are provided in the supplemental Monitoring Databases, as required by MDE.

Event dates for this reporting year are shown in **Table 13.** 16 total sampling events are reported, 12 of which were storm events. No flow was observed for the four outfall baseflow events. Dashes are populated in the table below for these occurrences. Temperature and pH measurements were not recorded for four events due to equipment malfunction and have been populated with "N/A" in the table below.

Table 13
NPDES Discharge Characterization Sampling Events

Event	Date	Event Type	Outfall Physical Water Data		Instream Physical Water Data	
			pH	Water Temp (°F)	pH	Water Temp (°F)
2024-07	9/17/24	Base Flow	-	-	7.46	62.5
2024-08	9/18/24	Storm	8.29	68.2	8.13	63.1
2024-09	9/25/24	Storm	8.18	66.5	7.82	62.5
2024-10	10/29/24	Base Flow	-	-	7.69	48.8
2024-11	11/10/24	Storm	7.10	53.0	8.35	51.9
2024-12	11/20/24	Storm	N/A	N/A	7.34	54.9
2025-01	1/31/25	Storm	8.68	43.6	8.21	43.0
2025-02	2/06/25	Storm	8.25	39.3	7.35	39.1
2025-03	3/5/25	Storm	8.01	45.9	7.90	46.8
2025-04	3/16/25	Storm	7.89	55.5	7.68	54.4
2025-05	3/27/25	Base Flow	-	-	7.84	41.4
2025-06	3/31/25	Storm	7.81	67.4	7.76	65.1
2025-07	5/13/25	Storm	N/A	N/A	N/A	N/A
2025-08	5/21/25	Storm	N/A	N/A	N/A	N/A
2025-09	5/29/25	Storm	N/A	N/A	N/A	N/A
2025-10	6/03/25	Base Flow	-	-	7.72	57.2

Biological

One monitoring reach, located directly upstream of the "instream" station, was characterized during the Spring Index Period (March 1 to April 30). This biological sampling and characterization will continue to occur annually during the Spring Index Period. Data collection, macroinvertebrate identification, and analytical methods were in accordance with the Maryland Biological Stream Survey (MBSS) guidance manual (Sampling Manual Field Protocols, 2019, https://dnr.maryland.gov/streams/Publications/R4Manual.pdf). The 75-meter sampling site, shown in **Figure 6**, was not randomly selected. The County contracts with EcoAnalysts, Inc, to identify and enumerate all benthic macroinvertebrate samples. An Index of Biotic Integrity (IBI) score was calculated using the six component metrics listed in **Table 14.** Each metric is rated a one, three, or five depending on the taxa present. The average of the component metric scores is considered the overall IBI score. Narrative ratings can be found in **Table 15.**

Habitat assessments were also conducted in accordance with MBSS Field Sampling Manual (2024) during the summer season, when shading can be properly assessed. The assessment uses scoring criteria that measure eight parameters, as shown in **Table 16**. Each parameter can score a maximum of 20 points, for a total maximum score of 160 points. Each parameter is subdivided into narrative ratings of poor, marginal, sub-optimal, and optimal. It should be noted that the

habitat assessment is entirely qualitative, and results can be impacted by the subjectivity of assessor scoring and other factors. Additionally, data from this and the other assessments reflect the cumulative impacts of not only the regional stormwater management facility, but of the entire upstream contributing watershed to each study point as well.

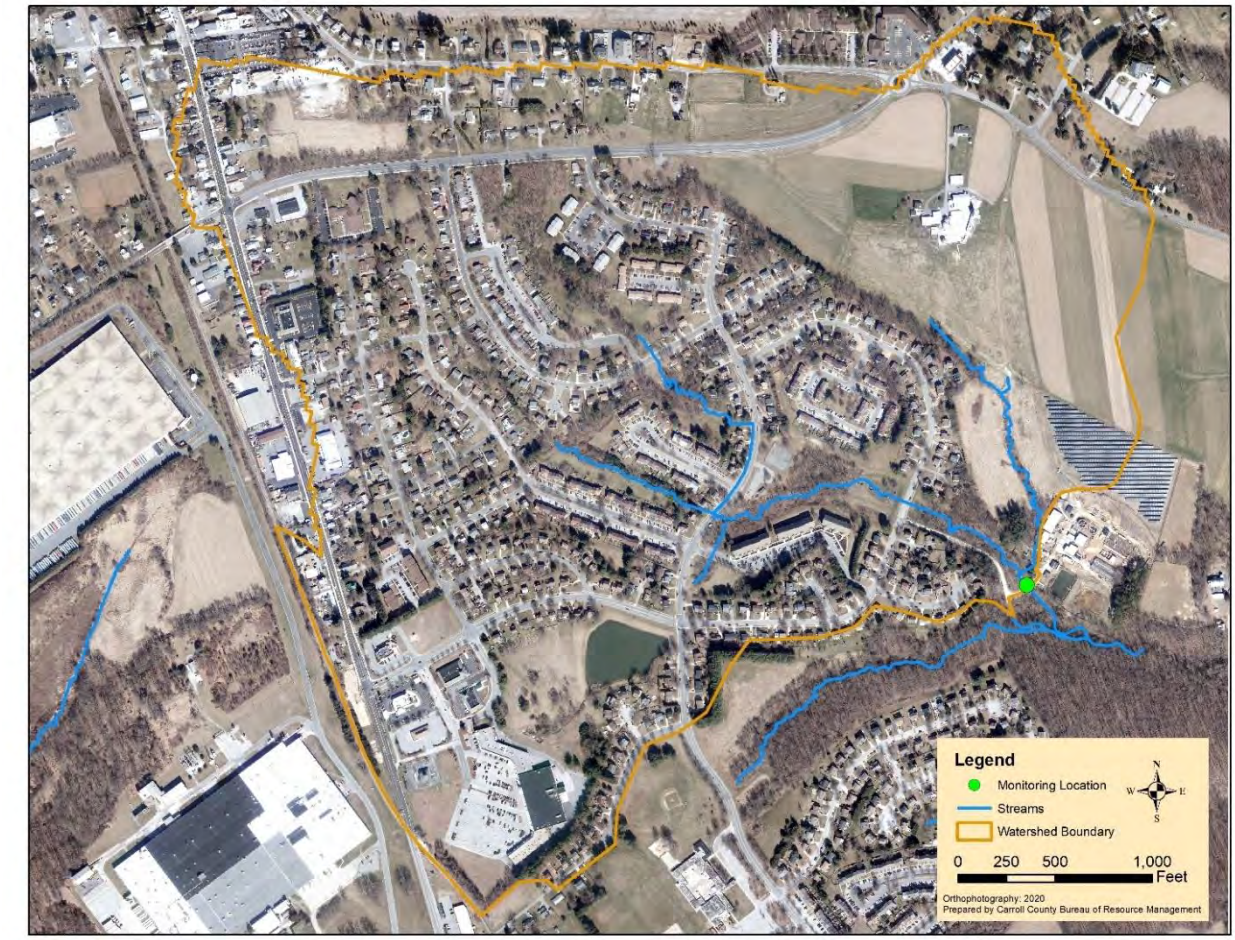


Figure 6: Biological Monitoring Station Locations

Table 14
MBSS IBI Metrics and Scoring Criteria for the Piedmont Region

Metric	IBI Score		
	5	3	1
Number of Taxa	≥25	15 – 24	<15
Number of EPT	≥11	5 – 10	<5
Number of Ephemeroptera	≥4	2 – 3	<2
% Intolerant Urban (Tolerance Values 0-3)	≥51	12 – 50	<12
% Chironomidae	≤4.6	4.7 – 63	>63
% Clingers	≥74	31 – 73	<31

Table 15
IBI Score Ranges and Corresponding Narrative Ratings

IBI Score Range	Narrative Rating	Interpretation
4.0-5.0	Good	Comparable to reference streams considered to be minimally impacted.
3.0-3.9	Fair	Comparable to reference conditions, but some aspects of biological integrity may not resemble the qualities of these minimally impacted streams.
2.0-2.9	Poor	Significant deviation from reference conditions, with many aspects of biological integrity, not resembling the qualities of these minimally impacted streams, indicating some degradation.
1.0-1.9	Very Poor	Strong deviation from reference conditions, with most aspects of biological integrity, not resembling the qualities of these minimally impacted streams, indicating severe degradation.

Table 16
MBSS Habitat Assessment Criteria (MBSS Sampling Manual Field Protocols, 2014)

MBSS Stream Habitat Assessment Guidance Criteria Sheet					
	Habitat Parameter	**Optimal 16-20**	**Sub-Optimal 11-15**	**Marginal 6-10**	**Poor 0-5**
1.	**Instream Habitat**	>50% of a variety of cobble, boulder, submerged logs, undercut banks, snags, root wads, aquatic plants, or other stable habitat	30-50% of stable habitat. Adequate habitat	10-30% mix of stable habitat. Habitat availability less than desirable	Less than 10% stable habitat. Lack of habitat is obvious
2.	**Epifaunal Substrate**	Preferred substrate abundant, stable, and at full colonization potential (riffles well developed and dominated by cobble; and/or woody debris prevalent, not new, and not transient)	Abund. of cobble & gravel/boulders common; or woody debris, aquatic veg., undercut banks, or other productive surfaces common but not prevalent/suited for full colonization	Large boulders and/or bedrock prevalent; cobble, woody debris, or other preferred surfaces uncommon	Stable substrate lacking; or particles are over 75% surrounded by find sediment or flocculent material
3.	**Velocity and Depth Diversity**	Slow (<0.3 m/s), deep (>0.5 m); slow, shallow (<0.5m); fast (>0.3 m/s), deep; fast, shallow habitats all present	Only 3 of the 4 habitat categories present	Only 2 of the 4 habitat categories present	Dominated by 1 velocity/depth category (usually pools)
4.	**Pool, Glide, and Eddy Quality**	Complex cover/&/or depth > 1.5m; both deep (>.5 m)/shallows (<.2 m) present	Deep (>0.5 m) areas present; but only moderate cover	Shallows (<0.2 m) prevalent in pool/glide/eddy habitat; little cover	Max depth <0.2 m in pool/glide/eddy habitat; or absent completely
5.	**Riffle/Run Quality**	Riffle/run depth generally >10 cm, with maximum depth greater than 50 cm (maximum score); substrate stable (e.g. cobble, boulder) & variety of current velocities	Riffle/run depth generally 5-10 cm, variety of current velocities	Riffle/run depth generally 1-5 cm; primarily a single current velocity	Riffle/run depth < 1cm; or riffle/run substrates concreted
6.	**Embeddedness**	Percentage of gravel, cobble, and boulder particles that are surrounded by fine sediment or flocculent material			
7.	**Shading**	Percentage of segment that is shaded (duration is considered in scoring). 0% = fully exposed to sunlight all day in summer; 100% = fully and densely shaded all day in summer			
8.	**Trash Rating**	Little or no human refuse visible from stream channel or riparian zone	Refuse present in minor amounts	Refuse present in moderate amounts	Refuse abundant and unsightly

Results and Discussion

Climatological

Monthly precipitation data for the 2025 reporting year are summarized in **Figure 7**. The 30-year monthly precipitation average and high/low extremes are also included. The total precipitation for the reporting period was 38.06 inches, a 9.82-inch deficit from the mean yearly total. Relative to mean monthly precipitation totals, May 2025 was the wettest month, with a surplus of 5.07 inches, while October 2024 was the driest month, with a deficit of 3.59 inches. Relative to the 30-year record (1991 – 2020), this reporting year was the fourth-driest year for total precipitation.

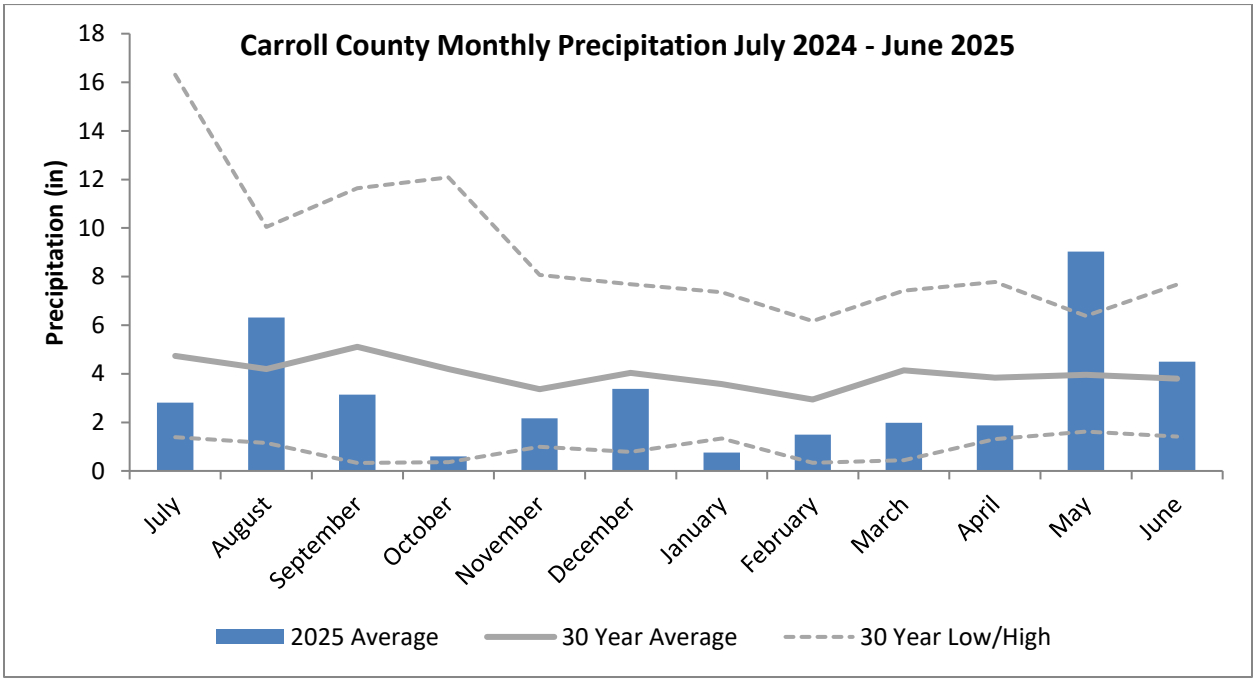


Figure 7: Monthly Precipitation Summary for the Last Reporting Year

Monthly temperature data for the 2025 reporting year are summarized in **Figure 8**. The 30-year monthly average temperatures and high/low temperature extremes are included for reference. Overall, the reporting period experienced an annual average temperature of 54.9°F, which was 1.2°F warmer than the 30-year annual average and 1.2°F cooler than the previous reporting year. Only the winter months were cooler than average (December 2024, January 2025, and February 2025), with a mean of 2.0°F cooler than normal. Nine months were warmer than average temperatures, with a mean of 2.3°F warmer than normal. March 2025 was the warmest relative to each month's respective average temperatures, with a 6.6°F increase above normal temperatures. Relative to the 30-year record (1991 – 2020), this reporting year was the eighth warmest year.

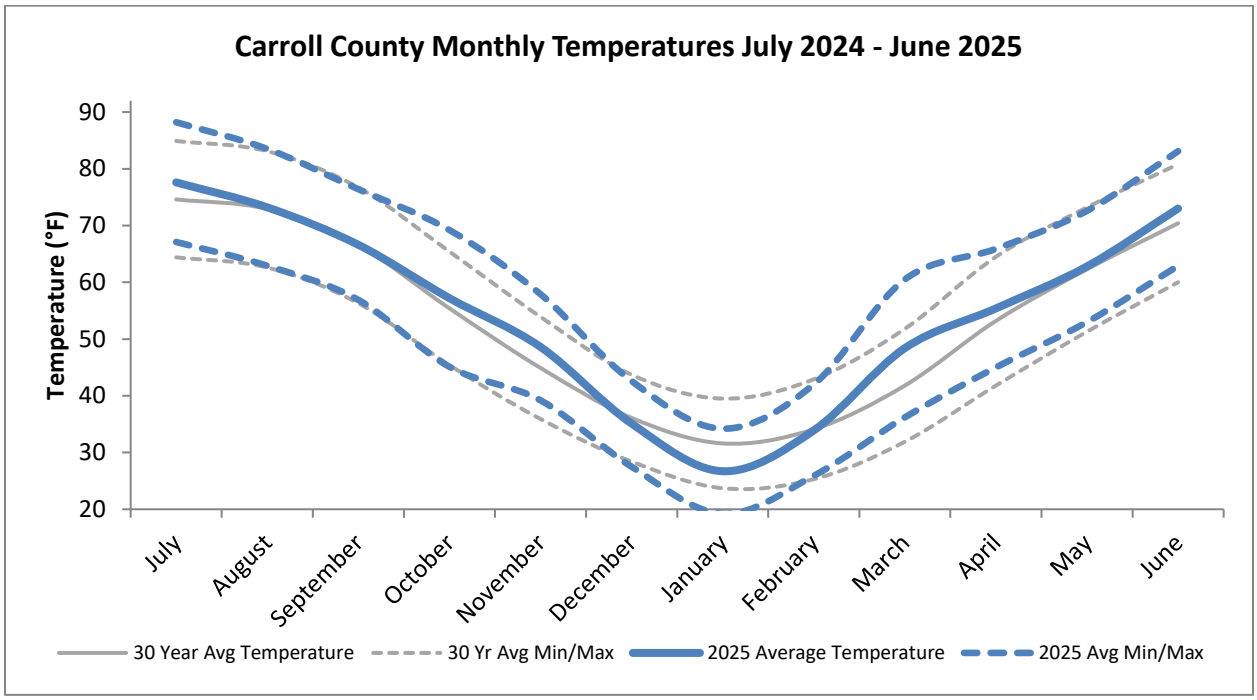


Figure 8: Monthly Temperature Summary for the Last Reporting Year

Hydrological

Hydrographs have been prepared for stage height and discharge at each monitoring station for the reporting period. Outfall and instream stage heights and discharge measurements are shown in **Figure 9** and **Figure 10**, respectively. A deficit of 9.82 inches of precipitation was observed during this reporting period relative to the average year. The months with the largest deficits were October 2024 and January 2025 through April 2025. A surplus was, however, observed for May 2025 and June 2025. The Robert's Field rain gauge malfunctioned during the early part of the reporting period, so detailed precipitation data were not recorded between July 1, 2024, and August 6, 2024. Additionally, due to equipment malfunctions, instream station flow data are not available for 57% of the summer 2024 season, while only 40% of possible data are available for the spring 2025 season.

The overall reporting period (excluding the period with missing precipitation data) had a total of 88 individual storm events. The criteria for a storm event require at least 0.01 inch of recorded precipitation that occurs a minimum of eight hours from the next recorded precipitation. The typical/median storm event during this reporting period had 0.19 inches of observed precipitation over approximately six hours. This resulted in a typical rainfall intensity of 0.04 inches per hour. While there were numerous small events, there were only 20 events with greater than 0.5 inches of recorded precipitation, and only eight of those were events greater than 1 inch. The 4.38 inches of observed precipitation during the storm event on August 7-9, 2024, was the largest of the reporting period. The storm event (greater than 0.1 inch total precipitation) with the highest precipitation intensity occurred on May 15, 2025, when 0.17 inches of rain was observed over seven minutes, a rainfall intensity of 1.5 inches per hour.

Typical stage heights at the outfall monitoring station were approximately 0 inches, or 0 gallons per minute (gpm); the outfall station was dry the majority of reporting period due to the precipitation deficit. Peak discharge occurred on August 9, 2024, when a stage height of 8.1 inches was recorded. The resulting discharge was 4,620 gpm. During this storm event 4.1 inches of precipitation fell over 44 hours; peak discharge was observed after a 60-minute period of heavy rain during the event where a precipitation intensity of 1.04 inches of rain per hour was recorded. Only one other storm event with a discharge greater than 3,000 gpm occurred during the reporting period. This occurred on May 16, 2025 (3,971 gpm).

Typical stage heights observed for the instream monitoring station were approximately 1.09 inches, or 104 gpm. Peak discharge at this monitoring station occurred during the storm event on September 22, 2024. During this storm, 0.84 inches of precipitation fell over an hour. Peak observed stage height was 12.22 inches, and peak discharge was 18,236 gpm. Peak observed discharge for most storm events at the instream station were less than 10,000 gpm; only five other storm events had a peak discharge measurement greater than 10,000 gpm.

Total, seasonal, and categorical discharges for each monitoring station can be found in **Table 17**. Stormwater contribution from the outfall pond was only 16% of the total instream discharge for this reporting period. During baseflow, only 6% of the total instream discharge was contributed by the outfall, while this increased to 32% during storm events. During sustained periods with normal conditions or a precipitation surplus, the outfall would likely contribute a large percentage of total discharge. It should be noted that only observed measurements were used for these calculations; due to extended equipment malfunctions during the Summer and Spring seasons, outfall contribution is overestimated during these seasons.

Using manual baseflow separation, 48% of the total flow volume at the instream station was observed during storm events, very similar to the previous reporting year. This station had consistent baseflow, even during the dry periods of the reporting year. Conversely, the outfall station did not maintain consistent baseflow during the drier periods. Many smaller storm events were too small to raise the pond above its spillway elevation, so only a small amount of the untreated runoff was observed at the station during storm events. The station was otherwise dry during these times, and 83% of the total flow volume during the reporting period was measured during these storm events, almost identical to the last reporting years storm flow volumes.

Table 17
Categorical Discharges and Stage Heights

	Outfall	Instream	Difference	Outfall Contribution (%)
Total (gal)	11,628,623	61,402,688	49,774,065	19%
Avg Stage (in.)	0.24	1.22	0.98	-
Median Stage (in.)	0	1.09	1.09	-
Avg Q (gpm)	23	165	142	-
Median Q (gpm)	0	104	104	-
Summer Q (gal)	3,935,026	8,052,743	4,117,717	49%
Autumn Q (gal)	1,939,029	19,110,987	17,171,958	10%
Winter Q (gal)	1,553,745	14,457,355	8,218,655	11%
Spring Q (gal)	4,200,822	19,781,602	17,092,720	21%
Baseflow	2,010,110	32,030,082	30,019,972	6%
Storm Events	9,618,512	29,371,717	19,753,205	32%

To assess the impact of a future retrofit on hydrology, cumulative discharge frequencies at the outfall station will be compared for the pre-retrofit and post-retrofit years. **Figure 11** shows the cumulative discharge frequencies for the current pre-retrofit reporting year. As discussed above, the maximum discharge at the outfall monitoring station was 4,620 gpm on August 9, 2024. A total of 101,495 stage/discharge measurements were recorded during this reporting period. Of these measurements, 95% were below 100 gpm. Additionally, 70,753 of the stage/discharge measurements (70%) were 0 gpm during this period, where no flow was observed. Of the stage/discharge measurements recorded when flow was observed, 83% were still below 100 gpm. A 9.82-inch deficit was observed, particularly during the middle of the reporting period (October through March).

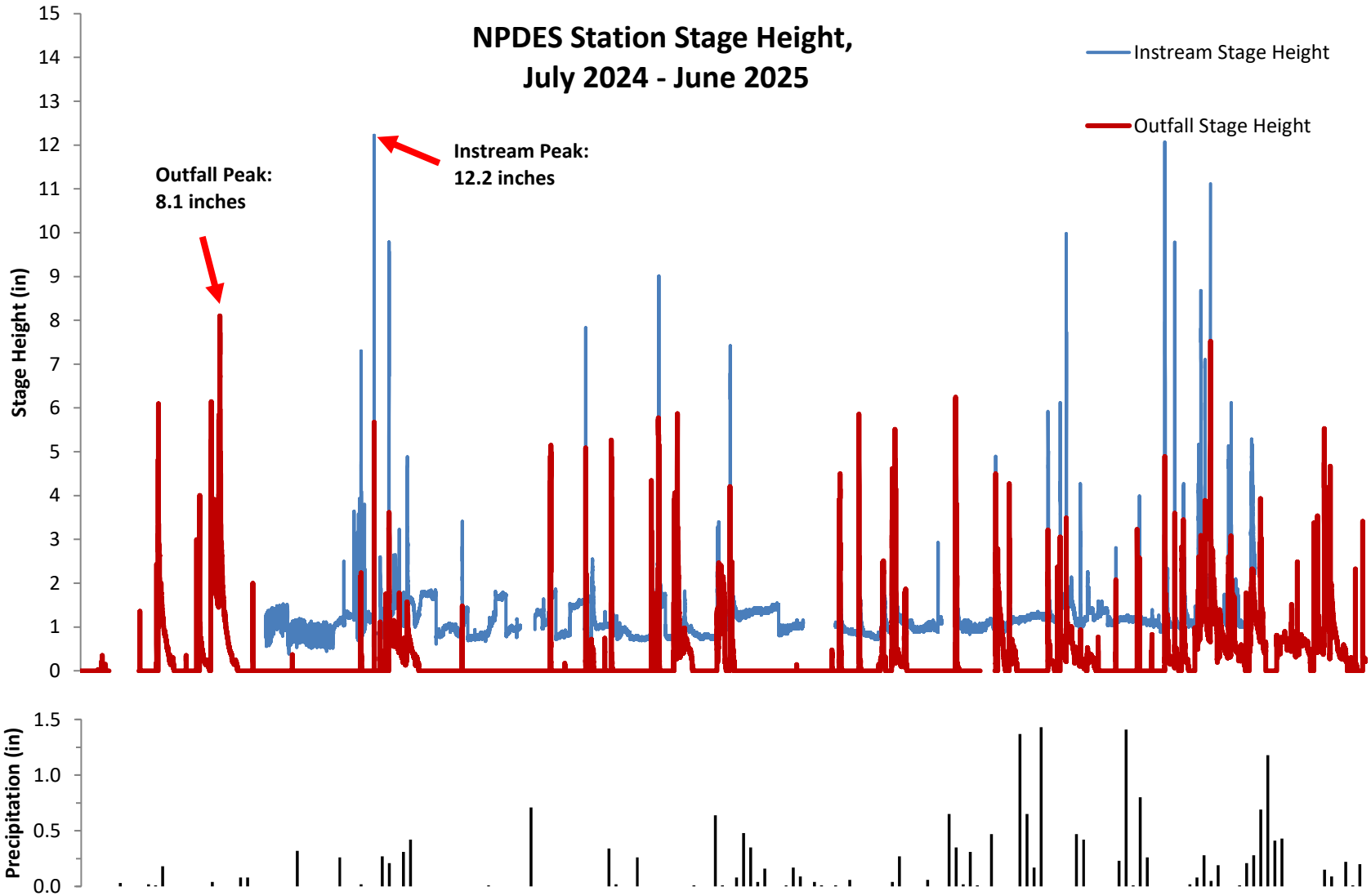


Figure 9: Stage Heights and Daily Precipitation for NPDES Monitoring Stations for the Last Reporting Year

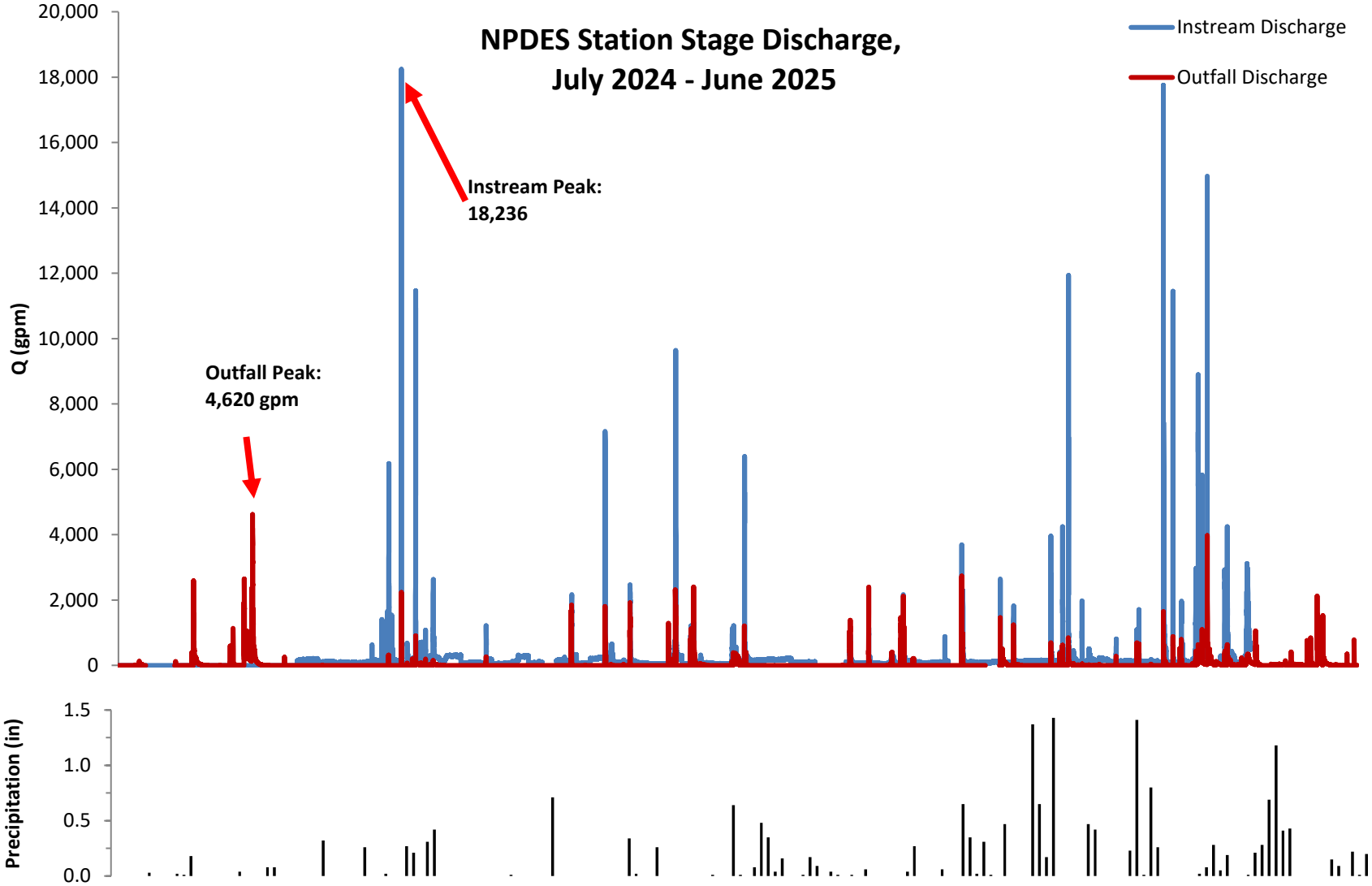


Figure 10: Discharge and Daily Precipitation for NPDES Monitoring Stations for the Last Reporting Year

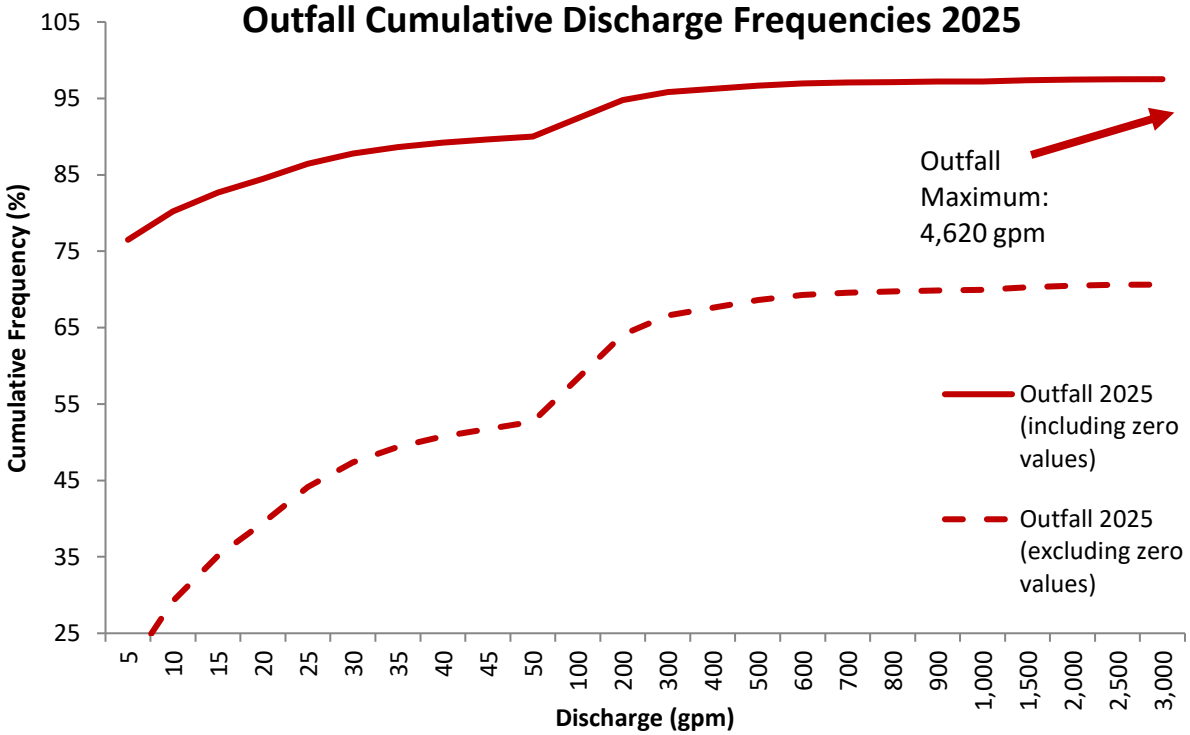


Figure 11: Outfall Discharge Frequencies for Last Reporting Year

An examination of individual events on the hydrograph demonstrates the distinct mechanisms driving changes in cumulative frequencies. As this is only the third reporting year for the long-term monitoring component at this study location, there is no before-after or year-year data to compare. **Figure 12** represents a typical hydrograph for a high intensity storm event on September 22, 2024. For this storm event, 0.84 inches of precipitation was observed over 1 hour (0.84 in/hr), 83% of which was observed over a 20-minute period in the middle of the event. Peak discharge typically occurs at the outfall station 10 to 15 minutes before the peak at the instream station. Due to the precipitation deficit, stormwater outfall was primarily composed of direct runoff, resulting in storm flow at the outfall station approximately 10 minutes before being observed at the instream station. This event's high intensity likely caused the similar response times for peak discharge at both stations. Both stations have relatively sharp ascending and descending limbs. For many storm events during dry periods, the Robert's Field wet pond elevation does not rise above the spillway, and the outfall monitoring station only receives untreated runoff from the stormwater inlets along Boxwood Drive. This results in a flashy hydrograph. Prior to this event, the wet pond elevation was below the spillway and no flow was observed at the outfall station.

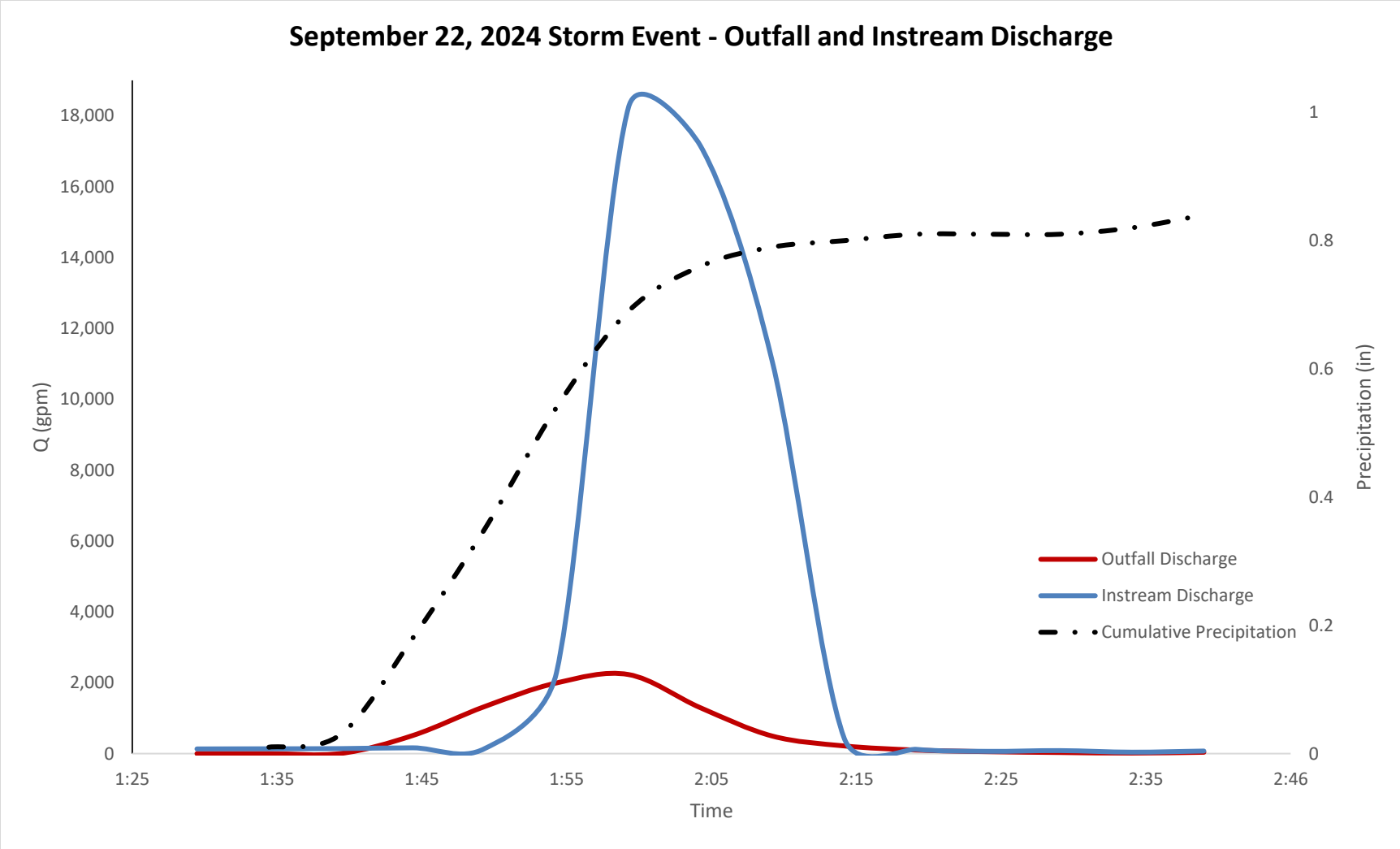


Figure 12: Individual Storm Event Hydrograph (9/22/24, 0.84")

Geomorphological

Geomorphological monitoring, through cross sectional surveys, is designed to detect changes to the stream's channel and banks over time. This reporting year was the second survey performed at the monumented cross sections following the 2023 baseline year survey. The nine flagged cross sections within the study site are shown in **Figure 5**, and results from this year's surveyed cross-section data collection are provided in Appendix D.

The study site contains multiple first-order streams that merge to create a second-order stream. To assess the effect of the multiple planned BMP projects within the watershed, cross sections were placed on multiple stream segments. An instream segment and an outfall segment are used for assessments.

The outfall segment consists of the outfall monitoring station, XS1, XS2, and XS6. XS1 is located approximately 300 feet downstream from the Robert's Field outfall, just before the confluence with another first-order stream. XS2 is located downstream halfway between XS1 and the confluence with another first-order stream. XS6 is located just downstream of this confluence after a large bend.

The instream segment begins on the upstream section of the second first-order stream and includes XS3, XS4, XS5, XS6, XS7, XS8, XS9, and the instream monitoring station as the end point. This segment flows southeast. XS3 and XS4 are northwest of Boxwood Drive. The stream is piped under Boxwood Drive until a point approximately 300 feet upstream of the confluence with the outfall segment. XS5 is located between the pipe outfall and the confluence. XS6 and XS7 are after this confluence on a series of bends and just upstream from an extended dry detention stormwater facility. The stream is once again piped under North Woods Trail. XS8 and XS9 are located in this final section of the segment before the instream monitoring station.

Thalweg elevation and section gradient for 2023 and 2025 are shown in **Table 18**. One notable observation from the table is the relatively high gradient between the outfall monitoring station and XS1. While there is some fluctuation through the stream system, the section between XS3 and the instream monitoring station has been relatively constant around 2%. The only notable change over the previous year was the segment between XS6 and XS7. The slope of this segment increased from 1.74% to 2.47% since the previous reporting period. This segment is along a series of bends, just upstream of a dry detention stormwater facility. **Figure 13** displays these stream gradients for the 2023 and 2025 reporting years for each stream segment.

Figure 14 displays the longitudinal stream profile for elevation and depth of deposition or incision at each of the nine cross sections and the outfall and instream monitoring stations along each stream segment. The locations of these points are also shown on this figure along the profile for each segment for reference. Gradation changed only slightly at all cross-sections from the initial 2023 survey, and no location changed more than 0.51 foot. In the outfall segment, unlike the previous reporting year in which a slight incision was observed, all three cross-sections surveyed showed very slight aggradation of no more than 0.11 foot. In the instream segment, four cross-sections had observable aggradation while three cross-sections had observed incision. Cross-section 5, located just upstream of the location where the outfall

segment converges with the instream segment, had 0.1 feet of deposition during the previous reporting year and 0.25 feet of deposition during this reporting year. Cross-section 7, located along a series of bends, just upstream of a dry-retention stormwater facility, had the largest observed change. An incision of 0.11 feet was observed during the previous reporting year while an incision of 0.51 feet was observed during this reporting year. Cross-section 9, located just upstream of the instream station, also had some additional minor deposition, aggrading 0.18 feet in the previous reporting year, and 0.27 feet during this reporting year.

Cross-section 1, located just downstream of the outfall monitoring station, had only very slight observed changes from 2023 to 2025. While the thalweg elevation remains unchanged from 2023, the cross-sectional profile aggraded 0.57 square feet between 2023 and 2025, an additional 0.4 square feet from the previous reporting period. Only a very slight lateral change occurred at this cross-section during the year, with the only noticeable change to the cross-section being a slight increase in bank slope as aggradation on each bank occurred. Cross-section 2 had a very slight increase in thalweg elevation, although unlike cross-section 1, there was a slight sediment loss at this location. 0.97 square feet of sediment was lost along the length of the cross-section, though most of this was from slight widening and not incision. Cross-section 3, located in the northwest section of the instream segment, displayed a very minor decrease in the thalweg elevation. Compared to the 2023 baseline year, 0.83 square feet of aggradation has been observed. The slight aggradation is evident in the cross-section on the left bank of the stream channel. Cross-section 4, located just downstream of cross-section 3, had a relatively minor decrease in thalweg elevation and minor aggradation across the cross-section, similar to the previous reporting period; 1.2 square feet of sediment was gained since 2023, a 0.5 square feet increase from the previous reporting period. Like the previous reporting period, aggradation occurred along the left back of the stream channel. Unlike the previous reporting year, the stream channel moved approximately one foot to the right and the channel bottom narrowed by a few feet. Slight, but noticeable changes were observed in cross-section 5 over this reporting year. The channel bank slope and overall shape remained largely the same as the previous years. Unlike the previous year, where 0.67 square feet of sediment was gained, 0.9 square feet of sediment loss was observed. This largely occurred evenly along the bottom of the stream channel; the elevation of the thalweg decreased 0.35 feet. Cross-section 6 had a moderate amount of aggradation observed during the previous reporting year; about 2.37 square feet of sediment was gained along the cross-section. In this reporting year, 2.77 square feet of sediment was lost along the cross-section. The channel moved approximately two feet towards the left bank in the previous reporting year, making the bank more vertical, and aggraded along the right bank. The channel itself only moved slightly left in this reporting year, but sediment loss was observed along the left bank. A similar pattern was observed at cross-section 7 in the previous reporting year, though aggradation increased this reporting year. An additional 1.8 square feet of sediment gain was observed along the cross-section, relative to the previous reporting period. Additional moderate aggradation occurred along the right bank. The stream channel narrowed and incised 0.51 feet from the baseline survey. Cross-section 8 showed little change on morphologic shape, but 0.86 square feet of sediment gain was observed along the cross-section overall between the 2023 and 2025 reporting years; sediment loss was observed relative to the previous reporting year, however. Cross-section 9, located upstream of the instream monitoring station, had a moderate amount of aggradation during the previous reporting year (2.66 square feet). Only an additional 0.06 square feet of aggradation was observed during this reporting

year. Similar to other cross-sections, aggradation occurred along the right bank, and the channel moved towards the left bank; the thalweg moved approximately eight feet in the previous reporting year, but only slightly during the current reporting year.

Along both the outfall and instream segments in this reporting year, sediment was lost in the middle cross-sections near the confluence (2, 5, 6). Aggradation occurred at the upstream and downstream cross-sections (1, 3, 7-9). The stream channel at cross-sections 6, 7, and 9 moved toward the left bank, however only cross-section 6 showed a loss of sediment. Channel narrowing was also observed at stations 4, 6, and 7. An overall sediment gain was observed between all 9 of the stations, relative to the baseline reporting year. Nine square feet of sediment was gained with 57% of the gain observed at cross-section 7.

Table 18
Cross Section Station Results

Instream Segment						Outfall Segment					
St.	Distance (ft)	2023 Elev	2023 Slope	2025 Elev	2025 Slope	St.	Distance (ft)	2023 Elev	2023 Slope	2025 Elev	2025 Slope
XS3	0	775.56	-	775.52	-	OF	0	773.80	-	773.80	-
XS4	411	770.16	1.31%	770.19	1.30%	XS1	321	763.35	3.26%	763.35	3.26%
XS5	654	753.45	2.56%	753.2	2.60%	XS2	488	754.89	1.73%	754.92	1.73%
XS6	299	745.04	2.81%	745.15	2.69%	XS6	483	745.04	2.04%	745.15	2.02%
XS7	72	743.88	1.61%	743.37	1.87%						
XS8	373	736.43	2.00%	736.39	1.87%						
XS9	419	727.53	2.12%	727.8	2.05%						
IS	261	722.07	2.09%	722.07	2.20%						

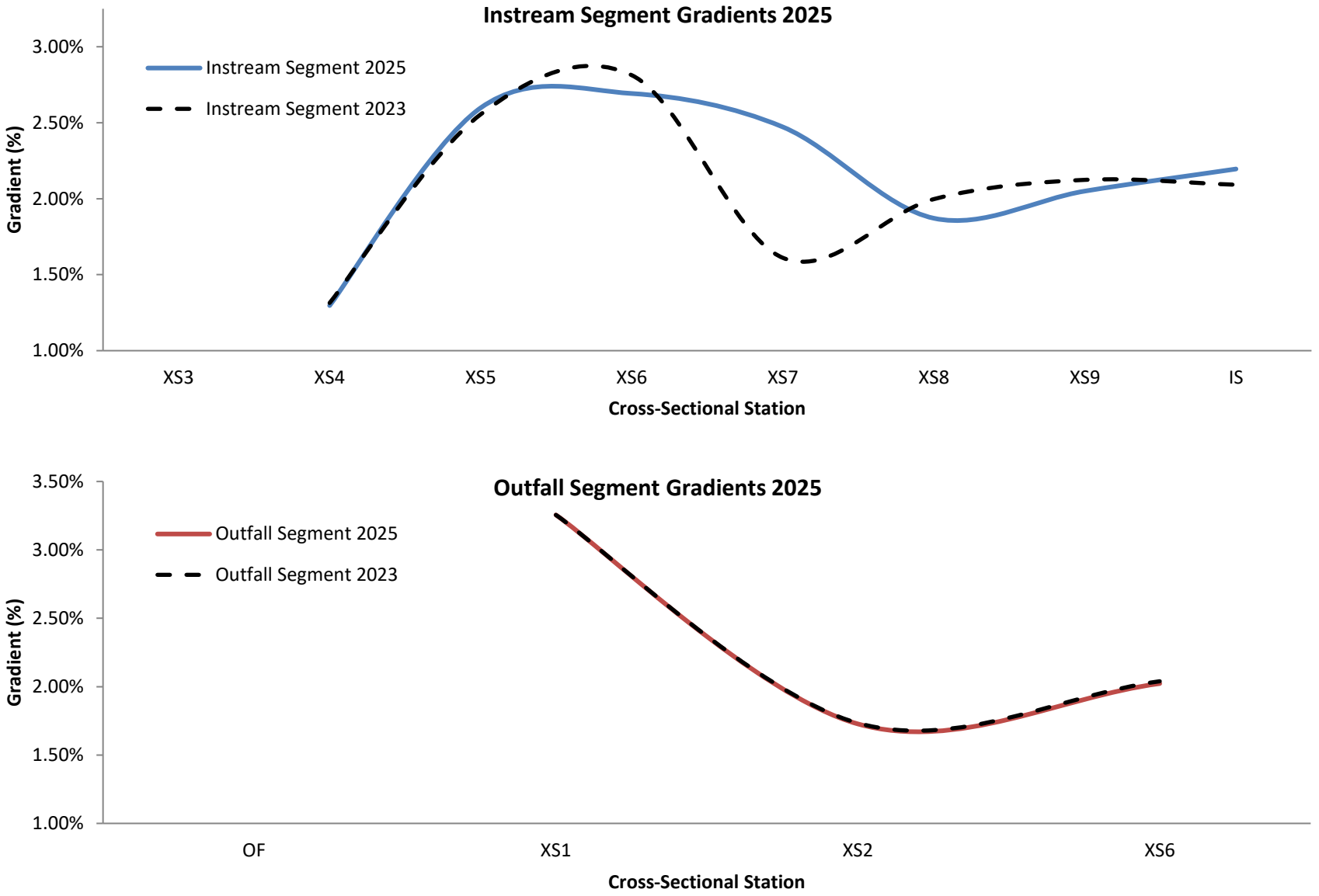


Figure 13: Instream and Outfall Stream Segment Gradients

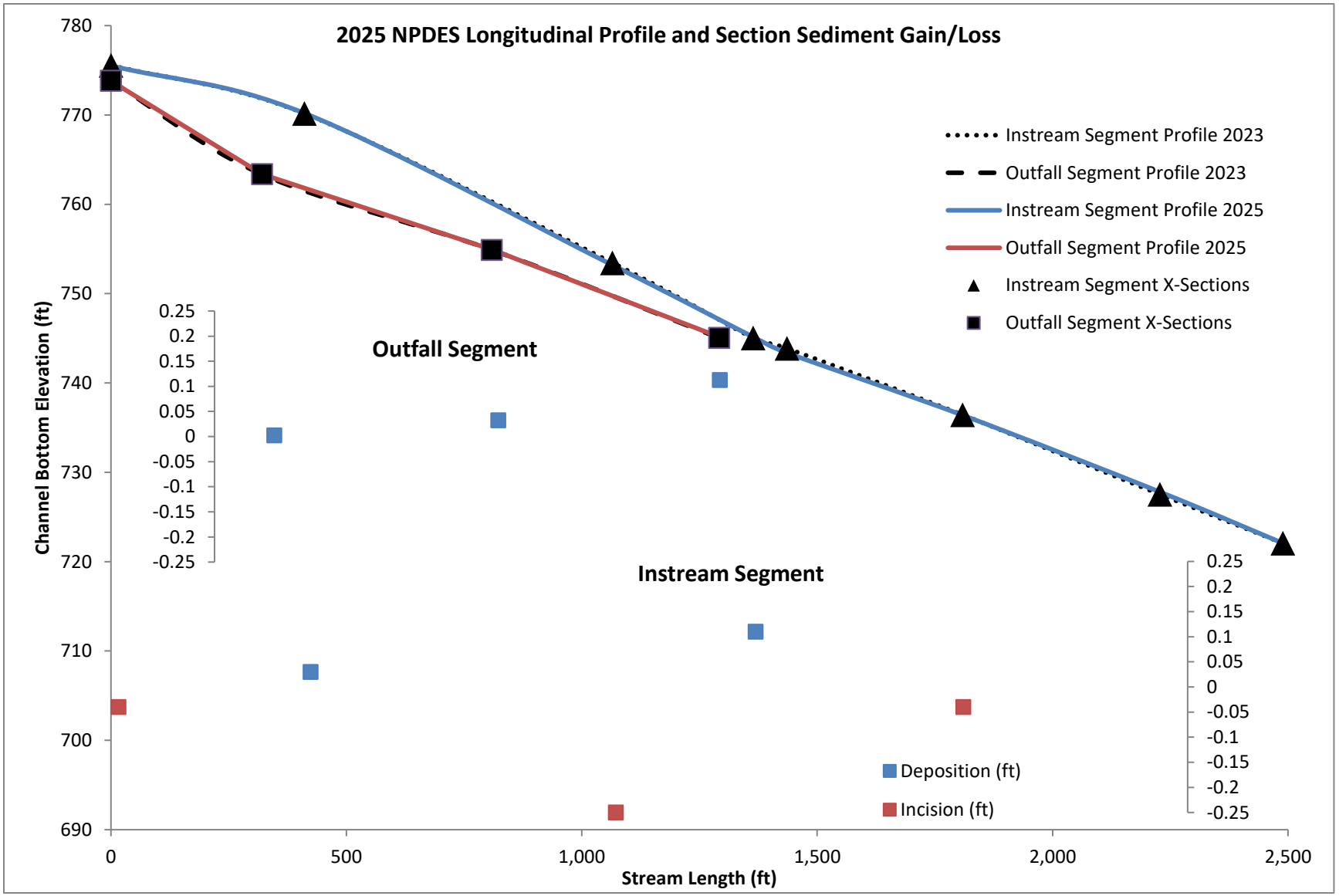


Figure 14: Longitudinal Profile for Instream and Outfall Stream Segments

Chemical

Physical Water Data

Physical water analysis results for both monitoring stations are displayed in **Table 19**. These *in situ* measurements were taken at the onset of any sampling events. Due to the outfall station having no flow during baseflow events, no comparison can be made between the two stations for baseflow conditions. During first flush of storm events, however, the water temperatures and pH measurements were consistently higher than those observed at the instream station. pH was observed to be higher at the outfall station for all but one storm event during this reporting year by an average of 0.1. Water temperatures were also higher at the outfall station by an average of 1.7°F. Water temperatures were observed up to 5.1°F higher at the outfall station during the warmer months due to solar heating of the wet pond and road pavement. During some of the colder months, the difference was smaller, or the outfall temperatures were less than those observed at the instream station.

Table 19
Physical Water Data

Event	Date	Event Type	Outfall Physical Water Data		Instream Physical Water Data	
			pH	Water Temp (F)	pH	Water Temp (F)
2024-07	9/17/24	Base Flow	-	-	7.46	62.5
2024-08	9/18/24	Storm	8.29	68.2	8.13	63.1
2024-09	9/25/24	Storm	8.18	66.5	7.82	62.5
2024-10	10/29/24	Base Flow	-	-	7.69	48.8
2024-11	11/10/24	Storm	7.10	53.0	8.35	51.9
2024-12	11/20/24	Storm	N/A	N/A	7.34	54.9
2025-01	1/31/25	Storm	8.68	43.6	8.21	43.0
2025-02	2/6/25	Storm	8.25	39.3	7.35	39.1
2025-03	3/5/25	Storm	8.01	45.9	7.90	46.8
2025-04	3/16/25	Storm	7.89	55.5	7.68	54.4
2025-05	3/27/25	Base Flow	-	-	7.84	41.4
2025-06	3/31/25	Storm	7.81	67.4	7.76	65.1
2025-07	5/13/25	Storm	N/A	N/A	N/A	N/A
2025-08	5/21/25	Storm	N/A	N/A	N/A	N/A
2025-09	5/29/25	Storm	N/A	N/A	N/A	N/A
2025-10	6/3/25	Base Flow	-	-	7.72	57.2

In March 2023, a YSI EXO1 sonde was deployed upstream of the instream station to record the required continuous parameters. At 15-minute intervals, temperature, pH, and specific conductance are recorded *in situ*. The measurements are displayed in **Figure 15** below. Data for

two example storm events are displayed in **Figure 16** and **Figure 17**. **Figure 16** shows discharge, temperature, pH, and specific conductance for a storm event on February 6, 2025, during which 0.09 inches of snow/rain was observed. **Figure 17** shows discharge, temperature, pH, and specific conductance for a storm event on September 22, 2024, during which 0.84 inches of rain was observed.

The overall temperature trend decreased from September to February and increased from February to September, as expected. Typical diurnal cycles were also observed. Stormwater runoff during the warmer time periods generally increased the water temperature within the stream, but sometimes during winter events, temperature decreased at the beginning of storm events. For example, during the storm on February 6, 2025, shown in **Figure 16**, instream temperatures dropped two degrees through the storm. During the summer storm event on September 22, 2024, shown in **Figure 17**, temperatures increased two degrees, with the peak coinciding with peak discharge.

There was no overall significant trend for pH during this time, though expected diurnal cycles were observed. Typically, pH values within streams are lower at night, as aquatic plants or algae respire, and higher during the day. Fluctuations in this diurnal cycle were generally greater during the late winter and early spring seasons. Like temperature, an increase in pH was also observed to coincide with the instream station hydrologic peak. During the storm event on February 6, 2025, shown in **Figure 16**, pH dropped by 0.11 at the onset of the event, coinciding with a spike in specific conductance. As the storm continued, pH increased again back to the pre-storm level, with the peak coinciding with the hydrologic peak at the instream station. During the storm event on September 22, 2024, shown in **Figure 17**, pH increased by 0.24 during the hydrologic peaks at the instream station and fell back to baseflow levels as discharge decreased.

There was also no overall long-term trend for specific conductivity during this time, though expected diurnal cycles were present. The 2024-2025 winter was relatively cool, and several de-icing events did occur; several large short-term spikes of elevated specific conductance were observed at the instream station. Conductance was higher at night and lower during the day, the inverse of pH. Specific conductance displayed an inverse relationship to stormwater volume relative to temperature and pH. As stormwater dilutes the ions present, electrical conductance drops. During the storm event on February 6, 2025, shown in **Figure 16**, specific conductance at the instream station peaked during the ascending hydrologic limb of the storm event, changing from 778 µS/cm to 6,028 µS/cm. During the hydrologic peak at the instream station and the remainder of the event, specific conductance decreased only slightly as the road salts were diluted. During the storm event on September 22, 2024, shown in **Figure 17**, there was no increase in specific conductance. As the storm event proceeded, specific conductance dropped from 683 µS/cm to 150 µS/cm as dilution occurred, before increasing back to baseline levels the day after the storm event concluded.

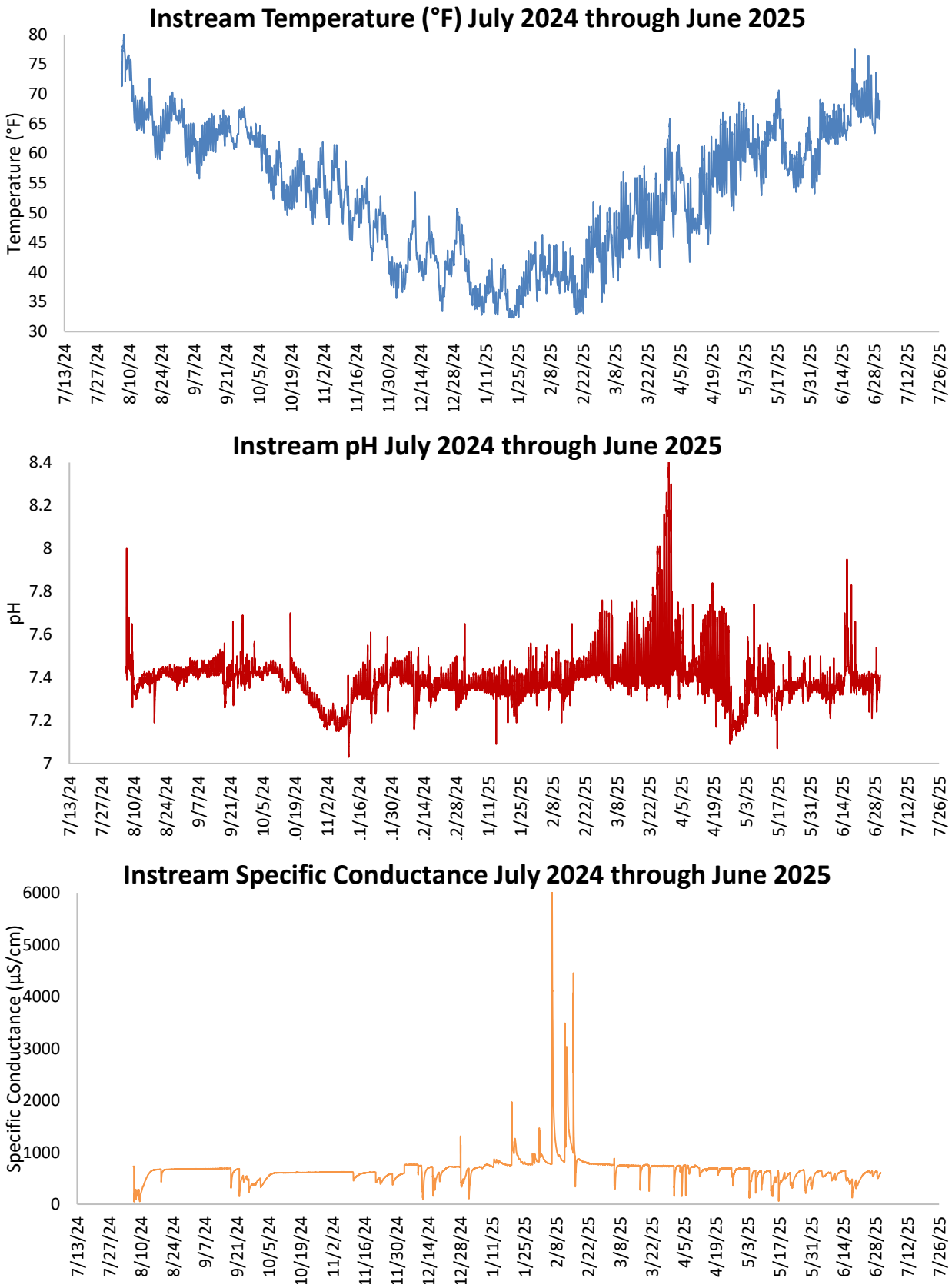


Figure 15: Instream Temperature, pH, and Specific Conductance Measurements

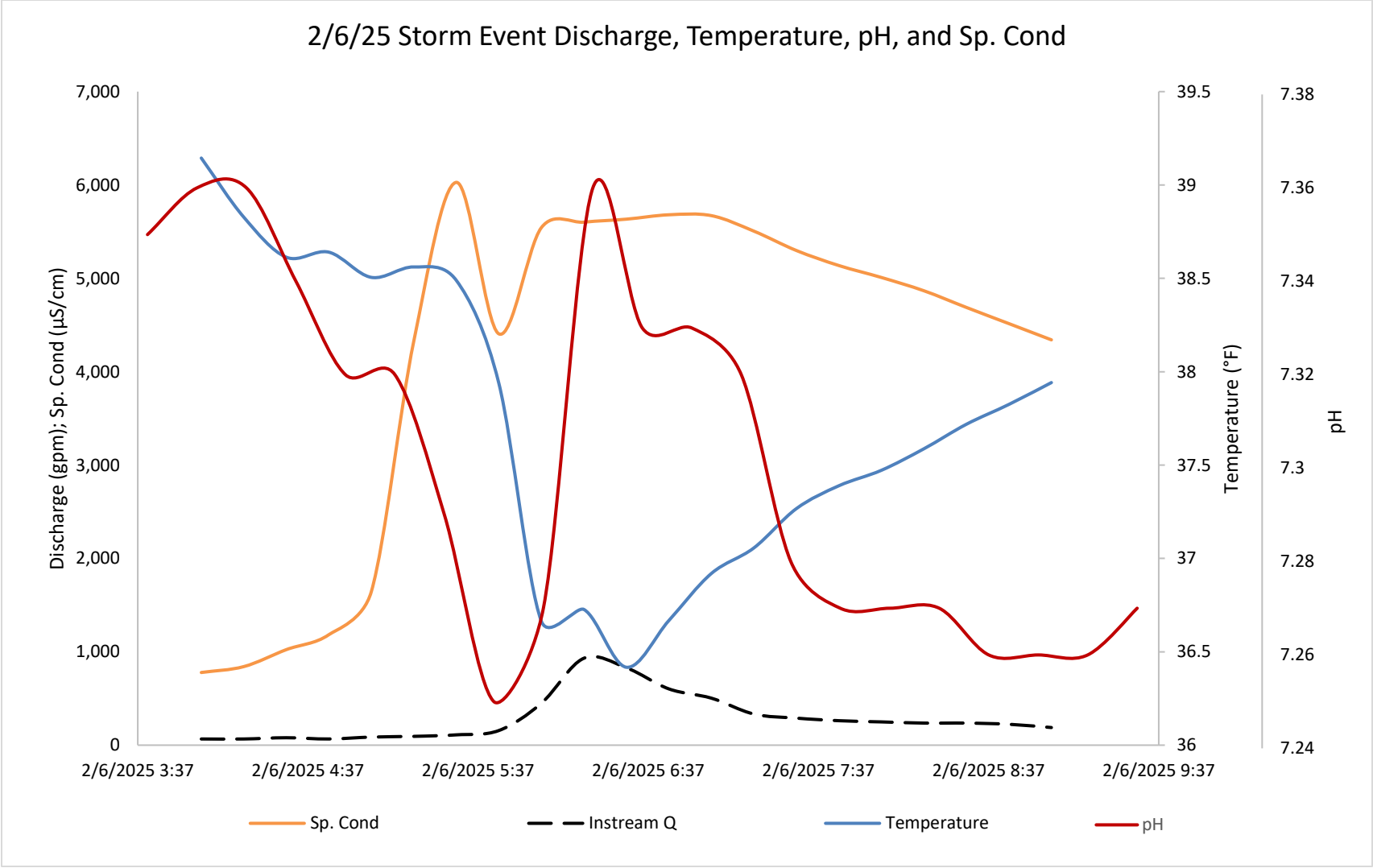


Figure 16: Discharge, Temperature, pH, and Specific Conductance During 2/6/25 Storm Event

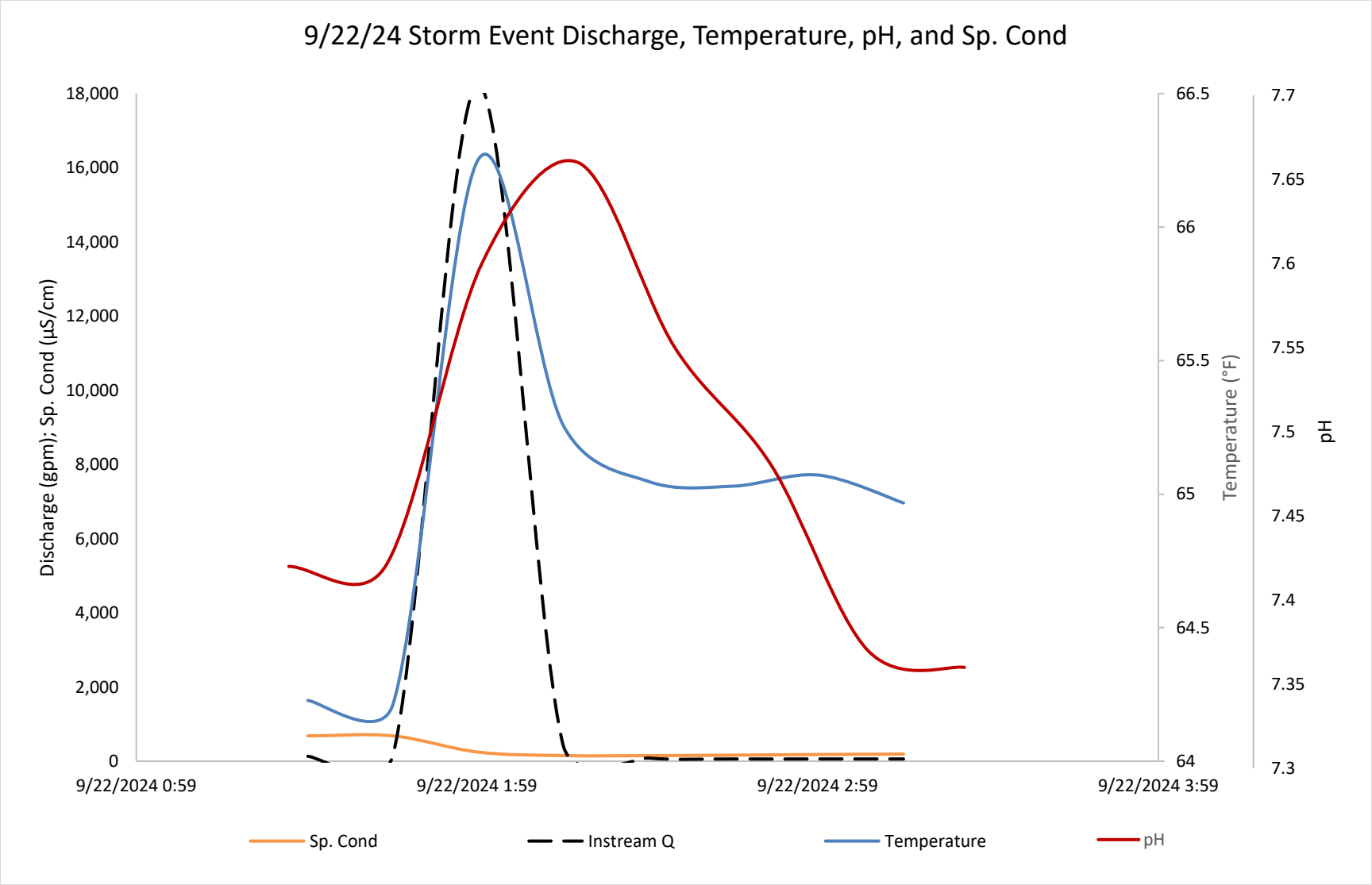


Figure 17: Discharge, Temperature, pH, and Specific Conductance During 9/22/24 Storm Event

Event Mean Concentrations

The event mean concentration (EMC) values and ranges for the eight storm flow events for this reporting year are displayed in **Table 20**. Of the observed analytes, nitrate/nitrite, ammonia, and TKN were the only three to show a significant difference between the two stations during storm events for this reporting year. In this case, nitrate/nitrite was significantly greater at the instream station, ammonia was significantly greater at the outfall station, and TKN was higher at the outfall station. When constituent analytes used to calculate TN were below detection, the reporting limit was used. Chloride was also greater at the instream station during storm events, however there was no significant difference between observed values for this reporting year. It should be noted that many E. coli samples collected during the reporting year were not analyzed within the parameters holding time and are likely reported as greater than the actual conditions. EMC values and ranges for the four baseflow events for this reporting year are displayed in **Table 21.** The minimum EMC for each analyte at the outfall station was zero because the Robert's Field outfall was dry during all four baseflow samples during this reporting year. For many analytes at the instream station, the reporting limit was used as the minimum EMC value, which represent samples below detection.

Table 20
EMC Values for Storm Events

Event Mean Concentration		Outfall Station			Instream Station			Significance
Analyte	Units	Mean	Min	Max	Mean	Min	Max	p-value
Ammonia	mg/L	0.35	0.20	0.89	0.19	0.07	0.23	0.040
BOD	mg/L	28.53	3.89	214.26	6.10	1.79	16.00	0.199
Chloride	mg/L	239.4	2.1	1,510.2	156.3	22.6	912.7	0.290
E. coli	Mpn/dL	8,714.0	55.1	46,105.2	9,647.1	430.2	53,805.0	0.932
NO_2/NO_3	mg/L	0.33	0.07	0.73	2.19	0.69	4.52	0.001
Ortho-P	mg/L	0.12	0.01	0.97	0.02	0.01	0.03	0.220
TKN	mg/L	1.48	0.50	3.39	0.76	0.18	1.72	0.041
TN	mg/L	2.16	0.77	4.69	3.14	1.29	5.80	0.146
TP	mg/L	0.23	0.03	0.80	0.15	0.02	0.43	0.213
TSS	mg/L	38.3	2.7	163.7	70.0	1.9	304.1	0.248

Table 21
EMC Values for Baseflow Events

Event Mean Concentration		Outfall Station			Instream Station			Significance
Analyte	Units	Mean	Min	Max	Mean	Min	Max	p-value
Ammonia	mg/L	0	0	0	0.2	0.2	0.2	-
BOD	mg/L	0	0	0	2	2	2	-
Chloride	mg/L	0	0	0	122.5	110	150	-
E. coli	Mpn/dL	0	0	0	176.75	65	313	-
NO_2/NO_3	mg/L	0	0	0	5.875	4.5	7.1	-
Ortho-P	mg/L	0	0	0	0.01	0.01	0.01	-
TKN	mg/L	0	0	0	0.725	0.5	1.4	-
TN	mg/L	0	0	0	6.8	5.6	7.8	-
TP	mg/L	0	0	0	0.0525	0.01	0.11	-
TSS	mg/L	0	0	0	0.2	0.2	0.2	-

Annual Pollutant Loads

A discharge hydrograph was created for this reporting period for each monitoring station. Manual baseflow separation was used to determine storm flow and baseflow at each station throughout the reporting year. Estimations for baseflow, storm flow, and total annual loading based on EMC values and discharge data are provided in **Table 22**. Please note that baseflow loadings could not be estimated for the outfall station because the Robert's Field outfall was dry during baseflow sampling. The majority of stormwater volume at the outfall station was from storm events; only about 17% of the total flow was from baseflow, so baseflow would likely contribute only a marginal added mass of each analyte.

As expected, greater analyte loads were observed at the instream station. Annual loading is typically reported and analyzed in this report as a measure of outfall contribution to the instream station. As described above, many analytes, particularly TKN, TP, and OP, are often left-censored. Therefore, loadings for these analytes are overestimated, as the reporting limit value is used for any calculations for left-censored data.

As flow was zero during baseflow sampling at the outfall monitoring station, baseflow loadings could not be estimated. Only storm loadings will be compared for the 2025 report. Outfall contributions of TSS and nitrate/nitrite were less than 16% of instream loadings. In previous years, outfall contribution of chloride was also generally low. Contribution during this reporting year was 40%, likely due to an increase in the number of deicing events. Only 5% of estimated nitrite/nitrate loading at the instream station was contributed by the outfall station. TSS also had a relatively low outfall contribution of 15%. 23% of the total instream loading for TN was contributed by the outfall station; this estimate is normally largely replicative of nitrate/nitrite, however, increased outfall contributions of ammonia and TKN were observed relative to past reporting years. Nitrate/nitrite EMC was one of only three analytes that were significantly different between stations. On a wetter year, the baseflow and storm flow loading would likely be more comparable. The outfall station only contributed 27% of the total chloride loading at the instream station. While generally low, this loading is 18% higher than the previous reporting period, which was cooler during the winter season. It would be expected that this contribution

would increase during years with winter seasons with additional snow or ice events. Due to the equipment malfunctions in spring 2025 and summer 2024, the loadings for those months are underestimated, so it is difficult to compare these values for this reporting year. BOD and TKN continue to be the analytes with the greatest contribution from the outfall monitoring station. It should be noted that many E. coli samples collected during the reporting year were not analyzed within the parameter's holding time and are likely reported as greater than the actual conditions.

Table 22
Annual Pollutant Loads

Annual Pollutant Loading (lbs/yr; mpn/year for E. coli)											
	Type	BOD	TKN	NO_2/NO_3	Am	TN	TP	OP	TSS	Cl	E. coli
Outfall	Base	-	-	-	-	-	-	-	-	-	-
	Storm	2,546	119	27	22	167	19.3	10.0	2,341	8,028	$1.18x10^6$
	Total	2,546	119	27	22	167	19.3	10.0	2,341	8,028	$1.18x10^6$
Instream	Base	>142	>50	>404	>14	>469	>3.4	>0.7	>71	>8,520	$>3.80x10^9$
	Storm	>1,932	>162	>523	>48	>733	>39.2	>4.9	>15,263	>20,193	$>1.02x10^{12}$
	Total	>2,074	>212	>928	>62	>1,202	>43.0	>5.6	>15,334	>28,714	$>1.02x10^{12}$

Seasonal Pollutant Loads

Seasonal discharge for each monitoring station is provided in **Figure 18.** The instream station expectedly displayed greater discharges for each season compared to the outfall station. Therefore, it is not unexpected to have greater loadings there as well. The spring season had the greatest stormwater volume; stormwater volume is underestimated for the instream station because of equipment malfunctions during the spring and summer seasons. 40% of the possible data are missing from the spring 2025 season, while 57% of possible flow data are missing from the summer 2024 season. The other two seasons correspond to the surplus/deficit for each season during this reporting period. Seasonal loadings based on the EMC values and seasonal discharges from **Figure 18** are located in **Table 23**.

For the outfall monitoring station, loading was the lowest during the spring season for most analytes, despite the highest flow volume of all seasons, a precipitation surplus, and having number of large storm events. In the previous reporting year however, TKN, nitrate/nitrite, TN, and TSS were highest during the spring season, despite being the season with the second largest stormwater volume. Chloride loading was much greater during the winter season, followed by the spring season, likely due to road deicers applied near the outfall monitoring station and the increased stormwater volume during the spring season. TP, Ortho-P, and BOD were the only analytes to have the largest loadings in autumn; this trend has been consistent throughout the study period. It should be noted that only storm event EMC values were used to estimate loadings for the outfall station as no flow was observed during baseflow events. Loading at the instream station followed a very similar paradigm as the outfall station for BOD and chloride. TKN, TP, nitrate/nitrite, ammonia, TN, TSS, and Ortho-P loadings, however, were largest in the autumn season. This is possibly due to the missing data from the summer and spring seasons due to equipment malfunction. Chloride loading patterns were almost identical to the outfall station per season, which follows the seasonal stormwater volume, but were likely influenced by seasonal deicing events, for which this year had several. Unlike the outfall, the instream station

showed elevated chloride loading in autumn. Approximately 8,500 more pounds of chloride was estimated in the winter than summer, but the estimated loading for the summer season is underreported because of equipment malfunction. Baseflow loading was relatively even seasonally for chloride, but storm event EMC values were much greater during the winter and spring seasons, again suggesting influence from roadway deicers.

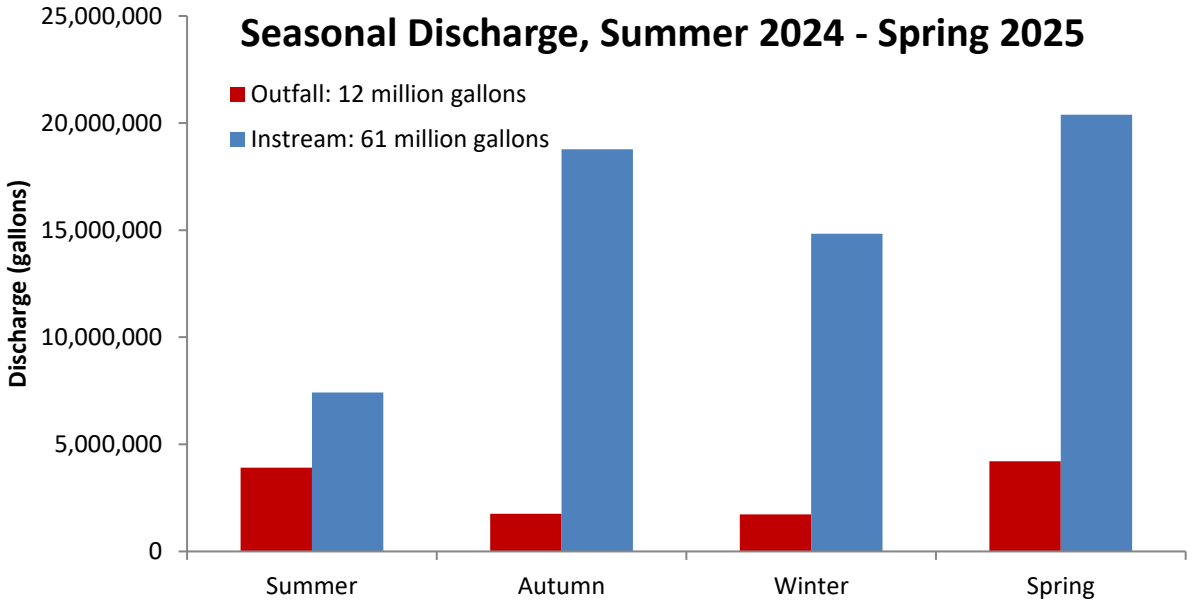


Figure 18: Seasonal Discharge for the Last Reporting Year

Table 23
Seasonal Pollutant Loads for the Last Reporting Year

Seasonal Pollutant Loading (lbs; mpn for E. coli)											
	Season	BOD	TKN	NO_2/NO_3	Am	TN	TP	OP	TSS	Cl	E. coli
Outfall	Summer	674	58.9	11.9	6.1	76.9	7.2	1.1	998	124	$8.18x10^5$
	Autumn	1,619	28.5	7.2	5.6	41.3	7.8	8.1	395	161	$2.60x10^5$
	Winter	125	19.2	4.1	5.7	29.0	2.3	0.4	712	6,086	$4.65x10^3$
	Spring	128	12.2	3.3	4.9	20.3	2.0	0.5	236	1,656	$9.40x10^4$
	Total	2,456	118.9	26.5	22.2	167.4	19.3	10	2,341	8,028	$1.18x10^6$
Instream	Summer	>66	>14.0	>135	>6.0	>155.0	>2.0	>0.4	>82	>2,847	$>1.68x10^9$
	Autumn	1,368	83.1	420	22.1	525.1	22.8	2.6	9,241	8,844	$8.69x10^{10}$
	Winter	186	41.3	179	10.5	230.4	5.2	0.5	2,948	11,312	$1.74x10^{11}$
	Spring	>454	>74.3	>194	>23.7	>291.8	>13.0	>2.0	>3,062	>5,711	$>7.45x10^{11}$
	Total	>2,074	>212.0	>928	>62.0	>1,202	>43.0	>6.0	>15,334	>28,714	$>1.01x10^{12}$

Biological

A complete list of taxa found, and the frequency of their occurrence, can be found in Appendix E. MBSS scoring criteria for the genus-level benthic macroinvertebrate IBI for the Eastern Piedmont region of Maryland is shown in **Table 14**. An IBI score was calculated from the mean of the six component metric scores, thus deriving an average IBI score. Corresponding narrative ratings were also determined in accordance with MBSS Standards. The narrative rating guidelines are provided in **Table 15**.

The biological health of the stream reach upstream of the instream monitoring station is summarized by **Table 24.** For the 2025 reporting year, the stream reach received a stream health rating of poor and an IBI score of 2.7, which is an improvement from the previous reporting years score. The number of taxa category scored a five for this reporting year, with a total of 27 taxa observed. The stream reach scored fair for the quantity of Ephemeroptera, Plecoptera, and Trichoptera taxa, with only seven unique taxa observed. The site received a poor rating for the quantity of Ephemeroptera taxa; only one individual from the taxon *Eurylophella*, a moderately intolerant taxon, was found. Compared to the previous year, for which the stream reach received an overall score of 2.00, two metrics were improved – % Chironomidae and % Clingers. The overall number of individuals collected increased to 143, from 134 in 2023, and from 120 in 2024. While the score for the number of EPT stayed the same, the percent of clingers increased from 21.6% to 57.9%, resulting in a fair score.

Table 24
IBI Score for the Last Reporting Year

Metric	Result	Score
Number of Taxa	27	5
Number of EPT	7	3
Number Ephemeroptera	1	1
% Intolerant Urban	8.3	1
% Chironomidae	55.8	3
% Clingers	57.9	3
	Total Score	**16**
	IBI Score	**2.7**
	Narrative Rating	**Poor**

The habitat scoring was conducted during the summer index period on September 11, 2025, just upstream from the instream monitoring station. This occurred at the same location as the biological sampling that was conducted during the Spring of 2025. The habitat assessment results for the instream station are summarized in **Table 25**. The scores are out of a maximum 160 points, based on the eight parameters in **Table 16**. For the 2025 reporting year, the instream station had an overall score of 66 out of a total possible 160. The parameters were split between the marginal and sub-optimal category. It should be noted that due to a change in scoring for embeddedness, the site was scored a zero because of the presence of bedrock within the stream channel. The weakest parameter for the instream station was for the site's trash rating, which was "5 – Poor," due to the abundant presence of trash throughout the stream. Pool/glide/eddy quality, instream habitat, velocity/depth diversity, and epifaunal substrate all scored in the marginal category. Gravel/cobble particles within the stream section were surrounded approximately 35% by fine sediments. The parameter with the highest observed rating was for

shading, as approximately 75% of the length of the stream channel was shaded; this resulted in a Sub-Optimal rating for this category.

Table 25
Summer Habitat Assessment Results for the Last Reporting Year

Parameter	In-stream	Category
Instream Habitat	8	Marginal
Epifaunal Substrate	9	Marginal
Velocity/Depth Diversity	10	Marginal
Pool/Glide/Eddy Quality	8	Marginal
Riffle/Run Quality	11	Sub-Optimal
Embeddedness	0	Sub-Optimal
Shading	15	Sub-Optimal
Trash Rating	5	Poor
Total Score (max. of 160)	**66**	
Score (percent)	**41%**	

2. Watershed Assessment Monitoring

The County's Watershed Assessment Monitoring Plan received approval from the Department on July 18, 2024. Watershed Assessment Monitoring will assess water quality at the watershed level within all TMDL watersheds to detect trends in stream biology and habitat, bacteria, and chlorides. Monitoring will follow all requirements and parameters identified within MDE's October 2021 NPDES MS4 monitoring guidelines for BMP Effectiveness and Watershed Assessment Monitoring. Results and trends from Watershed Assessment Monitoring will be reported annually within the County's TMDL Implementation Plan.

3. PCB Source Tracking

The permit instructs PCB monitoring to be done for all applicable TMDL WLAs. Carroll County provided feedback to MDE during the permit renewal process regarding the absence of PCB TMDLs within the County. MDE confirmed in the "Phase I Medium Response to Comments" (MDE, 2022) that permittees without a PCB TMDL are not required to perform this activity. Carroll County has no applicable TMDL for PCBs, therefore no monitoring plan or source tracking for PCBs is required.

H. Program Funding

1. Operational Expenses

Table 26 relates to the operating budget expenses that support compliance needs for the County's NPDES MS4 permit requirements. Operating expenditures in this program are principally associated with administration of the permit, monitoring, maintenance of BMPs, debt service, and other responsibilities associated with the daily operations of the PLM and RMD.

Table 26
Operating Expenses

Operating Program Elements	Expenditures
Administration - Salaries and Benefits	$1,538,868.21
Operation and Maintenance - Mowing, Gasoline, Repairs/Parts	$169,751.78
Public Education and Outreach	$3,110.24
Lab Testing/Supplies, Contract Services, Small Equipment, Conferences	$53,580.82
Debt Service Interest	$519,724.51
Total Operating Expenditures for FY2025	**$2,285,035.56**

2. Capital Expenses

A capital budget was established early in the program to support compliance needs for the County's NPDES MS4 permit responsibilities. Capital expenditures in this program, provided in **Table 27,** are principally associated with the permit's Watershed Assessment and Restoration requirements.

Table 27
Capital Expenses

Capital Programs	Expenditures
Watershed Assessment and Improvement (NPDES)	$1,260,220.14
Stormwater Facility Renovations	$15,261.00
Total Capital Expenditures for FY2025	**$1,275,481.14**

Cumulative capital expenditures for the program since 2005 can be found in **Table 28**. The approved FY2026-2031 CIP estimates of program funds can be found in **Table 29** and **Table 30**. It is important to note that the funding beyond FY2026 is subject to future budget review and approval processes. Therefore, no guarantee is made to future appropriations beyond FY2026.

Approved Community Investment Plan 2026 – 2031

Table 28
Total NPDES MS4 Capital Expenditures
Carroll County, Maryland
July 15, 2005 through June 30, 2025

Permit Year	Capital Expenditures
7/15/05 to 6/30/06	$36,040.19
7/1/06 to 6/30/07	$53,593.00
7/1/07 to 6/30/08	$1,978,829.14
7/1/08 to 5/30/09	$816,823.30
7/1/09 to 5/30/10	$1,744,986.91
7/1/10 to 6/30/11	$672,479.04
7/1/10 to 6/30/11	$23,269.00
7/1/11 to 6/30/12	$1,635,671.32
7/1/12 to 6/30/13	$1,012,067.26
7/1/13 to 6/30/14	$2,147,337.51
7/1/14 to 6/30/15	$2,964,442.44
7/1/15 to 6/30/16	$2,297,193.78
7/1/16 to 6/30/17	$4,576,024.22
7/1/17 to 6/30/18	$2,458,250.84
7/1/18 to 6/30/19	$4,911,221.68
7/1/19 to 6/30/20	$10,167,596.72
7/1/20 to 6/30/21	$6,973,924.29
7/1/21 to 6/30/22	$4,189,183.91
7/1/22 to 6/30/23	$2,079,951.53
7/1/23 to 6/30/24	$2,751,816.39
7/1/24 to 6/30/25	$1,275,481.14
Total permit expenditures, to date	**$54,766,183.61**
Grants received	**$16,768,268.62**
Actual County expenditures	**$37,997,914.99**

Table 29
Watershed Assessment and Improvement (NPDES)

Program Elements	FY26	FY27	FY28	FY29	FY30	FY31	Prior Allocation	*Total Cost*
Engineering & Design	550,000	500,000	500,000	500,000	500,000	500,000		**3,050,000**
Land Acquisition								**0**
Site Work								**0**
Construction	3,140,010	3,324,500	3,460,720	3,625,000	3,800,000	4,000,000	18,123,757	**40,973,987**
Equipment & Furnishings								**0**
Other								**0**
Total	**3,690,010**	**3,824,500**	**3,960,720**	**4,125,000**	**4,300,000**	**4,500,000**	**18,123,757**	**40,973,987**

The Stormwater Management Facility Renovation Program CIP (**Table 30**) has renovated 66 of the 193 existing County-owned structural stormwater management facilities back to as-built condition. Renovation work has involved removal of woody vegetation, replacement of corrugated metal pipes, repair of eroded areas at the outfall or inflow points of the facility, and removal of accumulated sediment. Another important factor taken into consideration when evaluating the facilities prior to renovation is the accessibility to the facility and ease of maintenance. Priority of projects is based on triennial inspection reports and the age of the facility. To date, close to $1,996,761 has been spent on this renovation effort.

Table 30
Stormwater Management Facility Renovations

Program Elements	FY26	FY27	FY28	FY29	FY30	FY31	Prior Allocation	*Total Cost*
Engineering & Design	10,000	10,000		10,000	10,000	10,000		**50,000**
Land Acquisition								**0**
Site Work								**0**
Construction	300,000	308,000	328,000	328,000	338,000	348,000		**1,950,000**
Equipment & Furnishings								**0**
Other								**0**
Total	**310,000**	**318,000**	**328,0000**	**338,000**	**348,000**	**358,000**	**0**	**2,000,000**

Table 31 provides a project list and the status of the individual projects in the approved capital budget for the Stormwater Management Facility Renovation Program.

Table 31
Stormwater Management Facility Renovation Program
2016-2031

Completed Projects		
Year	**Project Name**	**MDE 8-Digit Watershed**
2016	Carroll Highlands	Liberty Reservoir
2016	Grand Valley Farms Sec. 2	Double Pipe Creek
2016	Jenna Estates Sec. 2 Ph. 1 Pond 1	South Branch Patapsco
2016	Oklahoma Phase 1 Pond #2	Liberty Reservoir
2016	Poole Meadows	Liberty Reservoir
2016	Washington Square	Liberty Reservoir
2017	Carmae Acres	South Branch Patapsco
2017	Carrollyn Manor Section 6	Double Pipe Creek
2017	Eldersburg Estates Sec. 1	South Branch Patapsco
2017	Grand View Resub. Lot 38	South Branch Patapsco
2017	Kalten Acres Sec. 1	Double Pipe Creek
2017	O'Brecht Estates	South Branch Patapsco
2017	Oklahoma Sweetwater	Liberty Reservoir

Year	Project Name	MDE 8-Digit Watershed
2017	Sun Valley Waterloo Section	Liberty Reservoir
2018	C. C. Commerce Center	Liberty Reservoir
2018	Carroll Woods Est. Sec. 7	Lower Monocacy River
2018	Exceptional Center	Double Pipe Creek
2018	Larash Manor	Liberty Reservoir
2018	Matthews Meadows Sec. 2	Liberty Reservoir
2018	Piney Ridge Village 7	South Branch Patapsco
2018	Squires Subdivision	Liberty Reservoir
2018	Stafford Estates	Liberty Reservoir
2018	Wilmot Manor	Liberty Reservoir
2019	Aspen Run	Liberty Reservoir
2019	Eldersburg 3-5	South Branch Patapsco
2019	Hoff Pond	Liberty Reservoir
2019	Hunters Crossing #2	South Branch Patapsco
2020	Benjamins Claim – Jacobs	South Branch Patapsco
2020	Bluebird Hills	Prettyboy Reservoir
2020	Sumners Hollow Pond 2	Liberty Reservoir
2020	Tydings Acres	South Branch Patapsco
2021	Carrollyn Manor Section 7	Double Pipe Creek
2021	Clipper Hills Gardenia	South Branch Patapsco
2021	Ralph Street Extension	Liberty Reservoir
2021	Sumners Hollow Pond 1	Liberty Reservoir
2021	Wilmot	Liberty Reservoir
2022	Bark Hill Park	Double Pipe Creek
2022	Maintenance Center Iron	Double Pipe Creek
2022	Meadow Ridge ED Pond 1	Double Pipe Creek
2022	Meadow Ridge ED Pond 2	Double Pipe Creek
2022	Underground Facilities (8)	Multiple
2023	North Carroll Library	Prettyboy Reservoir
2023	Patapsco Valley Overlook	South Branch Patapsco
2023	Friendship Overlook	Double Pipe Creek
2023	County Park Wetland	Double Pipe Creek
2023	Freedom Hills Farm	South Branch Patapsco
2023	Piney Ridge Village 5/6	South Branch Patapsco
2023	Finksburg Industrial Park	Liberty Reservoir
2023	Elderwood Village/Oklahoma Ph IV	Liberty Reservoir
2023	Pine Brook Farms Sect. 1	South Branch Patapsco
2024	Clipper Hills	South Branch Patapsco
2024	Arthur's Ridge	South Branch Patapsco

Year	Project Name	MDE 8-Digit Watershed
2024	CC Commerce Center	Liberty Reservoir
2024	Hickory Ridge	Liberty Reservoir
2024	Oak Creek Phase I	Liberty Reservoir
2024	Candlelight	South Branch Patapsco
2024	Jenna Estates Sec.2, Ph I	South Branch Patapsco
2025	Squires	Liberty Reservoir
2025	Windemere	Liberty Reservoir
Planned Projects		
2026	Bradford Knoll	Liberty Reservoir
2026	Carroll Co. Multi. Parking	Liberty Reservoir
2026	Kirkner Estates	Liberty Reservoir
2026	Sherlock Holmes Sec. 3B	Liberty Reservoir
2026	Jenna Estates Sec. 2 Ph. 2 #1	South Branch Patapsco
2026	Jenna Estates Sec. 2 Ph. 2 #2	South Branch Patapsco
2026	Jenna Estates Sec. 2 Ph. 3 #1	South Branch Patapsco
2026	Jenna Estates Sec. 2 Ph. 3 #2	South Branch Patapsco
2026	Sun Valley Waterloo Section	Liberty Reservoir
2027	Avonshire Woods #1	South Branch Patapsco
2027	Avonshire Woods #2	South Branch Patapsco
2027	Avonshire Woods #3	South Branch Patapsco
2027	Eldersburg Library	South Branch Patapsco
2027	Pine Brook Farms Sec. 2 "A"	South Branch Patapsco
2027	Pine Brook Farms Sec. 2 "B"	South Branch Patapsco
2027	Stoney Valley	Double Pipe Creek
2028	Ronsdale Road	Liberty Reservoir
2028	Luther Gardens	Liberty Reservoir
2028	Chinquapin Hill	Liberty Reservoir
2028	Hollenberry Road	South Branch Patapsco
2028	Westminster Highlands	Double Pipe Creek
2029	Spruce Meadows Pond #2	Liberty Reservoir
2029	Spruce Meadows WQ #3	Liberty Reservoir
2029	Spruce Meadows Pond #4	Liberty Reservoir
2029	Doves Crest Swale #1	Double Pipe Creek
2029	Doves Crest swale #2	Double Pipe Creek
2029	Doves Crest Infiltration	Double Pipe Creek
2030	Freedom Hills Farm Pond #2	South Branch Patapsco
2030	Piney Creek Parkway WQ Trench	South Branch Patapsco
2030	Piney Creek Parkway WQ Trench	South Branch Patapsco

Year	Project Name	MDE 8-Digit Watershed
2030	Piney Creek Parkway WQ Trench	South Branch Patapsco
2030	Piney Creek Parkway WQ Trench	South Branch Patapsco
2030	Piney Creek Parkway WQ Trench	South Branch Patapsco
2031	Center Street/Gorsuch Road	Liberty Reservoir
2031	South Pleasant Valley Road	Double Pipe Creek
2031	Carroll Woods North	Lower Monocacy
2031	Fannie Ridge WQ1	South Branch Patapsco
2031	Carroll County Drug Treatment	South Branch Patapsco
2031	Addition to Harrison Hills	South Branch Patapsco

Part VI. Special Programmatic Conditions

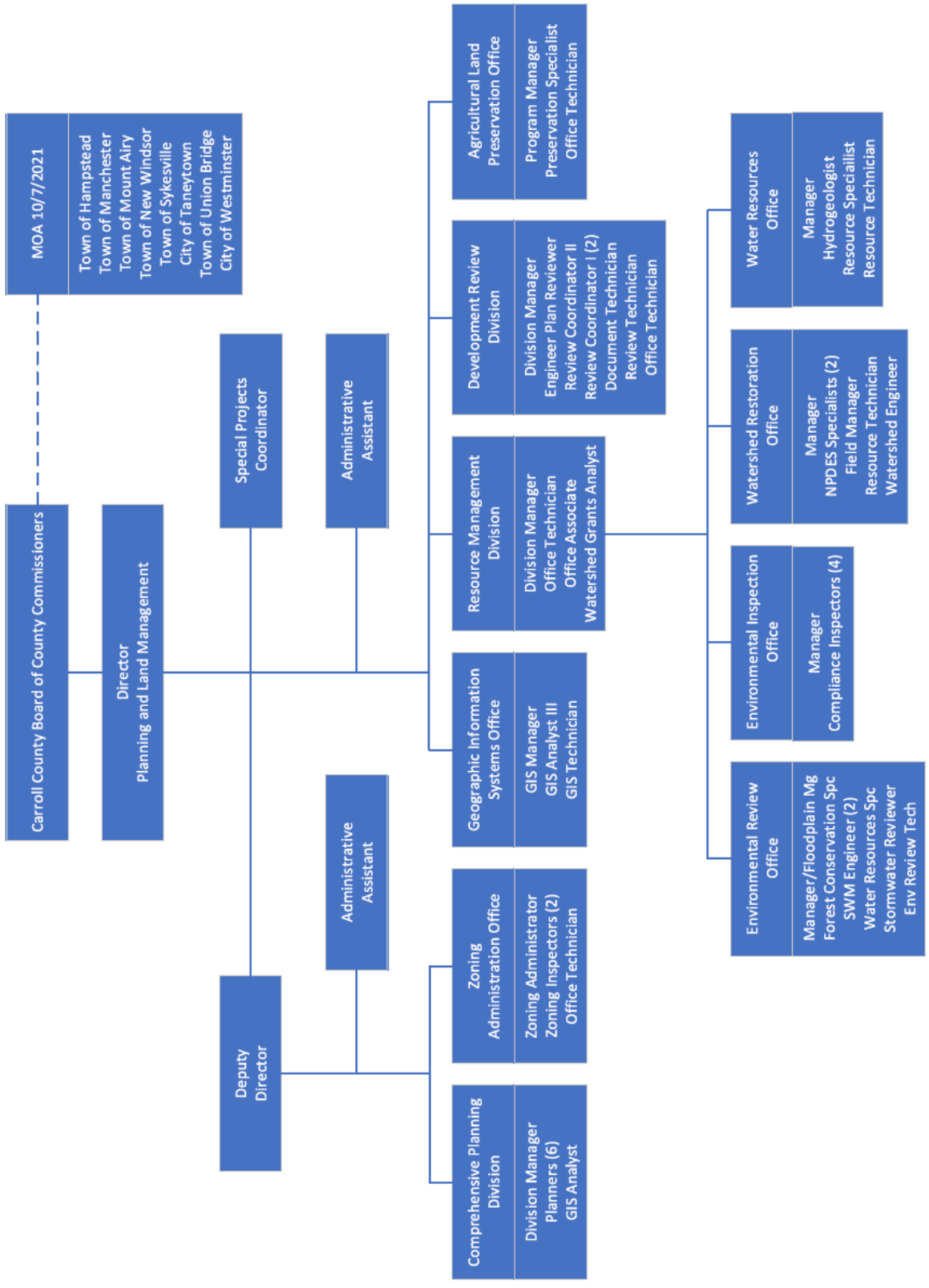
Carroll County and its municipal co-permittees meet monthly, as the formally adopted Water Resource Coordination Council (WRCC), to comprehensively address permit planning and implementation. The WRCC continues to serve as the County's local WIP team. This group has been meeting since its inception in 2008, which has allowed permit compliance, stormwater mitigation, and the Chesapeake Bay clean-up effort to remain as top priorities.

Maryland State legislative requirements for land use and planning are reviewed and managed by the Comprehensive Planning Division. Requirements are incorporated into the County Master Plan and County code as appropriate to ensure compliance with State guidelines.

Appendix A:
Organizational Chart

Organizational Chart:
Department of Planning and Land Management

Appendix A


Carroll County Board of County Commissioners
MOA 10/7/2021
Town of Hampstead
Town of Manchester
Town of Mount Airy
Town of New Windsor
Town of Sykesville
City of Taneytown
Town of Union Bridge
City of Westminster
Director
Planning and Land Management
Special Projects Coordinator
Administrative Assistant
Deputy Director
Administrative Assistant
Comprehensive Planning Division
Division Manager
Planners (6)
GIS Analyst
Zoning Administration Office
Zoning Administrator
Zoning Inspectors (2)
Office Technician
Geographic Information Systems Office
GIS Manager
GIS Analyst III
GIS Technician
Resource Management Division
Division Manager
Office Technician
Office Associate
Watershed Grants Analyst
Development Review Division
Division Manager
Engineer Plan Reviewer
Review Coordinator II
Review Coordinator I (2)
Document Technician
Review Technician
Office Technician
Agricultural Land Preservation Office
Program Manager
Preservation Specialist
Office Technician
Environmental Review Office
Manager/Floodplain Mg
Forest Conservation Spc
SWM Engineer (2)
Water Resources Spc
Stormwater Reviewer
Env Review Tech
Environmental Inspection Office
Manager
Compliance Inspectors (4)
Watershed Restoration Office
Manager
NPDES Specialists (2)
Field Manager
Resource Technician
Watershed Engineer
Water Resources Office
Manager
Hydrogeologist
Resource Specialist
Resource Technician

Appendix B:
Supplemental Data

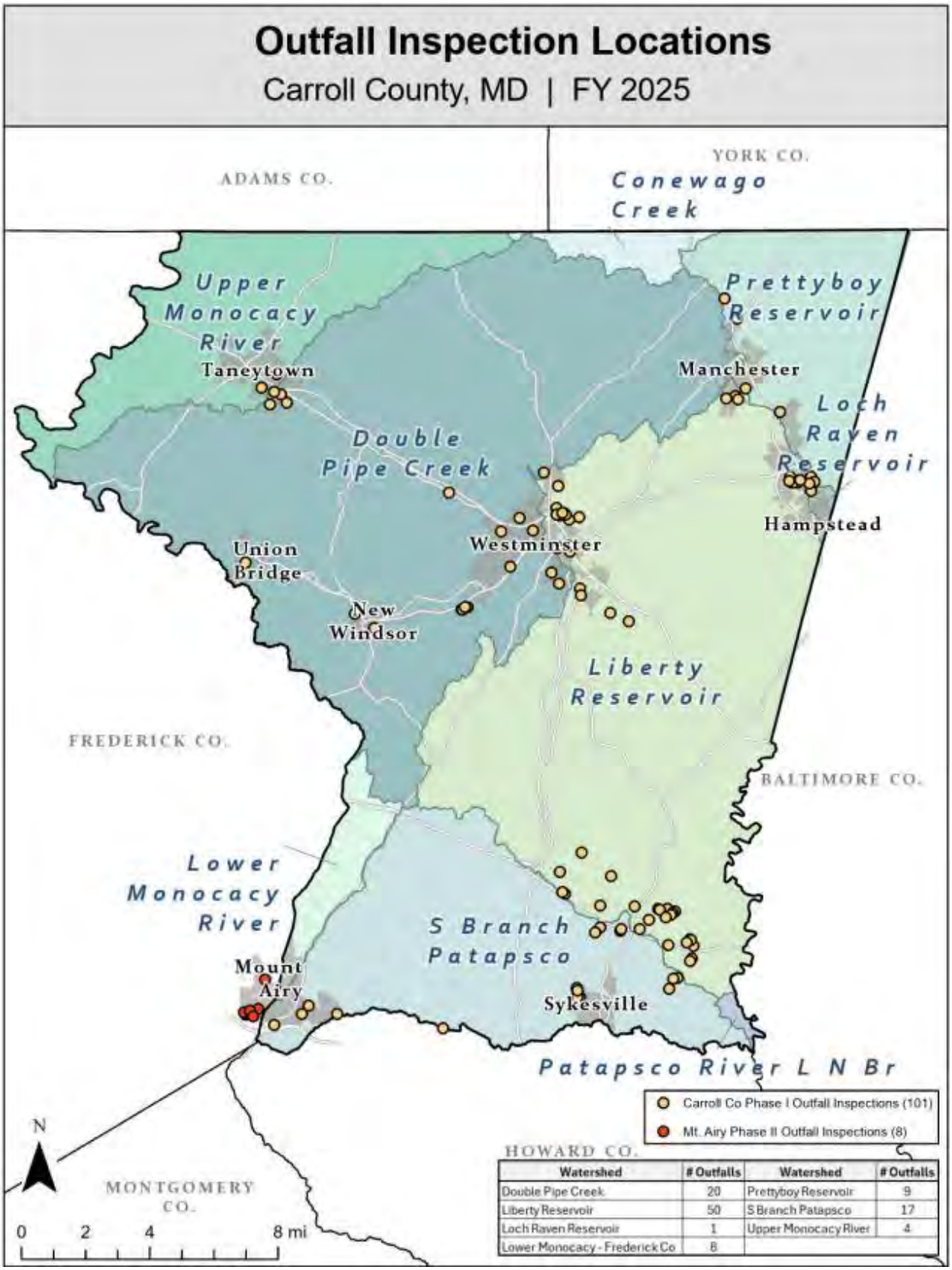
Carroll County MS4 Annual Report
Appendix B CD
(Available Upon Request)

- **MS4 Geodatabase**
- **Storm Drain System Geodatabase**
- **Industrial and Commercial Geodatabase**
- **Monitoring Databases**
- **TMDL Implementation Plan**
- **TIPP Model Spreadsheets**
- **Outfall Stabilization Crediting Documentation**
- **Salt Management Plans (SMPs)**
- **Salt Training Documents**
- **Carroll County Good Housekeeping Plan (GHP)**

Appendix C:
Illicit Discharge Detection and Elimination

Illicit Discharge Detection and Elimination (IDDE)

- **Outfall Screening Locations Map**
- **Illicit Discharge Outfall Screening Actions Taken**
- **Commercial/Industrial Visual Survey Location Map**
- **Commercial/Industrial Visual Survey Summary**
- **Illicit Discharge Incident Report Summary**
- **NPDES Annual Manager/Supervisory Level Stormwater Pollution Prevention Training Agenda**
- **Litter Management-Stormwater Pollution Prevention BMP**
- **Food Industry – CC Farm Museum Food Vendor Stormwater Pollution Prevention BMP Brochure**

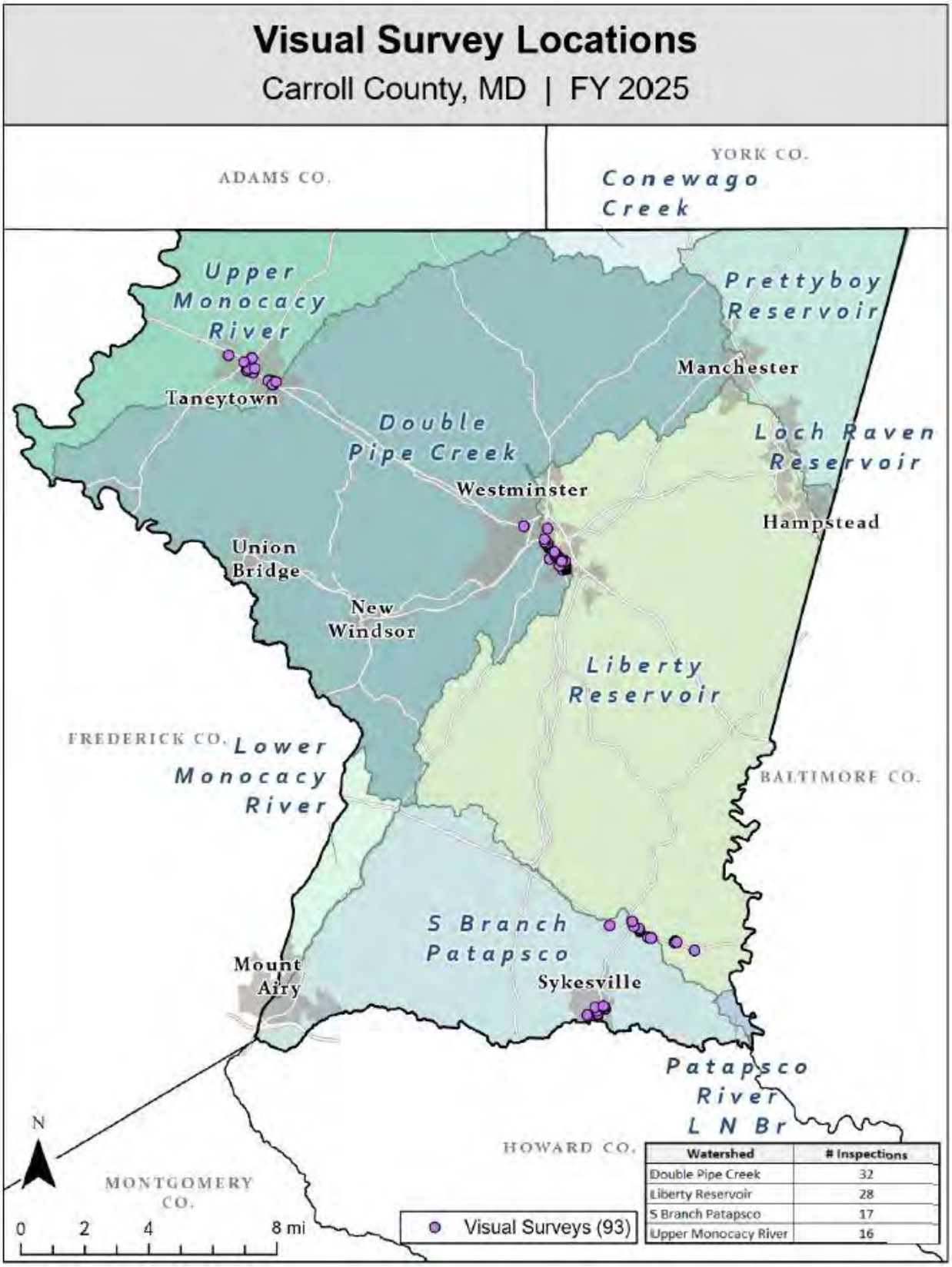


Watershed	# Outfalls	Watershed	# Outfalls
Double Pipe Creek	20	Prettyboy Reservoir	9
Liberty Reservoir	50	S Branch Patapsco	17
Loch Raven Reservoir	1	Upper Monocacy River	4
Lower Monocacy - Frederick Co	8		

Illicit Discharge Outfall Screening Actions Taken

July 1, 2024 – June 30, 2025

Outfall/NPDES Study Point	Action Taken
C0892	Illicit Discharge/Slightly elevated phenol level detected at this scheduled outfall screening was attributed to a public sanitary sewer overflow (SSO) that occurred approximately 60 days prior to the outfall screening, which occurred at a manhole due to a blockage within a County residential street. The flow entered the downgrade storm drain system, entering a SWM wet pond BMP facility connected to this outfall. At the time of the SSO, the sanitary sewer operator cleared the blockage, made notifications to MDE and CC Health Department, and the Carroll County Resource Management Division as an illicit discharge and took corrective actions, accordingly, eliminating the discharge. This SSO was documented in the 2024 CC MS4 Annual Report under the DDE Illicit Discharge Incident Report Summary as Case # PD-24-0004 within Appendix C.


Visual Survey Locations
Carroll County, MD | FY 2025
ADAMS CO.
YORK CO.
Conewago Creek
Upper Monocacy River
Prettyboy Reservoir
Manchester
Taneytown
Double Pipe Creek
Loch Raven Reservoir
Westminster
Hampstead
Union Bridge
New Windsor
Liberty Reservoir
FREDERICK CO.
Lower Monocacy River
BALTIMORE CO.
S Branch Patapsco
Mount Airy
Sykesville
Patapsco River L N Br
HOWARD CO.
MONTGOMERY CO.
N
0 2 4 8 mi
Visual Surveys (93)
Watershed | # Inspections
Double Pipe Creek | 32
Liberty Reservoir | 28
S Branch Patapsco | 17
Upper Monocacy River | 16

Commercial Industrial Visual Survey Summary

Visual Survey Areas Requiring Follow-up Actions
Processed from July 1, 2024 – June 30, 2025

This table presents the **1** of **93** Commercial/Industrial Visual Surveys follow-up actions.
No Illicit Discharges Observed / Potential Pollutant Source/Activity

Visual Survey Action # / Unique Site ID #	Date	Land Use	Activity/ Location/ Watershed	Potential Significant Pollutant Source	Follow-Up Action/Status
VS-25-0001 707061773	02/04/25	C	Pennsylvania Avenue Westminster, MD	Automotive fenced impound lot and towing service with poor good housekeeping practices including burned out and wrecked vehicles and debris on uncovered paved sloped lot. Multiple 55-gallon drums and automotive parts exposed to precipitation and stormwater run-on draining to a public street. Storage and loading operations, waste management and outdoor storage. Non-Stormwater Potential Illicit Discharge.	MS4 Permit co-permittee City of Westminster issued corrective actions notification with MS4 educational brochure for Auto Industry Good Housekeeping BMP Pollution Prevention Information & MDE Stormwater Pollution Prevention Guidance Document. Follow Up observations confirmed corrective actions taken.

Illicit Discharge Incident Report Summary

Illicit Discharge Complaints Processed from July 1, 2024 – June 30, 2025

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-24-0016	CC Utilities Staff reported a small public SSO from a residential sanitary cleanout to yard and use in common driveway. Reported: 07/11/24 Category: SSO/Private	Discharge was contained, with no discharge to storm drain or waterway. Discharged on driveway and lawn cleaned up and lime applied to grass area. MDE and CC Health Department notified.	Illicit Discharge Eliminated Case Closed: 07/12/24 LU: Residential	Keel Drive, Sykesville, MD (County)
PD-24-0017	County event staff reported concerns regarding spilled or dumped cooking oil and wastewater discharges by food vendors near storm drain inlet. Reported: 07/02/24 Category: Food Industry Used Cooking Oil & Wastewater	CCRMD investigation confirmed multiple food vendor cooking oil discharges and wastewater discharges on pavement and lawn area near storm drain inlet after a County facility venue rental event. CCRMD met with the event coordinator (renter) and facility staff to review on-site concern, corrective measures for clean up, and good housekeeping BMPs for food vendors to prevent from happening again. Corrective measures completed by event renter included pressure washing with containment and recovery system of affected paved area for proper disposal, and removal of six inches of damaged turf and soil with disposal at landfill, replacement topsoil, seed and mulch. Note: CCRMD worked with County venue staff to create a custom food vendor stormwater pollution prevention brochure and BMP requirements with future rental contracts. Venue staff ensures food vendor is aware of BMPs and used cooking oil recycling shed location.	Illicit Discharge Eliminated Case Closed: 07/12/24 LU: Commercial	Center Street, Westminster, MD (County)

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-24-0018	Citizen / Private apartment complex manager reported active sanitary sewer overflow SSO discharge to yard inlet. Reported: 07/11/24 Category: SSO/Private	Carroll County Division of Utilities (CCDU) confirmed sanitary sewer discharge flow source directly from a compromised private sewer system of the residential apartment complex. The active flow entered the residential yard inlet connected to County MS4 under public roadway to a neighboring private residential stormwater facility, with dry weather outfall discharges to a Use III stream. CCDU reported to CCRMD who, upon investigation, notified MDE Compliance. MDE directed the apartment complex to prevent flow from entering SD pipe via a capture and recovery process until the sanitary break was repaired and cleanup was completed. CC Health Department was notified. MDE Compliance directed the apartment complex to post public awareness signage along impacted areas.	Illicit Discharge Eliminated Case Closed: 07/15/24 LU: Residential	Georgetown Blvd Eldersburg, MD (County)
PD-24-0019	Citizen reported a residential stormwater facility next to home smells like feces and draining slower than normal in a newer subdivision. Reported: 08/19/24 Category: Septic/Private	Investigation determined no failed septic systems grass yards and no odor in swales and storm drain inflow pipes above the typically dry SWM BMP pond. Ammonia-like odor (not septic or feces) noticed at pond outfall discharge pipe, drainage swale, and dead grass edge around receding remaining pool of water in the lower area of the pond. Iron floc noticed edge of pond and outfall and typical film on surface water. MS4 chem test revealed slightly elevated copper. Investigation noted atypical tropical storm Debby with 6 to 7inch heavy rain in short period causing extensive flash flooding in the moderate to steep surrounding drainage area that included variety of land uses. MDE biologist performed site visit and concluded dead vegetation was a result of the extreme heavy rainfall and extended detention/submerged conditions limited to the pond. MDE Compliance noted it did not appear to have a point source contribution and concurred with County staff other numerous non-point source factors may have influenced the health of the basin, such as breakdown of natural lawn treatments that smell like manure, and breakdown of organic materials that release ammonia, methane, and other volatile organic compounds. Roofing material runoff in hard rain conditions have also been noted to for copper runoff. Note: The odor dissipated and SWM inspectors will monitor the vegetation in future inspections.	Potential Illicit Discharge Eliminated Case Closed: 09/05/24 LU: Residential	Sandyville Circle Finksburg, MD (County)

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-24-0020	Citizen reported oil deposits and sediment runoff and vehicle tracking from residential construction site onto public street. Reported: 08/29/24 Category: Automotive Oil, Construction Sediment	MS4 Co-Permittee Town of Mt. Airy Code Enforcement Officer and County RMD Environmental Inspector required the contractor to use dry absorbent on oil deposits from delivery vehicles and sweep up materials. Sediment was swept up and returned to the construction site.	Illicit Discharge Eliminated Case Closed: 8/29/24 LU: Residential	Bridlewreath Way, Mt Airy, MD (Municipal)
PD-24-0021	City of Westminster DPW staff reported confirmed sewage discharging to street inlet from residential sump pump Reported: 10/10/24 Category: SSO/Private	MS4 Co-Permittee City of Westminster Department of Public Works and County NPDES investigation determined a residential home grinder pump line leak from pressurized pipe broken underground, leaking into sump pump pit, and pumped via unpermitted sump pump pipeline extension passing under the community sidewalk to a surface discharge point at a municipal storm drain inlet. Water supply was turned off and homeowner required to secure permits and have repairs performed by licensed plumbing contractor, as well as have the sump pump line extension removed, eliminating the discharge source. County and CC Health Dept staff observed low amount of discharge, with none at dry SWM facility or entering Waters of the State.	Illicit Discharge Eliminated Case Closed: 10/15/24 LU: Residential	Redwood Drive Westminster, MD (Municipal)
PD-24-0022	Citizen reported a neighboring property owner's contractor dewatered their swimming pool with contents discharged to and across private driveways, then through a barn and barnyard area to a vegetated area. Reported: 10/08/24 Category: Swimming Pool Dewatering	County RMD Environmental Inspector investigated and confirmed the discharge occurred with the pool property owner. Water settled in grass vegetated area on neighbor. No chlorine added to pool since July but not tested at time of discharge. No chlorine odor noticed in downgrade discharge. Discharge did not enter any waterway. Swimming Pool discharging guidance provided by County staff to pool owner including testing contents prior to emptying pool, discharging at a slower rate, and diverting onto own vegetated lawn area.	Non-Illicit Discharge Case Closed: 10/09/24 LU: Residential	Calico Road, Woodbine, MD (County)

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-24-0023	Citizen reported County Truck operator discharging unknown liquid from truck tank into a residential storm drain inlet Reported: 10/24/24 Category: Wastewater	County RMD Environmental Inspector investigated and found no odor or residual on inlet grate or basin. CC Utilities contacted per truck and tag description and confirmed their small jetter truck operator was to dump the tank of dechlorinated water from potable water supply in a sanitary sewer manhole but upon internal investigation confirmed he had dumped into storm drain inlet instead. No issues at the distant downgrade outfall at SWM facility. CC Utilities reprimanded operator and reviewed BMP procedures.	Non-Illicit Discharge Case Closed: 10/29/24 LU: Residential	Johnsville RD Eldersburg, MD (County)
PD-24-0024	Citizen reported to MDE two 55-gallon blue drums in creek with possible oil on embankment. MDE Compliance requested County CCRMD investigation assistance. Reported: 10/30/24 Category: Dumping / Oil	RMD investigation by NPDES Compliance Specialist late 10/30/24 and early 10/31/24 at the specific location provided. Observations made at the location including 500-ft above, under the bridge, and 500-ft below were negative of the reported items. Follow-up investigation on 11/1/24 was also negative, including small tributary just north of the bridge/creek. Reported findings to MDE.	Non-Illicit Discharge Case Closed: 11/18/24 LU: Rural Residential	Rockland Road Westminster, MD (County)
PD-24-0025	CC Health Department staff reported an active private septic system overflow (SSO) in parking lot of a convenience store discharging to an on-site storm drain inlet with connection to MDOT SHA MS4. Extent of discharge unknown. Reported: 11/20/24 Category: SSO/Private	Investigation by RMD Environmental Inspector found active flow in progress but contained within an underground SWM holding tank best management practice. MDOT was notified, although no evidence of the discharge reaching the MDOT SHA storm drain system nor under MD 27 culvert was observed. CC Health Department was present and provided store manager instructions for their septic company, who arrived and pumped the septic system and SWM tank and cleaned up paved area. Lime was spread on impacted areas including small channel water leading to the inlet. Lime also spread in the inlet, at opening of SWM tank and inside the tank.	Illicit Discharge Eliminated Case Closed 11/20/24 LU: Commercial	Ridge Road/MD 27 Taylorsville, MD (County)

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-24-0026	RMD staff reported unknown non-stormwater flow draining from a commercial property to an open storm drain channel passing through County Road culvert and flowing to an open stormwater conveyance channel. Reported: 10/31/24 Category: Wastewater	An RMD NPDES Compliance staff contacted commercial food warehouse distributor who indicated the discharge was water condensate with no contaminants from refrigeration unit, being temporarily drained for maintenance. The discharge was deemed exempt a non-illicit discharge and an exemption under the MS4 permit.	Non-Illicit Discharge & (Exemption) Case Closed: 10/31/24 LU: Commercial	Avondale RD Westminster, MD (County)
PD-24-0027	Citizen reported failing septic tank leaking across lawn into County road with odor. Reported: 11/20/24 Category: Septic Overflow/Private	County RMD Environmental Inspector inspected the site, with no visible discharge initially. Follow-up inspection found a flow from septic cap overland to road but no odor. CC Health Department was notified, inspected the site, and determined it to be a failing septic system. CCHD provided notification to property owner for pumping the septic system. CC Health Department followed up with letter to MD administration to require septic replacement. Pumping down septic was completed, stopping the immediate discharge. CC Health Department is handling remediation.	Illicit Discharge Eliminated Case Closed: 12/03/24 LU: Residential	Gaither RD Sykesville, MD (County)
PD-24-0028	Mt. Airy Code Enforcement Staff reported suspected laundry grey water discharge to street and storm drain inlet. Reported: 12/04/24 Category: Sanitary/Grey Water	CC RMD NPDES Compliance Staff Specialist and CC Chief Plumbing Inspector investigated and confirmed gray water laundry discharge from sump pump pipe. CC Plumbing Inspector issued a plumbing code violation. Town of Mt. Airy issued NPDES MS4 Enforcement code letter with corrective measures, requiring compliance to eliminate discharge. Compliance was met.	Illicit Discharge Eliminated Case Closed: 12/30/24 LU: Residential	Hood Street Mount Airy (Municipal)
PD-24-029	Citizen reported individual pouring white liquid into storm drain inlet related to residential home improvement. Video clip provided. Reported: 12/18/24 Category: Wastewater (home improvement work)	City of Taneytown DPW staff and County NPDES Compliance Specialist performed an investigation and confirmed a white chalk-like material residual on inlet and in basin. No residual or white material was observed in the storm drain system near or in the stormwater bmp inflow point. City of Taneytown contacted the homeowner and issued a verbal and written NPDES MS4 Compliance Code Enforcement to have contractor immediately stop disposing of grout material wastewater into public storm drain inlet. Compliance met.	Illicit Discharge Eliminated Case Closed: 12/20/24 LU: Residential	Gantry Drive Taneytown, MD (Municipal)

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-25-0001	Citizen reported exposed salt pile storage on pavement behind commercial shopping center near storm drain system. Reported: 01/16/25 Category: Road Salt Storage	City of Westminster DPW Streets Department staff investigated and confirmed exposed salt pile and active loading operation area with salt spread out on pavement, with no operator on-site at noon break time. Delivered salt being loaded into metal storage bin. However, it appeared that all salt would not fit in storage bin. County NPDES Compliance Coordinator contacted the off-site property management company manager, who acknowledged they would contact their contractor and would promptly take care of it. Salt storage would be completed by the end of the day, and any surplus would be stored using best management practices by covering and diverting any stormwater run-on. County Salt Pile Management BMP guidance sheet provided. Follow up inspection confirmed compliance.	Potential Illicit Discharge Eliminated Case Closed: 01/24/25 LU: Commercial	Baltimore Blvd Westminster, MD (Municipal)
PD-25-0002	County Permits and Inspections staff reported used cooking oil/grease behind restaurant at commercial shopping center and vegetated grass swale from outfall discharge point with black staining. Reported 03/04/25 Category: Food Industry Used Cooking Oil and Outdoor Equipment Wastewater	County NPDES Coordinator investigated and confirmed used cooking oil on side of fats/grease recycling container and on large area of pavement and loading area with black staining, including a small pool area of congealed grease on pavement behind restaurant. Possible uncontrolled outdoor kitchen equipment washing activity also may have been occurring. Poor solid waste management with scattered litter from leaking trash dumpster. Activities causing staining in stormwater grass swale. CC Health Department referral was made, requiring compliance per state regulations.	Illicit Discharge Eliminated Case Closed: 03/20/25 LU: Commercial	Liberty Road Eldersburg, MD (County)
PD-25-0003	County RMD staff reported sewage odor along a section of Georges Run with areas of wet floatable mat material with sheen. Reported: 03/13/25 Category: Sanitary Sewer/ Public WWTP	NPDES Compliance Coordinator contacted upstream Town of Manchester DPW WWTP staff, who confirmed an equipment failure and discharges to Georges Run on February 19th, with notification to MDE Wastewater Compliance regarding repairs and effluent monitoring until completed. Noted on March 1st their WWTP discharges are routed to their spray field per their permit, with no discharges to stream after that date until next winter. Requested WWTP to send an additional notification regarding CCRMD observations to MDE Wastewater Compliance and address any measures. Discharge eliminated. Referral to MDE Wastewater Compliance. Note: This WWTP is scheduled for ENR upgrade construction in approximately 18 months.	Illicit Discharge Eliminated Case Closed: 03/20/25 LU: Industrial	Maple Grove RD Manchester, MD (Municipal)

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-25-0004	Mt. Airy Code Enforcement Staff reported a sanitary sewer overflow (private SSO from restaurant cleanout with broken pipe in driveway and parking area flowing to on-site storm drain inlet through Municipal MS4 to a dry private stormwater facility). Reported 03/25/25 Category: SSO/Private	Municipal Code Enforcement and DPW staff investigated. CC Health Department investigated and closed restaurant with corrective actions/instructions/repairs for the business to complete before re-opening. County RMD Environmental Inspector investigated confirmed extent/limit of discharges to a connecting dry private SWM facility. No odor noticed. No discharges detected at SWM network outfall. DPW staff addressed cleanup of municipal MS4 infrastructure. Restaurant's septic sewer crew completed repairs and restaurant re-opened per CCHD approval.	Illicit Discharge Eliminated Case Closed: 03/25/25 LU: Commercial	Ridgeside Drive Mount Airy, MD (Municipal)
PD-25-0005	Citizen reported several large oil drums filled with oil and no lids at rear of small commercial garage. Reported: 03/28/25 Category: Automotive Oil	City of Westminster DPW Streets Department staff investigated and spoke with owner who noted they were temporarily moved outside due to construction being performed during the day and would be returned inside same day. Good Housekeeping instructions provided including placing secured lids on drums. Follow up by DPW staff confirmed the drums were returned inside.	Potential Illicit Discharge Eliminated Case Closed: 03/31/25 LU: Commercial	Center Street, Westminster, MD (Municipal)
PD-25-0006	Town of Manchester DPW Staff reported possible laundry discharge flowing from private sanitary line to surface trickle, flowing toward municipal street and storm drain inlet. Reported: 04/02/25 Category: Sanitary/Grey Water	Town of Manchester investigated and confirmed laundry discharge coming from a suspected improper connection during recent remodeling. Apartment owner had difficulty determining issue in older building. Plumbing was corrected. Site monitored for 10 days and confirmed that the discharge has been eliminated.	Illicit Discharge Eliminated Case Closed: 05/19/25 LU: Residential	Long Lane Manchester, MD (Municipal)

Case #	Complaint & Date	Action Taken	Status	Jurisdiction/ Location
PD-25-0007	MDOT SHA's road construction contractor reported possible wastewater discharge pipe from residence discovered buried in the road base during road milling project within SHA R/W in Town of Sykesville. No discharge observed. Reported: 04/02/25 Category: Wastewater	Town of Sykesville DPW Director investigated and confirmed the pipe comes from the basement of a house fronting the state road. CC NPDES Compliance requested CC Plumbing Inspector to investigate per County plumbing code for possible illicit connection and/or rain leader nuisance discharge to street. Rain leader water rerouted to lawn and capped off at street by licensed master plumber. Determined non-illicit discharge connection per MS4 permit, but local nuisance code ordinance violation due to discharging into right of way that can cause pavement degradation and possible year-round unsafe road conditions in winter, possibly requiring unnecessary road salt.	Non-Illicit Discharge Case Closed: 06/24/25 LU: Residential	Springfield Ave/ MD 851 Sykesville, Md (Municipal)
PD-25-0008	Citizen reported to MDE Compliance requested investigation assistance regarding a cement truck performing washout into a public road storm drain inlet to check stream. Reported 04/03/25 Category: Wastewater Cement Truck Washout (Construction)	County NPDES Compliance Specialist investigated and confirmed a cement washout with small amount of gravel residual and residue behind the street inlet and onto grass shoulder and nearby woods. Observed nothing in stream, culvert, or stream bank 12' away, absorbed by forest floor. No evidence of concrete residual on inlet grate. Provided and reviewed investigation results to MDE noting no direct stream discharge or impacts to surface waters. Referral to MDE, noting further information from their reporting source needed including time and date to confirm action for further response.	Illicit Discharge Eliminated Case Closed: 05/19/25 LU: Commercial	Placid Drive Eldersburg, MD (County)
PD-25-0009	City of Westminster Code Enforcement staff reported vehicle with no front tag being worked on by resident with spill concern for drip pans left overnight with oil in townhome residential parking space near storm drain inlet. Reported:04/08/25 Category: Automotive Oil	County NPDES Compliance Coordinator investigated and confirmed drip pans filled with auto fluids, which is a BMP for leaking autos. Nearby storm drain inlets were clean. City of Westminster Code Enforcement Officer provided Good Housekeeping BMPs to car owner/resident noting if vehicles have leaks to have repaired and to regularly empty drip pans, with proper disposal at City oil recycling station. Code Enforcement Officer also issued a Notice of Violation for untagged car, per local regulations.	Potential Illicit Discharge Case Closed: 04/10/25 LU: Residential	Palmer Terrace Westminster, MD (Municipal)

NPDES MS4 Permit Annual Training

Property Management & Maintenance

Stormwater Pollution Prevention Workshop

(Manager/Supervisory Level)

Carroll County and Incorporated Municipalities

Phase I Municipal Separate Storm Sewer System (MS4) Permit Co-Permittees,
Phase II Permittee, and 20-SW Industrial Stormwater General Permit Holders

Friday, September 27, 2024

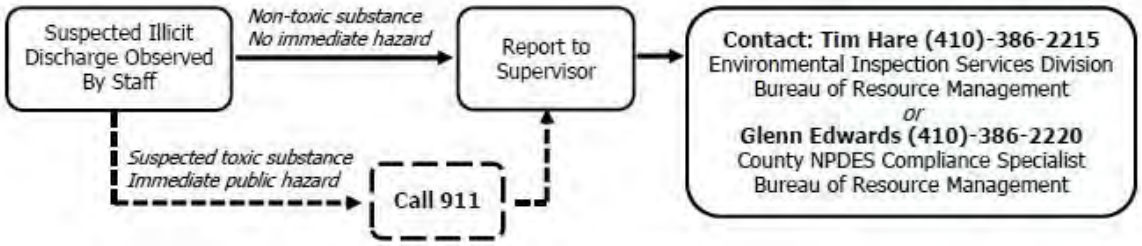
Carroll County Public Safety Training Center - 50 Kate Wagner Road, Westminster, MD

AGENDA

9:00 - 9:20 am	**Welcome and NPDES MS4 Permit Overview**	**Christopher Heyn** Director, Dept. Planning & Land Management Carroll County Government
9:20 - 9:50 am	**MS4 Permit Property Management & Maintenance**	**Mitch Masser** NPDES Compliance Specialist Bureau of Resource Management Carroll County Government
9:50 - 10:10 am	**Vehicle Washing Groundwater Discharge and Maintenance Shop Pollution Prevention**	**Tracey Rocca-Weikart** Geologist, Program Consultant, MDE Groundwater Discharge Permits Division **Harry Warfield, Jr., CHE.,MBA** Environmental Compliance Specialist II, MDE Groundwater Discharge Permits Division
	Break	
10:25 - 10:50 am	**New 20SW Industrial Stormwater Permit Implementation**	**John Agnoli** Environmental Section Chief Maryland Environmental Service
10:50 - 11:15 am	**Spill Response Preparedness/Safety Data Sheets (SDS)**	**Michael Robinson,** Director/Chief Department of Fire and Emergency Services Carroll County Government
11:15 - 11:25 am	**Employee Training Requirements and Resources**	**Glenn Edwards** NPDES Compliance Specialist Bureau of Resource Management Carroll County Government
11:25 - 11:30 am	**Q & A, Announcements & Wrap Up**	**Christopher Heyn** Director Dept. Planning & Land Management Carroll County Government

Notes:

MS4 Illicit Discharge Reporting and Response by Municipal or County Staff



Potential Pollutants Associated with Municipal Facilities

Facility Activity	Potential Pollutants								
	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen-Demanding
Building and grounds maintenance and repair	x	x	x	x	x	x	x	x	x
Parking/storage area maintenance	x	x	x	x	x	x	x		x
Waste handling and disposal	x	x	x	x	x	x	x	x	x
Vehicle and equipment fueling			x	x		x	x		
Vehicle and equipment maintenance and repair				x		x	x		
Vehicle and equipment washing and steam cleaning	x	x	x	x		x	x		
Outdoor loading and unloading of materials	x	x	x	x		x	x	x	x
Outdoor container storage of liquids		x		x		x	x	x	x
Outdoor storage of raw materials	x	x	x			x	x	x	x
Outdoor process equipment	x		x	x		x	x		
Overwater activities			x	x	x	x	x	x	x
Landscape maintenance	x	x	x		x			x	x

Modified from the California Stormwater BMP Handbook, www.cabmphandbooks.com

ACRONYMS

BMP Best Management Practice
DPW Department of Public Works
EPA U.S. Environmental Protection Agency
GHP Good Housekeeping Plan
IDDE Illicit Discharge Detection and Elimination
MDE Maryland Department of the Environment
MS4 Municipal Separate Storm Sewer System
NPDES National Pollutant Discharge Elimination System
NOI Notice of Intent (MDE beginning of discharge permit process)
SOP Standard Operating Procedures
SMP Salt Management Plan
20SW MDE's Industrial Stormwater Discharge General Permit (current)
SWM Stormwater Management
SWPPP Stormwater Pollution Prevention Plan
TMDL Total Maximum Daily Load

COMMUNITY PARTNERS FOR CLEAN WATER

Litter Management

Stormwater Pollution Prevention Best Management Practices

NPDES MS4 Permit Measure: Public Education and Outreach on Stormwater Impacts
Subcategory: Education for Business Community (Adapted from EPA-832-0320)

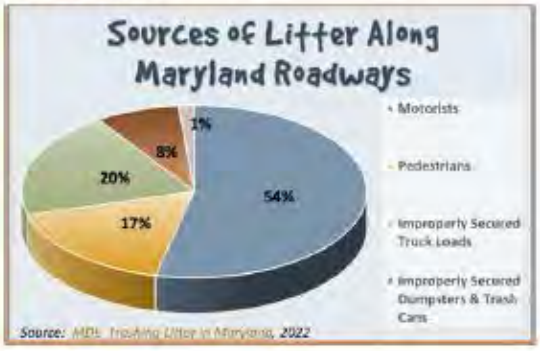
What Businesses Can Do To Reduce Litter

Businesses can be part of the solution to help reduce litter and prevent other potential pollutants from entering local streams, storm drain systems, and waterways. Clean surroundings and local waterways are important to your community's quality of life, good for business, improve the customer experience, and can raise property values. As a business owner or manager, we recognize you and your staff already play any important role in providing a healthy and positive customer experience. This fact sheet provides information and guidance your business may use to assess and promote effective litter management for your site with positive impact on water quality in your community's local streams and regional waterways.

Top 10 Types of Litter in Maryland

(Sources: Ocean Conservancy 2021 Report, CC Environmental Advisory Council "LitterLess - Resource Guide for Carroll County Residents")

1. Plastic bottle caps
2. Plastic beverage bottles
3. Food wrappers
4. Straws and stirrers
5. Cigarette butts
6. Aluminum beverage cans
7. Glass beverage bottles
8. Metal bottle caps
9. Plastic grocery bags
10. Other trash



Storm drain inlets are often collection points where grass clippings, leaves and litter can cause flooding and convey materials to waterways. Be sure to keep clean of debris for stormwater flow!

Why is Litter Management Important?

In many communities, litter has the potential to become a significant pollutant. Accidental or improper disposal can cause trash to blow overland and collect in waterways or be washed into storm drain systems, where large amounts can concentrate in small areas. Trash can become litter when it accidentally falls out of trash bins, vehicles, dumpsters, garbage trucks, or when improperly discarded. Litter mars the aesthetics of a landscape and poses threats to waterways, wildlife and human health. For example, litter can be a choking hazard for wildlife or cause bacterial contamination from items such as food wrappers or discarded cleaning wipes. When litter clogs storm drain inlets, pipes, and stormwater management ponds, it can cause flooding and damage infrastructure. Plastic litter can also break down into microplastics, which are challenging to remove from the environment and can be potentially toxic when consumed.

Good Housekeeping Practices

Employ these Good Housekeeping Practices
to help prevent litter and other potential pollutants from entering nearby waterways.

Three Simple Steps for Effective Litter Management

Businesses can take three simple steps to prevent pollutants such as litter from entering local waterways.

1. *Evaluate your site*. Using a plan sketch or aerial photo, walk your site and note the general direction of flow for stormwater runoff. Also identify inlets, curb openings, outfalls, stormwater facilities and waterways. Note the general wind direction.

2. *Identify any potential litter sources*. Note specific areas where litter tends to collect on-site or may routinely blow off-site, and determine the major types such as bottle caps, etc. Check nearby stormwater infrastrucure (inlets, outfalls, etc.), ditches, streams, and waterways. Identify potential litter sources, such as trash receptacles, dumpsters, outdoor eating areas, storage sheds, and loading/unloading areas. Identify specific activities with potential to cause litter or other pollutants such as grease receptales, fueliing stations, drive through, and car cleaning areas.

Sample Business Activities	Common Pollutants					
	Bacteria	Erosion & Debris	Excess Nutrients	Heavy Metals	Oil & Grease	Toxic Chemicals
Engine Maintenance & Repair		✓		✓	✓	✓
Food Service & Production	✓	✓	✓		✓	✓
Gas Stations		✓		✓	✓	✓
Washing Vehicles, Equipment, etc.	✓	✓			✓	✓
Waste Handling	✓	✓	✓	✓	✓	✓
Landscaping		✓	✓	✓		✓
Parking Lots, Sidewalks, Paved Areas	✓	✓	✓		✓	

Source: Adapted from Clean Water Partners, Make it your business to reduce water pollution and flooding. Partnership for the Delaware Estuary, Inc., http://www.delawarerivers.org/, September 6, 2015.

3. Take action. If you have any areas that can improve litter management, put together a simple checklist of Good Housekeeping practices from the menu provided. Determine a schedule if needed, educate your staff, and begin implementation with your team. Follow up periodically with self inspections and make adjustments as needed.

Good Housekeeping Practices for Litter Management

- Provide customers and employees with an adequate number of trash, recycling, and cigarette receptacles in convenient locations.
- Check and collect trash from receptacles before overflowing. Ensure loose items on the ground are picked up and bags are sealed.
- If trash receptacles have lids, keep them secure.
- Keep dumpster lids and side doors closed. Regularly inspect waste management area for loose trash. Require trash haulers to pick up litter that falls out during transfer.
- After mowing, blow grass clippings onto lawn areas.
- Sweep sidewalks and high traffic areas periodically to remove debris. Sweep outside around front and back doors to control debris, cigarette butts, and loose litter. Dispose of materials in the garbage. Do not dispose of any materials in a storm drain.
- Regularly check on-site stormwater inlets and facilities for litter or improper dumping of liquids such as automotive fluids, or wastewater, consider labeling on-site storm drain inlets to remind everyone that only rain should enter storm drain systems.
- Use customer friendly signage to help direct customers to use good housekeeping measures.
- Provide training to employees. Make staff aware that litter management is everyone's responsibility not only as a good business practice but also as a stormwater pollution prevention measure to help protect local waterways and improve water quality.
- Perform regular on-site visual inspection for litter along the perimeter and neighboring properties. Look for windblown or improperly discarded trash, and safely collect if able or coordinate as needed. Look for opportunities to improve.

For more information, help, or guidance contact:

Carroll County Bureau of Resource Management
225 N. Center Street, MD 21157
Phone: 410-386-2210

Or your municipality:

Hampstead	410-374-2761	Manchester	410-239-3200
Mount Airy	410-795-6012	New Windsor	410-635-6575
Sykesville	410-795-8959	Taneytown	410-751-1100
Union Bridge	410-775-2711	Westminster	410-848-9000

For general information about stormwater pollution prevention, visit the "Protecting Carroll County Waters" : webpage at:
https://www.carrollcountymd.gov/government/directory/planning-land-management/protecting-carroll-county-waters-npdes/

EVENT FOOD VENDOR

USED COOKING OIL

RECYCLING

Containers / Shed

Please take "Used Cooking Oil" with you in your secured containers or use on-site designated Event Food Vendor Used Cooking Oil Recycling Containers

(Please do not leave your containers).

Got a Spill? Contact Event Staff Immediately to assist with dry clean up measures. Thank You!

Name: **Phone:**

No Dumping!

It is illegal to allow anything other than rainwater to be discharged to a storm drain inlet.

No Dumping of Wastewater

- **NEVER dump wastewater (from cooking, steamer trays, pots, dish washing, cleaning, or other food preparation activities) into or near a storm drain inlet**
- Follow local MD Health Department guidelines for wastewater disposal.
- All wash water used for cleaning, including mop water, must be contained on board until it can be properly disposed of off-site at an approved sanitary sewer connection (cleanout or mop sink).
- No Dumping or opening of valves from holding tanks of gray water (wash water, cleaning water, etc.) or other tanks is permitted on-site. Make sure all tank caps and valves are closed at set-up to prevent leaks outside.

CARROLL COUNTY FARM MUSEUM

Food Vendor Pollution Prevention Guidelines

All Farm Museum storm drain inlets and stormwater runoff discharges to a local on-site stream.

Used Cooking Oil Management

- **NEVER pour cooking oil or grease down a storm drain inlet, or onto the pavement or ground.**
- Follow local MD Health Department guidelines. Place tarp on pavement or ground to catch oil/grease drippings. Also consider an oil absorbent pad on top of the tarp to prevent runoff.
- Do not store used cooking oil and grease containers outside of vendor truck or unit. If containers must be stored outside, store under cover or within secondary containment such as a plastic storage tub/bin.
- Please take used cooking oil with you in secured containers or dispose of in the designated on-site receptacles for recycling. See Map for location. Please do not leave your containers.
- **Got a spill? Please contact event staff immediately to assist with dry clean up measures. Thank You!**

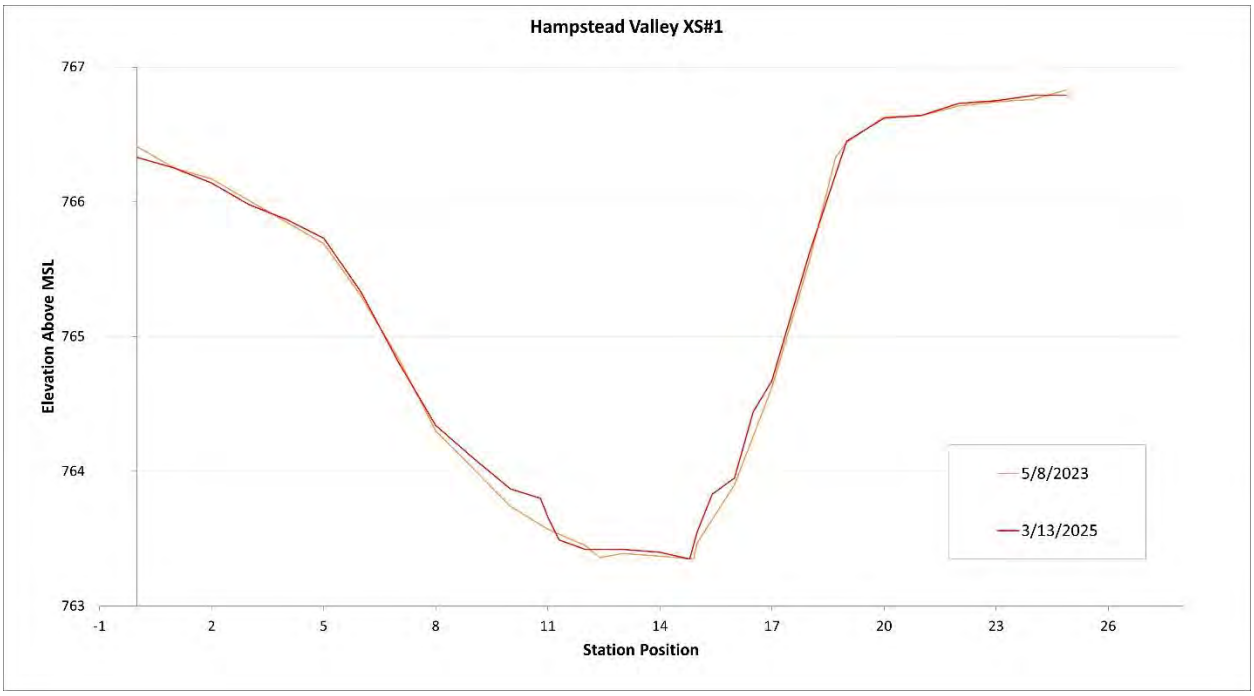
Proper Cleanup Procedures

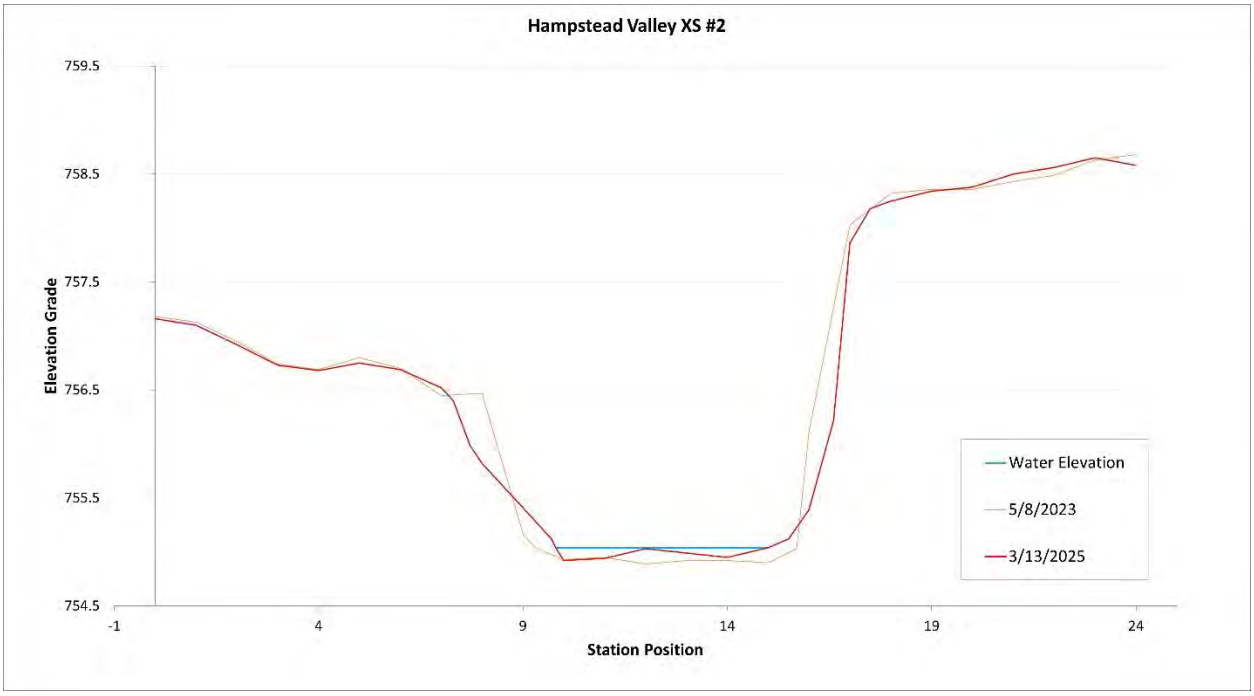
- **Dry clean-up measures should be used on spills and drips. These can include paper towels, rags, absorbents such as clay kitty litter.**
- Follow local MD Health Department guidelines.
- Fats, oils, grease, or other liquids (e.g. cleaners or cleaning wastewater) should never be dumped into a storm drain inlet or onto pavement or the ground.
- All food waste generated by food vendors must be removed by each vendor. You may either take it with you or dispose of it in tightly sealed trash bags and placed in designated trash receptacles on-site.
- No hazardous wastes (such as cleaning solvents) are to be disposed of on-site. These items must be taken with you for proper disposal.
- Exterior and interior washing or cleaning of vehicles that discharges to the ground is not permitted on-site.
- Cleaning of floor mats, exhaust baffles, etc. is not permitted on-site.
- Check around vehicle or cart for leaks or litter and clean up as necessary before leaving.

Appendix D:
Monumented Cross Sections

Monumented Cross Sections

- **Physical Stream Assessment, Sections 1-9 (graphs)**


Hampstead Valley XS#1
Elevation Above MSL
767
766
765
764
763
-1
2
5
8
11
14
17
20
23
26
Station Position
5/8/2023
3/13/2025


Hampstead Valley XS #2
Elevation Grade
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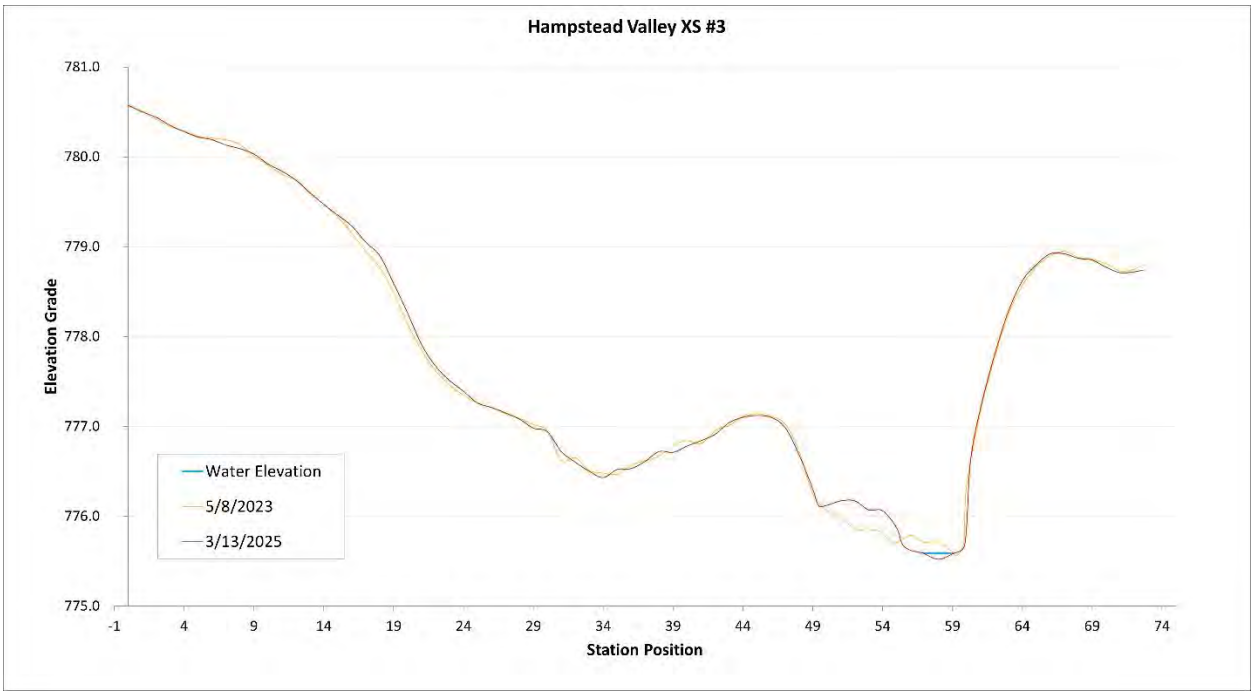
758.5
757.5
756.5
755.5
754.5
-1
4
9
14
19
24
Station Position
Water Elevation
5/8/2023
3/13/2025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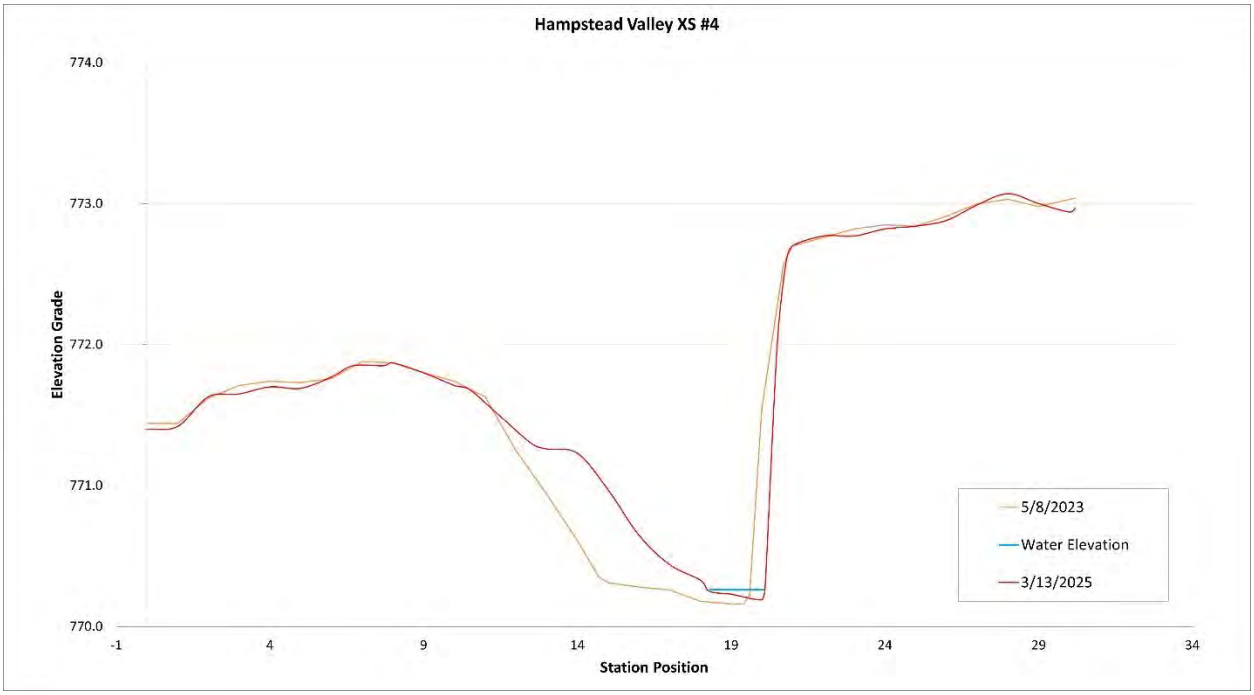
781.0
780.0
779.0
778.0
777.0
776.0
775.0
Elevation Grade
Water Elevation
5/8/2023
3/13/2025
-1
4
9
14
19
24
29
34
39
44
49
54
59
64
69
74
Station Position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771.0
770.0
Elevation Grade
5/8/2023
Water Elevation
3/13/2025
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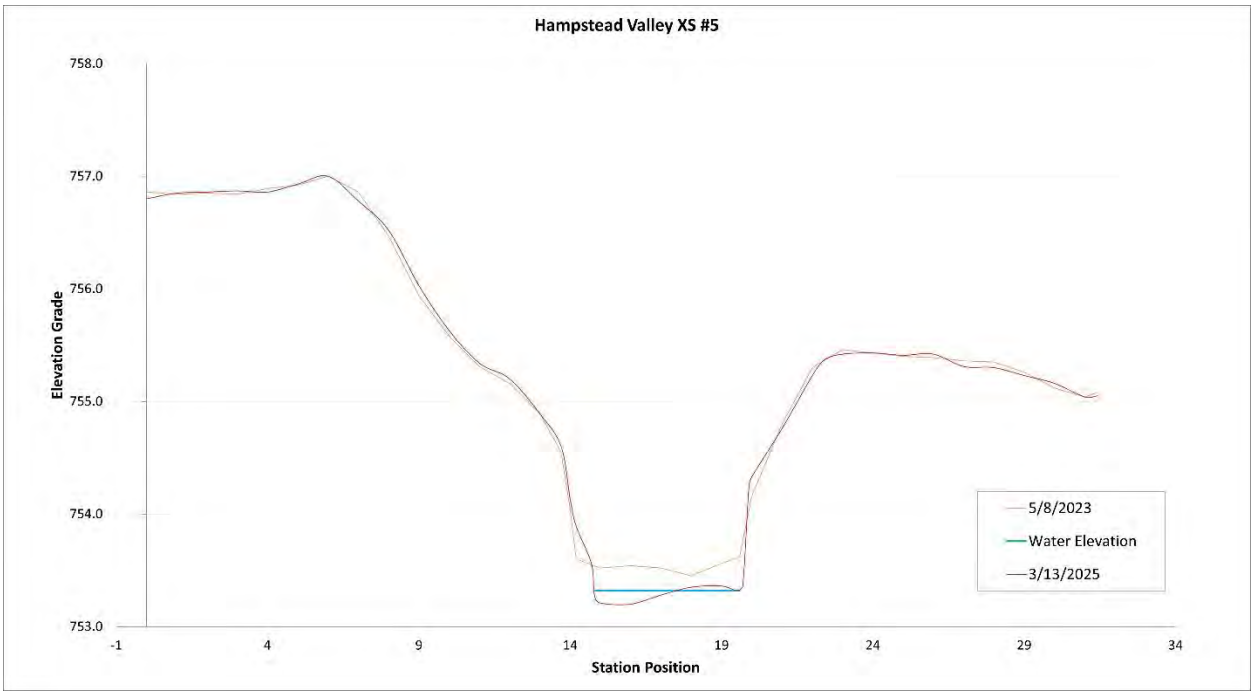
24
29
34
Station Position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Elevation Grade
Station Position
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757.0
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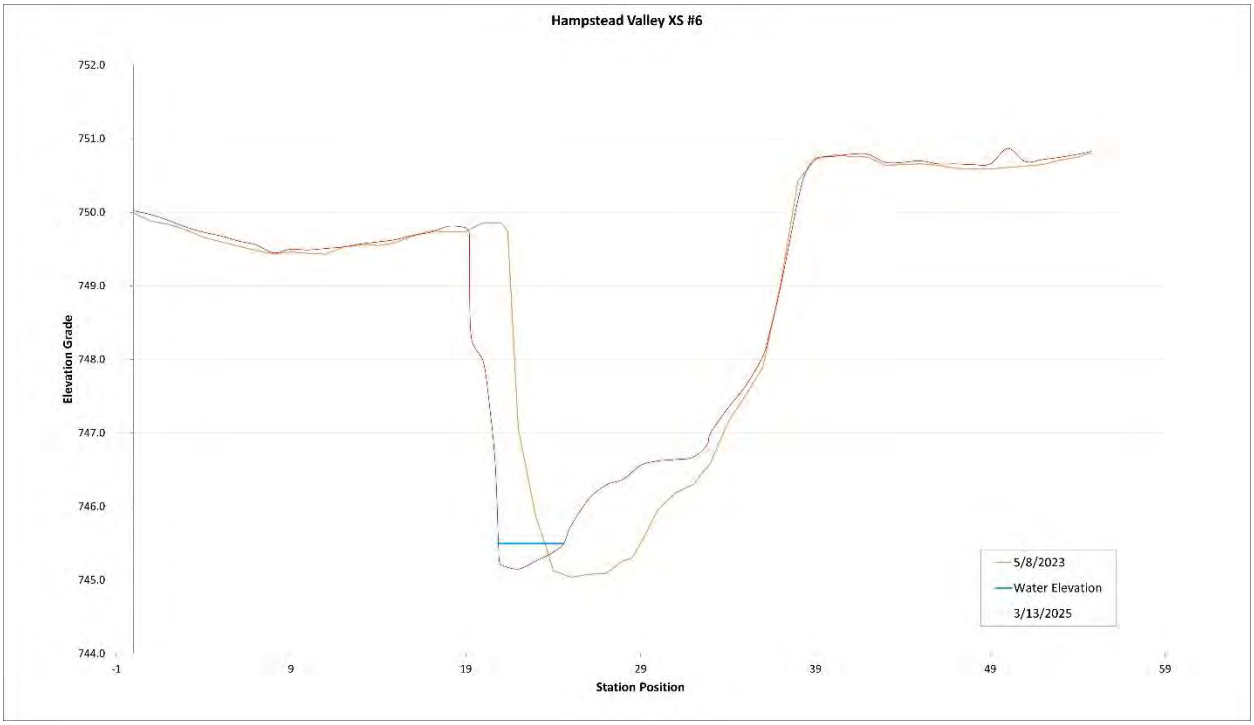
5/8/2023
Water Elevation
3/13/2025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Elevation Grade
Station Position
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747.0
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19
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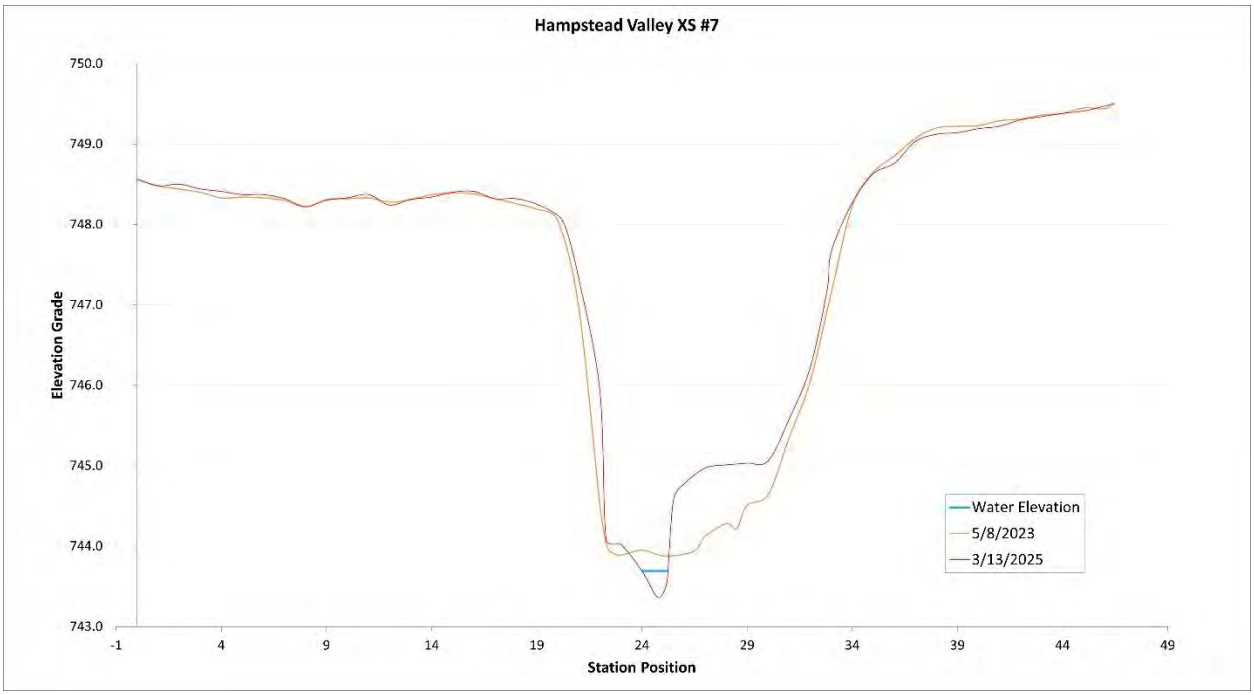
39
49
59
5/8/2023
Water Elevation
3/13/2025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Elevation Grade
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44
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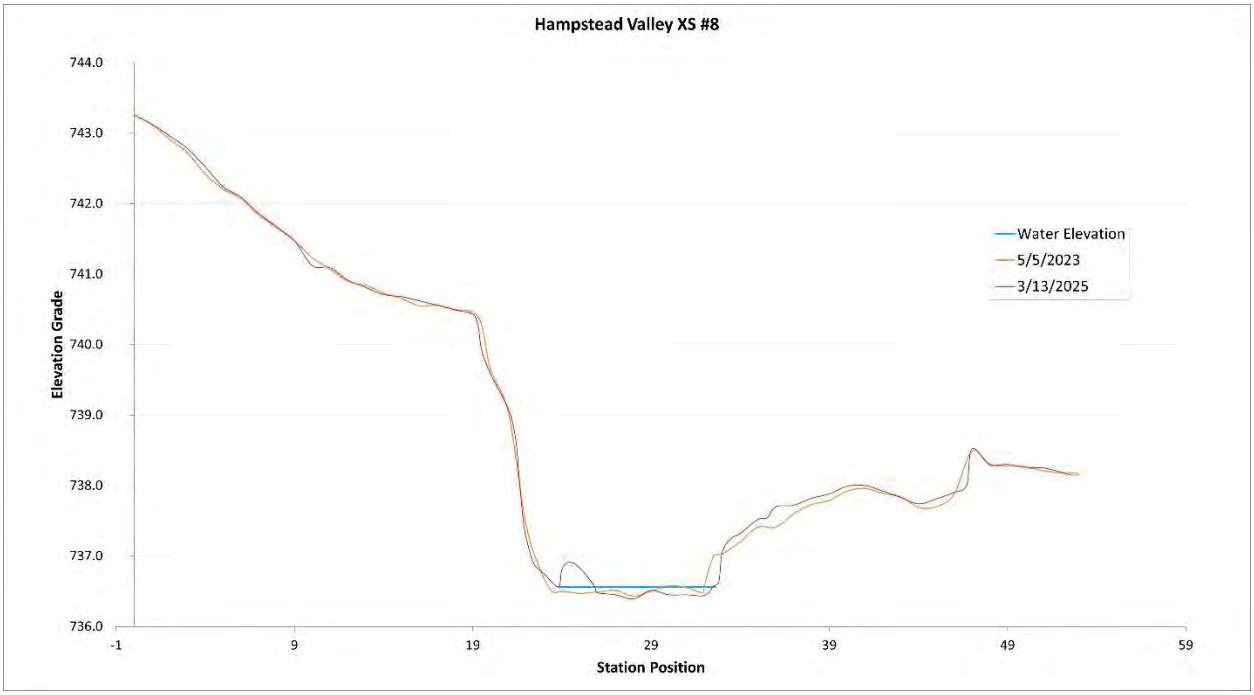
Station Position
Water Elevation
5/8/2023
3/13/2025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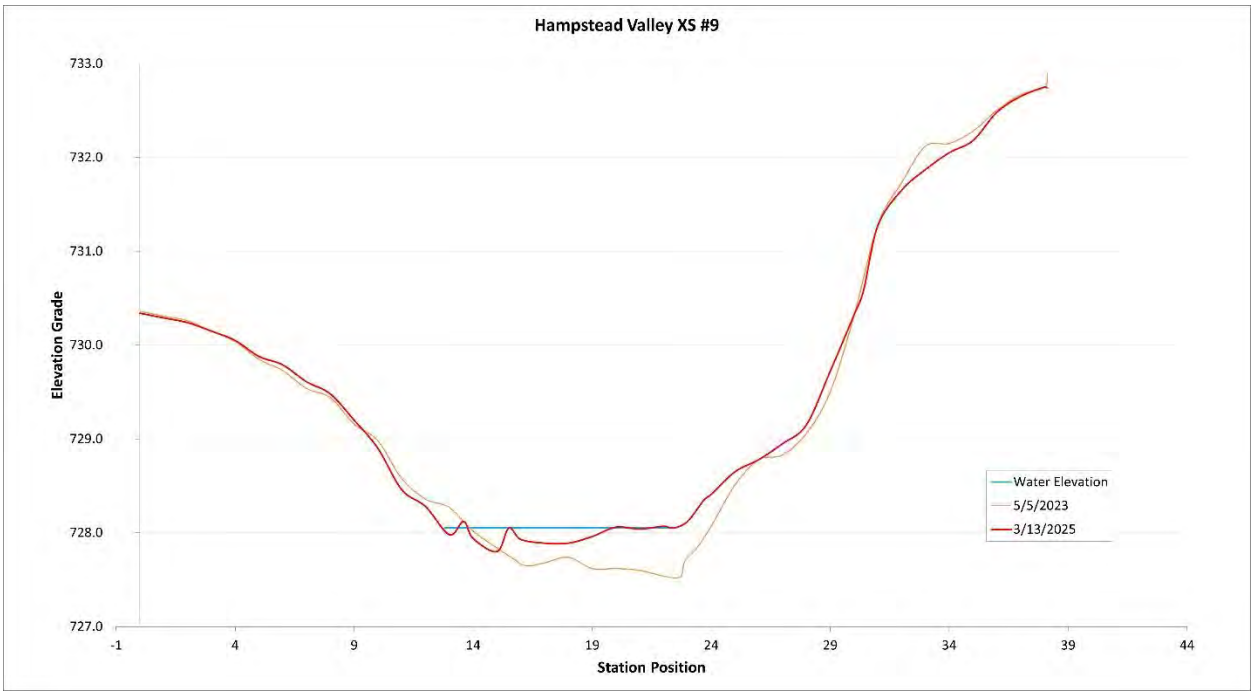
49
59
Station Position
Water Elevation
5/5/2023
3/13/2025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730.0
729.0
728.0
727.0
Elevation Grade
-1
4
9
14
19
24
29
34
39
44
Station Position
Water Elevation
5/5/2023
3/13/2025

Appendix E:
Macroinvertebrate Taxonomic Results

Macroinvertebrate Taxonomic Identifications Results

Macroinvertebrate Taxonomic Identification Results

Order	Family	Taxon	# Individuals
Opisthopora			1
Tubificida	Naididae		3
Coleoptera	Elmidae	Optioservus	1
Diptera	Chironomidae		1
Diptera	Chironomidae		1
Diptera	Chironomidae	Chaetocladius	3
Diptera	Chironomidae	Cricotopus	3
Diptera	Chironomidae	Cricotopus/Orthocladius	7
Diptera	Chironomidae	Nilotanypus	1
Diptera	Chironomidae	Orthocladius	6
Diptera	Chironomidae	Parametriocnemus	11
Diptera	Chironomidae	Polypedilum	26
Diptera	Chironomidae	Rheocricotopus	2
Diptera	Chironomidae	Rheotanytarsus	1
Diptera	Chironomidae	Rheotanytarsus	7
Diptera	Chironomidae	Thienemannimyia gr.	7
Diptera	Chironomidae	Trissopelopia	1
Diptera	Chironomidae	Tvetenia	7
Diptera	Chironomidae	Zavrelimyia	2
Diptera	Empididae		2
Diptera	Empididae	Hemerodromia	5
Diptera	Empididae	Neoplasta	1
Diptera	Psychodidae		1
Diptera	Simuliidae	Simulium	4
Diptera	Tipulidae	Antocha	1
Ephemeroptera	Ephemerellidae	Eurylophella	1
Trichoptera	Glossosomatidae		1
Trichoptera	Glossosomatidae	Glossosoma	1
Trichoptera	Hydropsychidae	Cheumatopsyche	19
Trichoptera	Hydropsychidae	Diplectrona	5
Trichoptera	Hydropsychidae	Hydropsyche	1
Trichoptera	Philopotamidae	Chimarra	3
Trichoptera	Uenoidae	Neophylax	4
		Turbellaria	3
		Total Individuals	143
		Total Taxa	34

Appendix F:
Geodatabase Comments

Comments on MDE Geodatabase Design and Documentation

Appendix F

Carroll County maintains an MS4 geodatabase throughout the permit year. This geodatabase contains data specifically requested by MDE and additional data that Carroll County staff and personnel have determined is useful to conduct operations. At the conclusion of the permit year, the data contained within the County's geodatabase is migrated to the geodatabase designed by MDE. This is done to abide by the format MDE requires the data to be submitted in and to filter out any extraneous data used only by the County.

The following comments, questions, and suggestions were generated during the data migration into the latest GDB from MDE (July 2025).

Tables and Feature Classes

BMP

- PE_PRE_CONV:
  - We are continuing to work through checking and updating the PE_PRE_CONV field within our data as necessary and expect to complete the process with next year's geodatabase submission.

- Redevelopment Scenarios
  - We are continuing to work through the incorporation of redevelopment BMPs within a single record. We expect to populate these fields for next year's geodatabase submission.

AltBMPPoly

- Annual Practice Records:
  - We appreciate the updated Appendix D guidance on the use of the BMP_STATUS field for annual practices. This year's GDB submission reflects these changes; previous years' records have been updated to "Removed," while this year's records are listed as "Active."

Appendix G:

Mt. Airy Phase II MS4 Permit

Town of Mount Airy
Phase II Permit Requirements

APPENDIX G

Supplemental Reporting: Town of Mount Airy (Frederick County Side)

National Pollutant Discharge Elimination System
General Permit for Discharges from Small Municipal Separate Storm Sewer Systems
General Discharge Permit No. 13-IM-5550 General NPDES No. MDR055500

Permit Area: Town of Mount Airy (Frederick County Side)
Effective Date: October 31, 2018
Expiration Date: October 30, 2023

Permit Status: MDE / Administratively Extended

Purpose and Background

The purpose of this appendix is to provide supplemental information to describe, highlight and demonstrate active implementation of the Town of Mount Airy's Phase II MS4 permit requirements issued for its jurisdictional area within Frederick County.

As in past years, the Carroll County Phase I MS4 Annual Report provides information for both the Phase I co-permittees (i.e. the County and eight municipalities, including the Carroll County side of Mount Airy) and the Frederick County side of Mount Airy for its Phase II requirements. Programmatic information continues to be reported in this narrative, as well as in the associated GDB on the Appendix B CD. MDE has affirmed in discussion and within the enclosed correspondence that, "under the conditions of the MS4 general permit, any permittee may enter into an agreement with another State, federal, or municipal partner to satisfy one or more of the permit obligations."

A December 2014 Memorandum of Agreement (MOA) between Carroll County and the eight municipalities – including Mount Airy – contained provisions for the County to perform numerous programs and duties in coordination with each municipality to meet Phase I MS4 permit requirements. Per MDE guidance, a formal MOA between the Town of Mount Airy and Carroll County (enclosed) was entered into on March 10, 2022, and documented the coordinated responsibilities in support of permit compliance for the Phase II permit that have been in place since the issuance of the Phase II permit. The Phase II permit requirements for the Frederick County side of Mount Airy have been and are being met through the existing partnership with Carroll County, as validated by an MDE October 17, 2019, letter and subsequent MDE reviews and communications (enclosed).

MDE notified NPDES Phase II MS4 permittees in October 2023 that the current permit would be administratively extended after its expiration date, and that permit requirements and conditions would continue to be in effect. On June 26, 2024, MDE provided direction to the Town regarding the Phase II Permit for the Frederick County portion. The letter indicated that the Town does not need to submit a Notice of Intent (NOI) during the permit renewal process

because the entirety of the municipal boundary is covered under the Phase I Carroll County MS4 Permit as a co-permittee. This was affirmed in the FY2024 Carroll County Annual Report Review sent by MDE on April 9, 2025. The Town and County are working to update the existing MOA to reflect these changes. Beginning with the FY2026 Annual Report, this appendix will be retired, and data related to the Frederick County side of Mount Airy will be fully incorporated into the narrative.

Impervious Acreage Baseline

The table below summarizes the impervious acreage for the Frederick County side of Mount Airy: the total amount, the amount currently treated by stormwater management, the remaining untreated impervious acreage, and 20% of the remaining untreated acreage.

Frederick County Side of Mount Airy	
Area	**Acres**
Total Impervious Area	197
- Treated Impervious Acres (IA)	66
Untreated IA	***131***
Restoration Requirement = 20% of Untreated IA	***26***

Restoration Planning and Implementation

The Town of Mount Airy has worked closely with the Carroll County Resource Management Division on restoration efforts at two locations. In the fall of 2016, the Town identified the Twin Ridge stormwater management facility as a site they would be interested in retrofitting. Numerous maintenance issues had been identified through maintenance inspections, and this was one of the Town's oldest facilities, with a large amount of untreated impervious acreage. The project was put out to bid for construction in January 2020. Construction is now complete, and the facility has been as-built approved.

In December 2017, a Request for Proposal was issued for the Woodville Branch watershed study. The purpose of this study was to determine the most cost-effective way to improve treatment of impervious area in the watershed. From that study, it was determined that the East West Pond (new construction) would be the second restoration project in the Phase II area. The project received grant funds from the MDE Bay Restoration Fund. It was designed and put out to bid for construction in July 2020. Construction is now complete, and the facility has been as-built approved.

The chart below provides summary information for restoration projects relating to the Phase II permit requirements.

Mount Airy Projects - NPDES Phase II (Frederick County)						
Year	**Project Name**	**Project Type**	**Watershed**	**Project Status**	**Cost**	**Impervious Area Credit**
2021	Twin Ridge	Retrofit	Lower Monocacy	Complete	$802,690	25.2
2022	East West Pond	New Construction	Lower Monocacy	Complete	$1,334,605	53.0
					Total	***78.2***
					% of Baseline Treated	***59.7%***

In preparation for the next generation of MS4 permits, the Town of Mount Airy has proactively addressed both current and future impervious restoration requirements by providing treatment far above the current permit's 20% restoration requirement. In MDE's 2023 Annual Report Review, it was confirmed that the Town is in compliance with the Phase II general permit and has achieved the required restoration of the current permit. Additionally, MDE confirmed that this extra restoration achieved can be put toward the restoration requirements of the next permit term.

Minimum Control Measures (MCMs)

The Town of Mount Airy has provided information on implementation of Phase II Minimum Control Measures (MCMs) for incorporation into the Carroll County Phase I Annual Report. Many of these MCM-related efforts are discussed in the corresponding Phase I sections of the main report. The table below lists the corresponding section(s) where this information can be found and highlights specific progress related to each MCM.

MCM Cross Reference Table

Phase II MS4 Permit MCM #	Phase II MS4 Permit Minimum Control Measure		CC Phase I MS4 Report Section *Part IV.D Standard Permit Conditions – Mgmt. Programs*	Comment
MCM #1	**A. Public Education and Outreach**	**6. Public Education 5. PMM (Staff Training)**	**See Phase I Report Narrative**	

- **Report Water Quality Complaints:** Municipal website "Report a Concern," office phone number, or Water and Sewer Commission webpage link to co-permittee Carroll Co. Stormwater Pollution Hotline to report water quality issues, coordinated with Town personnel.

- **Determine the Target Audience:** Mount Airy Sustainability Commission (MASC) (Maryland Certified) consists of nine residents and Town Council member with Town staff liaison. Their charter is to "encourage, teach, and promote the activities, duties, and other needed actions to achieve the Maryland Sustainable Certification and increase the benefits to our Town, our environment, and our residents by ensuring green sustainable activities as part of our daily lives." MASC makes recommendations to the Town Council on reasonable environmentally friendly policies and practices and advises mayor, staff, and Council on zoning and planning measures. MASC also provides stormwater runoff and pollution prevention guidance, with support from Phase I co-permittee Carroll Co. NPDES and RMD staff.

- **Distribute Stormwater Educational Materials:**

Phase II MS4 Permit MCM #	Phase II MS4 Permit Minimum Control Measure	CC Phase I MS4 Report Section *Part IV.D Standard Permit Conditions – Mgmt. Programs*	Comment

- Materials available in the Town Hall foyer, on the municipal website, in newsletters, and at public education & outreach booth events.
- Municipal website provides:
  - A variety of materials and resources promoting environmental/green practices that residents can implement at home and in the community
  - Information on water quality and stormwater pollution prevention
  - A link to the Carroll Co. NPDES public education websites, etc.
  - Public announcements.
- Town educational forums for related subjects and sponsored community events.

- **Annual Employee Training:** Regular NPDES MS4 permit stormwater pollution prevention training provided, with emphasis on reducing pollutants through implementation of Good Housekeeping Best Management Practices in property management and maintenance activities. See also MCM #6. Training is provided by staff and also coordinated with Carroll Co. RMD NPDES Compliance Coordinators.

- **Education and Training Programs:** Programs have helped the general public and staff to increase their awareness of conditions of our waterways, potential pollutant sources, and everyday activities that can result in stormwater runoff contaminants entering and exiting the MS4. Implementing stormwater pollution prevention practices through intentional community efforts help to support municipal staff in protecting the Town's MS4 and waterways.

MCM #2	B. Public Involvement and Participation	6. Public Education 4. Litter and Floatables.	See Phase I Report Narrative

- **Target Audience for Public Involvement and Participation Activities:** This was developed and shaped through the formation of the Maryland Certified Mount Airy Sustainability Commission (MASC) and in working with the Town Council, Town of Mount Airy Main Street Association, Community Development, Recreation and Parks Board, Water and Sewer Commission, and staff. The target audience reflects an on-going cooperative community development effort with a focus on residents working with the business community, civic groups, volunteers, municipal leadership, boards and commissions, and municipal staff support.

- **Specify Activities for Target Audience to Promote Participation**:
  - Teaching and instruction through demonstrations and exhibits.
  - Interactive public education outreach booth at municipal events, markets, festivals, etc.
  - Educational forums on social media
  - Community garden demonstrations on water conservation, mulching, rain barrels, etc.
  - Community beautification and clean-up events and litter clean-up events.
  - Municipal Adopt-A-Road program – two-year commitment, four times per year
  - Weed Warrior program
  - Recreation and Parks – park, weed control, and stream clean-up days

- **Public Events**
  - Mount Airy Farmer's Market Town Info Booth: Outreach Materials and Public Interaction, May – June 2025, Wednesdays, 8 events hosted by staff and volunteers.
  - Let's Talk Trash Litter Challenge: Hosted same day litter cleanup event at 65 locations w/ 52 town participants including 3 staff, Mount Airy's Total: 2,300 lbs. of trash.

Phase II MS4 Permit MCM #	Phase II MS4 Permit Minimum Control Measure	CC Phase I MS4 Report Section *Part IV.D Standard Permit Conditions – Mgmt. Programs*	Comment
	> Mount Airy Shred and Battery Collection: 9,850 lbs. of shredding, 168 lbs. of batteries. W/10 participants including 1 staff. > Mount Airy Bulk Trash Day: 1 day collected 13.35 tons of bulk trash from residents. > Town of Mount Airy Adopt-A-Road Program - Year-round, 2,260 lbs. of trash. > Town of Mount Airy Staff Clean-ups: 6,120 lbs. of litter. Year-round. > Weed Warriors – Invasive Plant Species Removal - Vegetation Management - 4 x per year > Mount Airy Sustainability Commission MASC Public Meetings – 6x per year > Recreation and Parks Board Monthly Meetings - 12x per year • **MS4 Progress Reports:** Information on the Town of Mount Airy Phase II MS4 permit progress is provided by the Town for incorporation into the Carroll Co. Phase I MS4 Permit Annual Report. o Past and present annual reports can be accessed from the following County website: **https://www.carrollcountymd.gov/government/directory/planning-land-management/protecting-carroll-county-waters-npdes/annual-reports/** Comments regarding the Town of Mount Airy Phase II MS4 Permit progress reporting may be addressed to: Attention: Town Administrator Re: Town of Mount Airy Phase II MS4 Permit Progress Report 110 S. Main Street P.O. Box 50 Mount Airy, MD 21771		
MCM #3	**C. Illicit Discharge Detection and Elimination (IDDE)**	**3. Illicit Discharge Detection and Elimination (IDDE) with Appendix C**	**See Phase I Report Narrative**
	• **MS4 Storm Drain System Map:** A municipal storm drain system map for the entire corporate limits was initially developed under previous Town and Carroll Co. MS4 permits. Mapping for the Phase II permit area (Frederick Co. portion) is maintained and regularly updated by Carroll Co. RMD NPDES Compliance Coordinators using GIS. Field verification is by Mount Airy DPW and Carroll Co. NPDES Compliance staff. Updates to stormwater infrastructure (e.g. for new development), including stormwater BMPs, is provided through the as-built process. Quality control is performed by both Town and County staff. Hard copy and digital maps are provided to the Town. • **Municipal Ordinance Chapter 94A Storm Sewer Systems**: The "Town of Mount Airy Environmental Management of Storm Sewer Systems Ordinance" prohibits illicit discharges to the MS4 and provides legal access to private property to investigate and eliminate illicit discharges and/or connections. • **Develop, Implement and Submit Written Standard Operating Procedures (SOP):** The SOP manual, "Illicit Discharge Detection and Elimination Manual, A Guidance Manual for Carroll Co. Government and Municipalities of Carroll Co., MD" was previously submitted with MS4 Annual Reports and was reviewed and approved by MDE. The manual outlines the procedures utilized with Municipal Ordinance Chapter 94A and describes coordination with adjacent and interconnected MS4 operators. The IDDE program is coordinated between the Town of Mount Airy Municipal Code Enforcement and Carroll Co. Resource Management Division NPDES Compliance staff. **Appendix B** • **IDDE Outfall Screening Process Documentation:** The latest outfall screenings were performed by Carroll Co. NPDES Compliance Coordinators in coordination with Mount Airy DPW staff during FY2025.		

<table>
<tr><th>Phase II MS4 Permit MCM #</th><th>Phase II MS4 Permit Minimum Control Measure</th><th>CC Phase I MS4 Report Section
Part IV.D Standard Permit Conditions – Mgmt. Programs</th><th>Comment</th></tr>
<tr><td colspan="4">Records, results, investigations, and enforcements are documented and maintained by Carroll Co. RMD.
> 20% or 8 IDDE screenings required. Eight IDDE screenings performed. No illicit discharges.
> Results: 7 No Flow, 1 Flow tested, no contaminants present. Natural groundwater and/or SWM discharge source flow.
> Results documented and infrastructure condition provided.

• IDDE Program Investigation Records: Town of Mount Airy Code Enforcement leads and coordinates IDDE investigations with Carroll Co. RMD NPDES Compliance staff, who provide guidance on- and off-site as needed. Investigations are processed until resolved. Mount Airy administers enforcement per Chapter 94A, consistent with permit requirements. RMD tracks and documents each IDDE investigation in their database, and program records are maintained and available for MDE field review. Investigations are also tracked and documented internally by Mount Airy Code Enforcement.
> IDDE investigation results are included in the Carroll Co. Phase I Report, Part IV.D.3 and Appendix C. No IDDE incidents reported in this jurisdictional area during the permit year.</td></tr>
<tr><td>MCM #4</td><td>D. Construction Site Stormwater Runoff Control</td><td>2. Erosion and Sediment Control</td><td colspan="2">See Phase I Report Narrative</td></tr>
<tr><td colspan="4">• This program is delegated to Carroll Co.</td></tr>
<tr><td>MCM #5</td><td colspan="2">E. Post Construction Stormwater Management</td><td>1. Stormwater Management</td><td>See Phase I Report Narrative</td></tr>
<tr><td colspan="4">• This program is delegated to Carroll Co.</td></tr>
<tr><td>MCM #6</td><td>F. Pollution Prevention and Good Housekeeping</td><td>5. Property Management and Maintenance</td><td colspan="2">See Phase I Report Narrative</td></tr>
<tr><td colspan="4">• Annual Training: Regular employee stormwater pollution prevention training to reduce pollutants is provided and performed annually. Training provides an emphasis on implementation of Good Housekeeping BMPs in property management and maintenance activities including street sweeping, storm drain inlet cleaning, winter weather salt management, and vegetation management. Additional topics include IDDE, spill control and clean-up measures, 20 SW Industrial Stormwater Pollution Prevention Plan, etc. Trainings are provided through educational videos, in-person/on-the-job instruction, BMP shop posters, and BMP guidance manuals. Training Materials examples can be found in the “Carroll Co. Property Management and Maintenance Resource Guide.”
> Mount Airy DPW MS4 Good Housekeeping/BMP training: 07/08/25 - 14 Employees
> Mount Airy DPW 20SW SWPPP Training: 07/08/2025 - 9 Employees
> Carroll County Annual NPDES MS4/20SW Permit Stormwater Pollution Prevention Manager/Supervisory Training: 09/27/2024 - 1 staff (See Appendix C for Agenda).
> Winter Maintenance Salt Management Training: 6 Employees

• Good Housekeeping Plan – Permittee-owned Properties:
> Maintenance of vehicles and heavy equipment, fuel, deicer, herbicides, and road maintenance materials are stored at the Mount Airy Public Works Shop, which is an MDE 20SW Industrial General Permit permitted facility with SWPPP.</td></tr>
</table>

Phase II MS4 Permit MCM #	Phase II MS4 Permit Minimum Control Measure	CC Phase I MS4 Report Section *Part IV.D Standard Permit Conditions – Mgmt. Programs*	Comment
	> Deicers are used for public streets and parking lots. Herbicides are applied for weed control along streets and municipal parks, including five parks in the Frederick Co. portion. > Good Housekeeping BMP Fact Sheets: "Carroll County Property Management and Maintenance Resource Guide," including Pollution Prevention BMP Guidance Manual, is kept at the DPW Maintenance Shop. • **20SW Permitted Facility – Mount Airy Public Works Maintenance Shop** > Renewal MDE Registration: 08/15/2023 20SW2257/MDR002257 > Stormwater Pollution Prevention Plan (SWPPP) and inspection records onsite. • **Property Management and Maintenance (Pollution Reduction through Good Housekeeping BMPs)** > See Carroll Co. Annual Report Part IV D.5. Property Management and Maintenance (including **Table 5**) for detailed Mount Airy property management and maintenance activities and good housekeeping BMPs. > Street sweeping is primarily focused on the high traffic areas of downtown, within Carroll Co., and along Prospect Rd. to the DPW Maintenance Shop, within Frederick Co. Streets are swept 2x per month in fall and spring and monthly during summer. Inlet cleaning is performed throughout the municipality, and materials are brought to the DPW Maintenance Shop (20SW facility) for disposal at the landfill. > Vegetation management is primarily through mechanical and alternative methods, including mowing and trimming, pulling weeds, mulching, spot spraying, and providing training. > Winter weather management: Practices include equipment calibration, weather forecasts, post-winter/-event evaluation, and employee training. A Salt Management Plan has been developed and implemented as part of the next generation Phase I MS4 permit. > Litter Control and Prevention: Practices include "No Litter" signs, trash receptacles on streets and in parks, trash collection and recycling services, street sweeping, volunteer litter pick-up programs (e.g. Adopt-A-Road), staff litter collection (roads, parks, public spaces), clean-up of reported dumping incidents, and a litter ordinance.		

MEMORANDUM OF AGREEMENT (MOA)

Between

CARROLL COUNTY, MARYLAND
And
THE TOWN OF MOUNT AIRY

For

COUNTY SUPPORT TO TOWN IN COMPLYING WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) REQUIREMENTS WITHIN THE PORTION OF THE TOWN LOCATED WITHIN FREDERICK COUNTY

NPDES Phase II MS4 PERMIT ISSUED to TOWN OF MOUNT AIRY

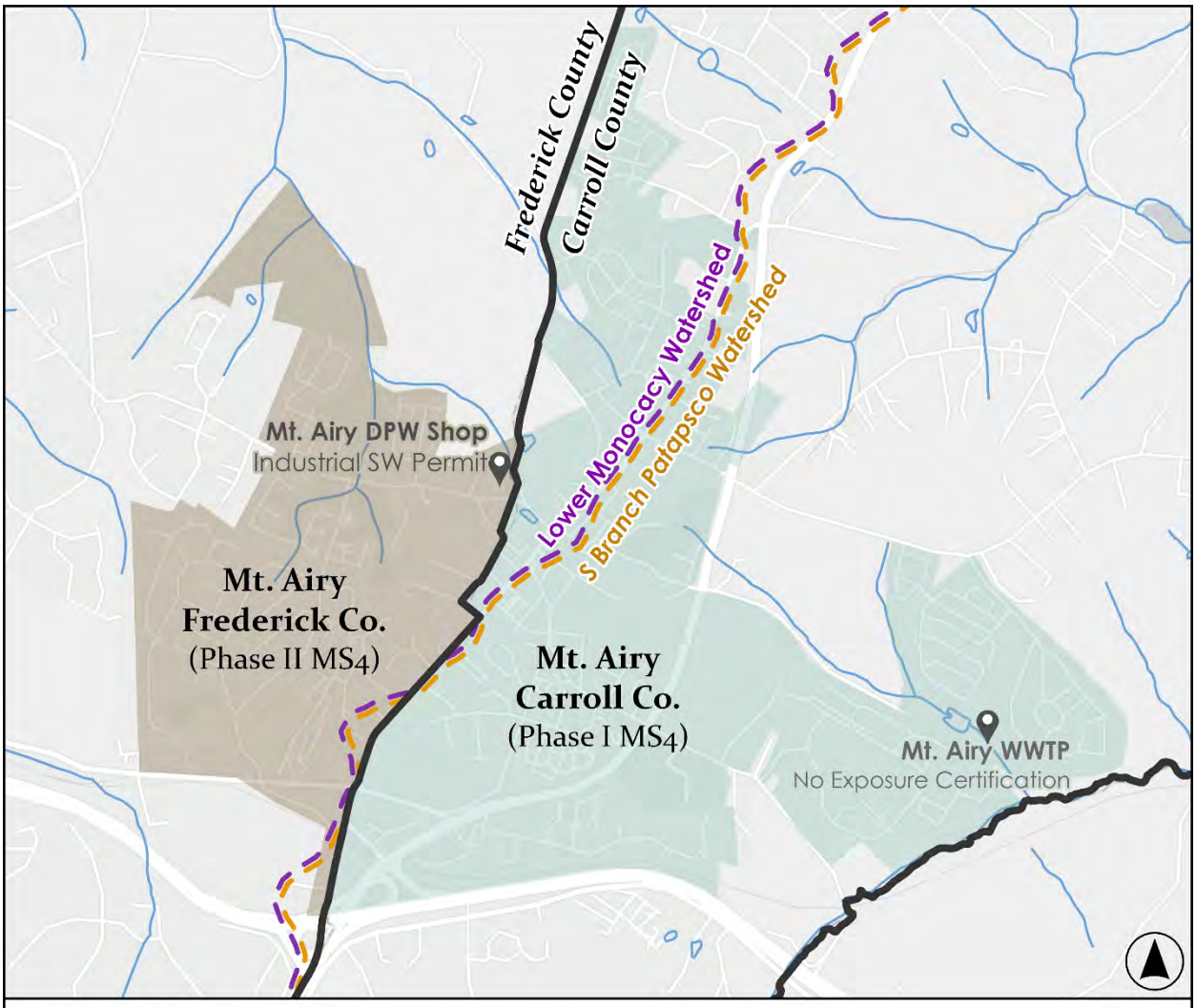
THIS MEMORANDUM OF AGREEMENT ("MOA") is made this 10th day of Mar, 2022, by and between Carroll County (hereinafter sometimes referred to as "Carroll County" or "the County") and the Town of Mount Airy (hereinafter referred to as the "Town").

WHEREAS, a portion of the Town is in part located within the geographic boundary of Frederick County, Maryland; and

WHEREAS, the Town is subject to a separate State-issued National Pollutant Discharge Elimination System ("NPDES") Municipal Separate Storm Sewer System ("MS4") permit pursuant to COMAR 26.08.04 in accordance with Section 402 of the Clean Water Act (40 CFR 122.26) for the area of the Town located in Frederick County; and

WHEREAS, the Permit allows a small municipality to coordinate with a surrounding county covered under an MS4 NPDES stormwater permit; and

WHEREAS, the parties have agreed that they will work together for the best interests of the citizens of the Town for the purpose of managing the stormwater systems and activities required by the Permit for the area of the Town within Frederick County; and



Town of Mount Airy
NPDES MS4 Jurisdictions, Watershed Boundaries, and Industrial Facilities

Correspondence Related to Mount Airy Phase II MS4 Permit

Maryland
Department of the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary

June 14, 2024

Ms. Heather Smith
Town Administrator
Town of Mount Airy
P.O. Box 50
Mount Airy, MD 21771

MDE Permittee ID: **MDRMFRMA1**

Dear Ms. Smith:

The Maryland Department of the Environment, Water and Science Administration (Department) has completed a review of the Town of Mount Airy's (Town) fifth-year Progress Report. This report was submitted under the National Pollutant Discharge Elimination System (NPDES) General Permit No. 13-IM-5500 for Discharges from Small Municipal Separate Storm Sewer Systems (MS4). The report reflects progress made to meet permit conditions from July 1, 2022, through June 30, 2023.

The Department has determined that the Town has demonstrated compliance with all requirements and conditions of the General Permit. Please reference the Attachment to this letter which notes the Town's compliance status and accomplishments under the permit. The General Permit expired on October 31, 2023. Federal regulations allow for administrative extension of permits under 40 CFR Section 122.6. Therefore, after October 31, 2023, the General Permit is administratively continued, and all permit conditions remain in effect until a new permit is issued.

Carroll County's current NPDES MS4 Phase I permit (22-DP-3319 MD0068331) includes the entire municipal boundary of the Town of Mount Airy as a co-permittee. Therefore, the Town may continue to report progress under the County's report. However, when a new NPDES MS4 Phase II General Permit is issued, the Town will not need to submit a Notice of Intent to apply for coverage under the general permit.

The Department recognizes the significant effort necessary to implement a stormwater management program and commends the Town of Mount Airy for its commitment and progress to date. If you have any questions or concerns, please contact me at Michelle.Crawford1@Maryland.gov or 410-537-3547 or Debbie Cappuccitti at Deborah.Cappuccitti@Maryland.gov or 410-537-3533.

Sincerely,

Michelle Crawford
Natural Resources Planner
Water and Science Administration

Attachment

cc: Janet O'Meara, Carroll County Government

1800 Washington Boulevard | Baltimore, MD 21230 | 1-800-633-6101 | 410-537-3000 | TTY Users 1-800-735-2258
www.mde.maryland.gov

From: Michelle L Crawford -MDE- <michelle.crawford1@maryland.gov>
Sent: Thursday, October 5, 2023 3:16 PM
To: Edwards, Glenn D.
Cc: Deborah Cappuccitti -MDE-; O'Meara, Janet L.; Hirt, Claire C.R.; Devon Kosisky -MDE-; bquinn@mountairymd.org; hsmith@mountairymd.gov
Subject: Re: Status of Phase II MS4 Permit - Town of Mount Airy

Good afternoon all,

This afternoon we're sending the email reminder to all Phase II permittees. It explains how to submit annual progress reports due at the end of this month, which of course does not apply to the Town because you continue to report your program activities with Carroll County's annual report.

As Debbie said below, there is also information in the email about the administrative extension of the permit. After reading it please let me know if you have further questions.

Sincerely,
Michelle

On Thu, Oct 5, 2023 at 11:12 AM Edwards, Glenn D. <gedwards@carrollcountymd.gov> wrote:

> Thank you for getting back to us! Glenn
>
> From: Deborah Cappuccitti -MDE- <deborah.cappuccitti@maryland.gov>
> Sent: Thursday, October 5, 2023 10:01 AM
> To: Edwards, Glenn D. <gedwards@carrollcountymd.gov>
> Cc: O'Meara, Janet L. <jomeara@carrollcountymd.gov>; Hirt, Claire C.R. <chirt@carrollcountymd.gov>; Michelle L Crawford <michelle.crawford1@maryland.gov>; Devon Kosisky -MDE- <devon.kosisky@maryland.gov>; hsmith@mountairymd.gov; bquinn@mountairymd.org
> Subject: Re: Status of Phase II MS4 Permit - Town of Mount Airy

Hi Glenn,

1

Thank you for the question. I am including our contacts at Mount Airy in this email.

We are getting ready to send out an email in this regard.

To answer your question - the Town and Carroll County do not need to do anything. The permit will be administratively continued after October 31 and all permit conditions remain in force - including annual reporting.

We will be working on a new permit in the next year. With that, we had asked all permittees in the last annual report reviews to include planning for restoration out to 2030 (beyond 2025). Please include information on what is feasible for restoration for the next permit term. We asked that the Restoration Activity Schedules to be updated to show plans out to 2030. But we are happy to get a narrative of what the Town believes is possible for additional planning in the next permit.

let me know if you have questions and please look for an email from us in the coming days,

thanks again,

Debbie

On Thu, Oct 5, 2023 at 8:08 AM Edwards, Glenn D. <gedwards@carrollcountymd.gov> wrote:

> Hi Debbie,
>
> As you know we work with the Town of Mount Airy on their Phase II MS4 permit for their Frederick County portion within their municipality. With the permit expiration of October 30, 2023, is there anything the Town (permit holder) needs to do administratively at this time other than continuing to operate under the current permit. We have not seen or noticed any news on the next generation of the Phase II MS4 GP. We are working with Mt Airy on our Phase I MS4 Report for Carroll County and the Appendix section dedicated to Mount Airy's Phase II MS4 permit reporting and want to be sure if any renewal statement is required in the annual report, etc.
>
> Thanks,
>
> Glenn

From: Michelle L Crawford -MDE- <michelle.crawford1@maryland.gov>
Sent: Thursday, October 5, 2023 3:15 PM
To: Michelle L Crawford
Cc: Deborah Cappuccitti -MDE-; Devon Kosisky -MDE-
Subject: Subject line: Reminder: MS4 General Permit progress reports Due October 31 and Special Announcement
Attachments: Phase II MS4 Excel BMP Template.xlsx; Example Phase II MS4 Restoration Activity Schedule.xlsx; Municipal MS4 Fillable Progress Report Appendix D.docx

Good afternoon all,

This is a reminder to all Phase II permittees that the next progress report is due October 31, 2023, to report on activities to comply with the NPDES MS4 Phase II Municipal General Permit.

Information due October 31, 2023:

- Appendix D Section I of the permit (restoration activities)
- An updated BMP Database as an Excel file
- An updated Restoration Activity Schedule as an Excel file. The Department has requested that permittees update their RAS and plan for continued restoration through 2030.
- A Work Plan for meeting permit goals by 2025 and future planning through 2030
- Specific information describing your restoration capabilities through 2030
- Any information specifically requested in the Department's last review regarding the six Minimum Control Measures
- Responses to all Department comments in the last progress report review. Where no follow-up was requested, you may indicate "Comment noted" or something similar
- Supporting materials as necessary.
- Large files may be submitted as email attachments, through a secure shared file site (such as Google Drive, OneDrive, or DropBox), File Transfer Protocol (FTP), etc.

The template files are attached. This information is also available on the following web page under the "Additional Resources" tab:
https://mde.maryland.gov/programs/water/StormwaterManagementProgram/Pages/NPDES_MS4_New.aspx

Special Announcement regarding the expiring NPDES General Permit for Small MS4s - General Discharge Permit No. 13-IM-5500:

- The general permit will expire on October 31, 2023. Federal regulations allow for administrative extension of permits under 40 CFR section 122.6. Therefore, after October 31, 2023, the general permit will be administratively extended and all permit conditions remain in effect. This includes submitting annual progress reports on October 31 of each year.
- The Department requested that permittees update their RAS to include continued restoration planning through 2030. Please provide specific information in the October 31, 2023 submission that describes your restoration capabilities through 2030. The Department will use this information to work with you in the coming year to develop a new general permit.

From: Deborah Cappuccitti -MDE- <deborah.cappuccitti@maryland.gov>
Sent: Thursday, October 5, 2023 10:01 AM
To: Edwards, Glenn D.
Cc: O'Meara, Janet L.; Hirt, Claire C.R.; Michelle L Crawford; Devon Kosisky -MDE-; hsmith@mountairymd.gov; bquinn@mountairymd.org
Subject: Re: Status of Phase II MS4 Permit - Town of Mount Airy

Hi Glenn,

Thank you for the question. I am including our contacts at Mount Airy in this email.

We are getting ready to send out an email in this regard.

To answer your question - the Town and Carroll County do not need to do anything. The permit will be administratively continued after October 31 and all permit conditions remain in force - including annual reporting.

We will be working on a new permit in the next year. With that, we had asked all permittees in the last annual report reviews to include planning for restoration out to 2030 (beyond 2025). Please include information on what is feasible for restoration for the next permit term. We asked that the Restoration Activity Schedules to be updated to show plans out to 2030. But we are happy to get a narrative of what the Town believes is possible for additional planning in the next permit.

let me know if you have questions and please look for an email from us in the coming days,
thanks again,
Debbie

On Thu, Oct 5, 2023 at 8:08 AM Edwards, Glenn D. <gedwards@carrollcountymd.gov> wrote:

> Hi Debbie,
>
> As you know we work with the Town of Mount Airy on their Phase II MS4 permit for their Frederick County portion within their municipality. With the permit expiration of October 30, 2023, is there anything the Town (permit holder) needs to do administratively at this time other than continuing to operate under the current permit. We have not seen or noticed any news on the next generation of the Phase II MS4 GP. We are working with Mt Airy on our Phase I MS4 Report for Carroll County and the Appendix section dedicated to Mount Airy's Phase II MS4 permit reporting and want to be sure if any renewal statement is required in the annual report, etc.
>
> Thanks,
>
> Glenn

From: O'Meara, Janet L.
Sent: Monday, July 17, 2023 3:25 PM
To: Heyn, Chris; Singer, Edwin F; Edwards, Glenn D.; Hirt, Claire C.R.
Subject: FW: MDE Review of Town of Mt. Airy's MS4 Program
Attachments: MtAiry PII review section CarrCo 2022 AR 7-17-23 MDE MS4.pdf

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From: Michelle L Crawford -MDE- <michelle.crawford1@maryland.gov>
Sent: Monday, July 17, 2023 3:18 PM
To: David Warrington <dwarrington@mountairymd.gov>
Cc: Deborah Cappuccitti -MDE- <deborah.cappuccitti@maryland.gov>; Stewart Comstock -MDE- <stewart.comstock@maryland.gov>; Pat Depkin <pat.depkin@maryland.gov>; bquinn@mountairymd.gov; O'Meara, Janet L. <jomeara@carrollcountymd.gov>
Subject: MDE Review of Town of Mt. Airy's MS4 Program

Good afternoon,

Please see attached the Department's comments on the Town of Mt. Airy's MS4 Phase II activity progress reporting that was submitted as part of Carroll County's NPDES MS4 Phase I FY 2022 Annual Report. We are still finalizing the County's full review which will include this information, but we're passing along these comments to you now for your use.

MDE considers the Town of Mt. Airy in good standing and congratulates you on your many accomplishments and sincere efforts to comply with permit requirements.

If you would please reply indicating receipt of this email it would help for our records.

If you have questions please reach out to me through the contact information listed below.

Congratulations on your progress and thank you for your report,
Michelle

Hirt, Claire C.R.

From: Michelle L Crawford -MDE- <michelle.crawford1@maryland.gov>
Sent: Friday, September 16, 2022 11:55 AM
To: Hirt, Claire C.R.
Cc: Deborah Cappuccitti -MDE-; Pat Depkin; O'Meara, Janet L; Heyn, Chris; Edwards, Glenn D.; Singer, Edwin F
Subject: Re: Mt Airy Phase II Reporting Requirements

Good morning Claire,

My name is Michelle Crawford and I work with Debbie Cappuccitti administering the Phase II MS4 municipal general permit. Thanks for reaching out.

Yes, the Town may continue to report MS4 program activities in the County's Phase I MS4 annual report. The Town does not need to use the Appendix D forms. We included a standard comment in all Phase II reviews reminding permittees that we require reporting on the Minimum Control Measures every other year, and that next year this information is due. As you noted, Town activities are reported in the County's report each year.

In our last review we asked the next County annual report to include a separate section to more clearly summarize MCM activities specifically done within the Town, for example, indicate which outfall screenings were within the Town's boundaries and what is the strategy to prioritize outfall screenings in the Town.

For some of the programs it was reported clearly that efforts were being done Countywide including within the Town, such as staff training in pollution prevention to fulfill Minimum Control Measure 6. For Minimum Control Measure 2, we saw public participation events that occurred within the Town. However, it was unclear how some Phase II permit requirements were being fulfilled in partnership with the County.

If the report could please provide separate information and/or reference the annual report section that shows how the Countywide activities fulfill the Phase II permit requirements.

Please let me know if you have further questions.

I'm copying Pat Depkin the permit administrator for the County's Phase I permit and David Warrington the technical contact for the Town's permit.

Thank you,
Michelle

CHANGING Maryland FOR THE BETTER

Deborah J. Cappuccitti
Senior Regulatory Compliance Engineer
Water and Science Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
Deborah.cappuccitti@maryland.gov
410-537-3533 (O)
Website | Facebook | Twitter

CHANGING Maryland FOR THE BETTER

Michelle Crawford
Natural Resources Planner
Stormwater, Dam Safety and
Flood Management Program
Water and Science Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
michelle.crawford1@maryland.gov
410-537-3547 (O)
Website | Facebook | Twitter

Hirt, Claire C.R.

From: Hirt, Claire C.R.
Sent: Thursday, September 8, 2022 2:48 PM
To: Deborah Cappuccitti
Cc: David Warrington; Heyn, Chris; O'Meara, Janet L.; Singer, Edwin F; Edwards, Glenn D.
Subject: Mt Airy Phase II Reporting Requirements

Good Afternoon Debbie,

My name is Claire Hirt and I am one of the NPDES Compliance Specialists for Carroll County. In our Annual Review of the 2021 permit year, MDE provided comments to us related to the Mount Airy Phase II MS4 Permit. We wanted to check in with you for clarification on one of the points, which said:

> *As a reminder, the Phase II MS4 permit requires reporting for the six MCMs in the next year's (FY 2022) Progress Report. The Department is available to answer any questions as this information is prepared.*

Will Mount Airy now be required to submit the Progress Report in Appendix D of the Phase II permit? It has been our understanding for some years now that the Phase II MCM requirements are being met through their collaboration with the County and that their reporting is already incorporated into our Phase I Annual Report. We reviewed our past correspondence with you and it seems to support this interpretation:

- Letter from Debbie Cappuccitti to David Warrington and Tom Devilbiss , 11/17/2019:
  The Town and the County are requesting that reporting requirements for the [NPDES MS4 Phase II Permit] be met through the Carroll County MS4 annual report submissions. The Department has determined that the request is consistent with the provisions in the general permit and with past conversations…. The County has included reporting for numerous required programs in the Frederick side of Mt. Airy as part of the Carroll County Annual Report for many years. The joint request by the Town and the County will continue this effort and include the impervious area restoration reporting for the Frederick side of the Town as an Appendix in the County's report.

- Follow-up email from Debbie Cappuccitti to David Warrington and Gale Engles, 11/24/2019:
  Carroll County has already been reporting on the required programs for the Town. Therefore, I wanted to clarify that the minimum control measure requirements in the permit are already being met through your partnership with the County and reported in their annual reports. This has been the case for several years now. The recent joint letter from the Town and County basically will allow the County to expand on that reporting to include documentation associated with the impervious area restoration requirement. I hope that clarifies that in general – the County is already meeting the Town's requirements for the MCMs through your existing partnership.

If acceptable, we would prefer to continue reporting all of our integrated MS4 efforts together in the annual report, with the Phase II Appendix capturing anything related to restoration progress on the Frederick County side of Mt. Airy. Please let us know your thoughts and expectations for reporting so we can support the Town as best as possible with their permit requirements. Thank you!

Sincerely,

Claire Hirt | NPDES Compliance Specialist
Bureau of Resource Management
Carroll County Government
225 N. Center Street
Westminster, MD 21157

Edwards, Glenn

From: Deborah Cappuccitti -MDE- <deborah.cappuccitti@maryland.gov>
Sent: Monday, September 14, 2020 3:49 PM
To: Edwards, Glenn
Cc: Heyn, Chris; publicworks@mountairymd.gov; David Warrington; Devilbiss, Thomas S.; Michelle L Crawford -MDE-; Pat Depkin -MDE-; Nora Howard -MDE-; Stewart Comstock -MDE-
Subject: Re: FW: Phase II MS4 General Permit Announcements

Hi Glenn,

You are correct. A long as Carroll County continues reporting for the Town then it is acceptable to provide this information when the County submits your annual report. We will offer confirmation in our review.

In the meantime, I am not sure if you received this email directly or not? Gail was our primary POC on the County's end. Let us know if you would like to add anyone to our PII contact information regarding this coordinated effort between the Town and the County?

Let us know if you need anything additional.

Debbie

On Mon, Sep 14, 2020 at 3:34 PM Edwards, Glenn <gedwards@carrollcountymd.gov> wrote:

> Hi Debbie,
>
> Please find attached MDE Review Letter and Final Review (Attachment 1) for Carroll County's 2019 Phase I MS4 Annual Report documenting Mt Airy's Phase II (Frederick County side) requirements have been met (see page 10/11 - CR 2019 AR Review final 07302020 pdf) by current MOU agreement. Per our understanding the October 31, 2020 Phase II Submission does not pertain to Mt Airy at this time.
>
> Please confirm,
>
> Thanks,
>
> Glenn

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

October 17, 2019

Mr. David Warrington
Town Administrator
Town of Mt. Airy
110 S. Main Street
P.O. Box 50
Mt. Airy, MD 21771

Mr. Thomas Devilbiss, Director
Department of Land & Resource Management
225 N Center Street
Westminister, MD 21157

Attention:

The Maryland Department of the Environment, Water and Science Administration (Department) has received a joint letter from the Town of Mt. Airy and Carroll County on October 15, 2019. The Town and the County are requesting that reporting requirements for the National Pollutant Discharge Elimination System (NPDES) General Permit No. 13-IM-5500 for Discharges from Small Municipal Separate Storm Sewer Systems (MS4) be met through the Carroll County MS4 annual report submissions. The Department has determined that the request is consistent with the provisions in the general permit and with past conversations.

Under the conditions of the MS4 general permit, any permittee may enter into an agreement with another State, federal, or municipal partner to satisfy one or more of the permit obligations. The County has included reporting for numerous required programs in the Frederick side of Mt. Airy as part of the Carroll County Annual Report for many years. The joint request by the Town and the County will continue this effort and include the impervious area restoration reporting for the Frederick side of the Town as an Appendix in the County's report.

The Department recognizes the significant effort necessary to implement a stormwater program and commends both the Town of Mt. Airy and Carroll County for its partnership to efficiently and effectively meet permit requirements. If you have any questions on this correspondence, please contact me at Deborah.Cappuccitti@Maryland.gov or 410-537-3533.

Sincerely,

Deborah J. Cappuccitti
Senior Regulatory Compliance Engineer
Water and Science Administration

Attachment

1800 Washington Boulevard | Baltimore, MD 21230 | 1-800-633-6101 | 410-537-3000 | TTY Users 1-800-735-2258
www.mde.maryland.gov

Mount Airy Phase II
MDE EMAIL October 24, 2019 - Follow Up to October 17, 2019 Letter

From: Engles, Gale J.
Sent: Thursday, October 24, 2019 9:21 PM
To: Edwards, Glenn <gedwards@carrollcountymd.gov>; O'Meara, Janet L. <jomeara@carrollcountymd.gov>
Subject: Fwd: [External E-mail] Fwd: NPDES Phase II MS4 Compliance

FYI

Gale

Sent from my iPhone

Begin forwarded message:

From: Deborah Cappuccitti -MDE- <deborah.cappuccitti@maryland.gov>
Date: October 24, 2019 at 10:51:40 AM EDT
To: David Warrington <dwarrington@mountairymd.gov>, "Engles, Gale J." <gengles@carrollcountymd.gov>
Cc: Michelle L Crawford -MDE- <michelle.crawford1@maryland.gov>, Stewart Comstock -MDE- <stewart.comstock@maryland.gov>
Subject: [External E-mail] Fwd: NPDES Phase II MS4 Compliance

Hi David,

I am responding to your request to Ray Bahr regarding information on developing minimum control measures for the Town of Mt. Airy under the Phase II general permit.

The letter I forwarded to yourself and Gale Engles on Monday (also attached) indicates that Carroll County has already been reporting on the required programs for the Town. Therefore, I wanted to clarify that the minimum control measure requirements in the permit are already being met through your partnership with the County and reported in their annual reports. This has been the case for several years now. The recent joint letter from the Town and County basicly will allow the County to expand on that reporting to include documentation associated with the impervious area restoration requirement. I hope that clarifies that in general - the County is already meeting the Towns requirements for the MCMs through your existing partnership.

If you feel you need additional information, please let us know.

Debbie

Town of Mt. Airy
110 S Main Street
P.O. Box 50
Mt. Airy, MD 21771

Department of Land &
Resource Management
225 N Center Street
Westminster, MD 21157

October 15, 2019

Maryland Department of the Environment
Attn: Deborah Cappuccitti
Senior Regulatory Compliance Engineer
Water and Science Administration
1800 Washington Blvd.
Baltimore, Maryland 21230

Re: Phase II Frederick County Side of Mt. Airy
Reporting Mechanism

Dear Ms. Cappuccitti:

During the July 3, 2019 meeting with Carroll County staff and yourself, discussions relating to annual reporting associated with the Phase II Frederick County side of Mt. Airy took place. We are writing this letter to provide you with our intentions on how we will be addressing Part VI.C. of the NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems requirement.

In December of 2014, the Town of Mt. Airy, Carroll County and the seven (7) other municipalities within the County entered into a Memorandum of Agreement (MOA) relating to the NPDES MS4 Phase I requirements covering the portion of the town which is located within Carroll County. Concurrent with the issuance of the next generation permit, a new MOA will be executed with a section included pertaining to the Frederick County side of Mt. Airy and how restoration efforts will be handled. In Carroll County's 2019 Annual Report, there will be an Appendix added to specifically address the various sections of the NPDES Phase II permit not currently being addressed in the document itself.

Numerous programs specified in the general permit are currently being performed by Carroll County (i.e. stormwater management, sediment control (inspection and enforcement), IDDE inspections, public information and education, etc.) and have and will continue to be reported in Carroll County's Annual Reports. Impervious acreage baseline, restoration planning and implementation, BMP tracking and maintenance will be included in the new Appendix. Engineering and construction costs associated with the Phase II requirement will be handled through the Town's Annual Capital Improvements Budget.

Thank you for working with us on our reporting requirements and please feel free to contact Gale Engles (Carroll County) with any questions or if you need additional information.

Sincerely:

David Warrington
Town Administrator
Town of Mt. Airy

Thomas S. Devilbiss, Director
Department of Land and Resource Management
Carroll County

cc: Gale Engles, Bureau Chief
Resource Management

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

November 29, 2018

Ms. Monika Weierbach, Town Administrator
Town of Mount Airy
P.O. Box 50, 110 South Main Street
Mount Airy, MD 21771

RE: Notice of Intent Approval letter

Dear Town Administrator Weierbach:

The Maryland Department of the Environment (Department), Water and Science Administration has issued a National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (General Discharge Permit No. 13-IM-5500, General NPDES No. MDR055501). The legal framework for permit requirements is provided in the federal Clean Water Act (CWA), Title 40 of the Code of Federal Regulations (CFR) § 122 pertaining to NPDES MS4 programs. Regulated MS4 operators identified in the general permit were required to seek authorization to discharge stormwater by submitting a Notice of Intent (NOI) to the Department by October 31, 2018.

This is to confirm that the Department has received a completed NOI from the Town of Mount Airy (the Town) in accordance with permit requirements. The Town is required to comply with the conditions of the general permit until it expires, which is in five years unless administratively continued by the Department. Submission of annual progress reports may be achieved through the existing partnership with Carroll County. Otherwise, the Town will be responsible for reporting compliance with permit conditions for activities located within the jurisdictional boundary inside Frederick County.

Thank you for your cooperation in submitting your NOI. The Department looks forward to working with you to achieve compliance with the permit and contribute to efforts to improve local water quality and restore the Chesapeake Bay. If you have any questions, please contact me at 410-537-3550 or Ms. Deborah Cappuccitti at deborah.cappuccitti@maryland.gov.

Regards,

Stewart R. Comstock, P.E.
Program Review Division Chief
Sediment, Stormwater, & Dam Safety Program, WSA

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Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

April 27, 2018

Ms. Monika Weierbach, Town Administrator
Town of Mount Airy
PO Box 50
Mount Airy, MD 21771

RE: Designation Letter

Dear Ms. Weierbach:

The Maryland Department of the Environment (the Department), Water and Science Administration has reached a Final Determination to issue a National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (General Discharge Permit No. 13-IM-5500, General NPDES No. MDR055500). The legal framework for permit requirements is provided in the federal Clean Water Act (CWA), Title 40 of the Code of Federal Regulations (CFR) § 122 pertaining to NPDES MS4 programs, and numerous guidelines of the United States (U.S.) Environmental Protection Agency (EPA). MS4 owners or operators required to obtain coverage under this MS4 general permit are those located within urbanized areas or other MS4s designated by the Department under authority of the CWA and CFR.

You are receiving this letter because all or part of the Town of Mount Airy (the Town) has been identified as being located within an urbanized area according to the 2010 U.S. Census. Your MS4 within the urbanized area will come under the purview of the CWA's stormwater permitting requirements in accordance with 40 CFR § 122.32(a)(1). As stated in the Federal Register (Vol. 64, No. 235, 68750), in situations where an incorporated place or a town is not all in an urbanized area, it makes sense to develop a stormwater program for the whole area.

The MS4 general permit will become effective on October 31, 2018. As an owner or operator of a designated MS4 to be regulated under this general permit, the Town must submit a Notice of Intent (NOI) to the Department by the effective date. An NOI serves as notification that the Town intends to comply with the terms and conditions of this general permit. Conditions of the general permit are effective for a five-year term unless administratively continued by the Department.

The MS4 general permit requires implementation of stormwater management programs and restoration actions to control the discharge of pollutants from regulated MS4s. Compliance with the general permit will reduce stormwater pollutants to local waterways and the Chesapeake Bay. Furthermore, pollution reductions from the Town are necessary to comply with the assumptions and requirements of the Chesapeake Bay Total Maximum Daily Load. Restoration requirements are based on untreated impervious areas located within the Town's urbanized area. The general permit,

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however, allows flexibility to implement restoration projects and management programs across the entire incorporated area of the Town.

The Department has complied with public participation requirements established under Maryland's Administrative Procedures Act in order to reach this Final Determination. The Department has met with numerous stakeholders, held a public hearing, and accepted public comments from December 22, 2016, through March 30, 2017. The Final Determination, MS4 general permit, and the comments submitted during the public comment period may be found on the Department's website at: www.mde.maryland.gov/programs/Water/StormwaterManagementProgram. Additional resources related to stormwater program implementation and restoration planning may also be found on the website.

Thank you for your cooperation in reviewing this MS4 general permit and planning activities that will result in full program implementation by the end of the permit term. Compliance with the general permit will support Maryland's broader goals of improving local water quality and contribute to long standing efforts to restore the Chesapeake Bay. The Department looks forward to working with you to achieve these goals. If you have any questions, please contact me at 410-537-3567 or Ms. Jennifer Smith at 410-537-3543 or jenniferm.smith@maryland.gov.

Regards,

D. Lee Currey
Director, Water and Science Administration

Pollution Prevention Good Housekeeping and IDDE Guidance and Procedures for Mount Airy Phase II MS4 Permit

CARROLL COUNTY MS4 PROPERTY MANAGEMENT AND MAINTENANCE RESOURCE GUIDE

Municipal Stormwater Pollution Prevention Guidance for MS4 Co-Permittee Personnel

Carroll County Department of Land and Resource Management

March 20, 2017

CC MS4 PROPERTY MANAGEMENT AND MAINTENANCE RESOURCE GUIDE

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CARROLL COUNTY MS4 POLLUTION PREVENTION MAINTENANCE BMP GUIDANCE MANUAL

A Guidance Manual
For Carroll County Government
and Municipalities of
Carroll County, Maryland

Carroll County Department of Land and Resource Management

Revision: November 17, 2016

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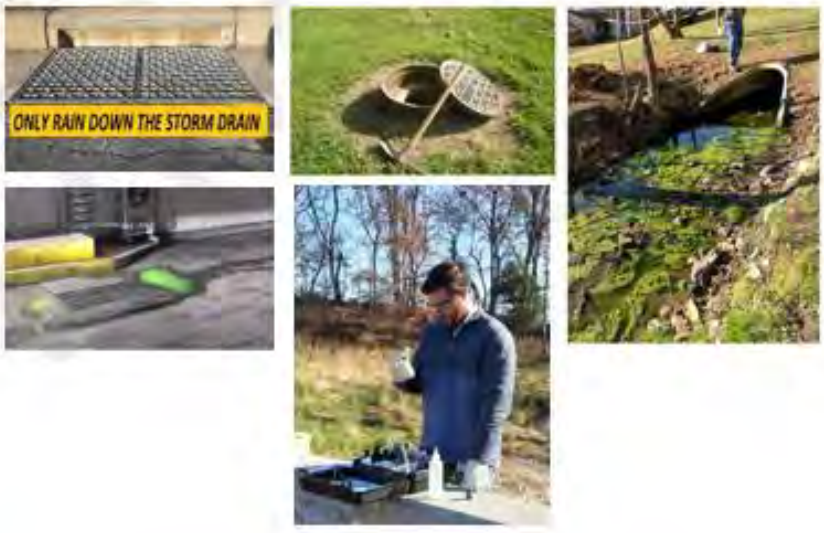
IDDE

ILLICIT DISCHARGE DETECTION AND ELIMINATION MANUAL

A Guidance Manual
For Carroll County Government
and Municipalities of
Carroll County, Maryland



Carroll County Bureau of Resource Management

Revision: December 2024

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