April 9, 2025

Karen Henry, Director
Department of Public Works
Anne Arundel County
2662 Riva Road
Annapolis, MD 21403

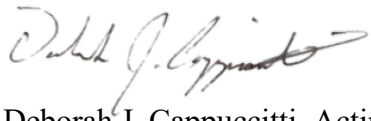
Dear Ms. Henry:

The Maryland Department of the Environment (Department) has reviewed Anne Arundel County's (County) 2024 Annual Report for National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit (20-DP-3316, MD0068306). The submittal meets reporting requirements for the period July 1, 2023 - June 30, 2024. This is the third-year report for the County's current permit, issued on November 5, 2021. Full review details are provided in the attachments noted below. The Department wishes to bring the following to the County's attention:

- Anne Arundel County has restored 2,232 acres, or 74% of the 2,998 impervious acres required in the permit, exceeding the 60% benchmark target (1,800 acres). An additional 473.6 acres of restoration is planned for Year 4. The Department commends the County for this continued progress.
- The County submitted Good Housekeeping Plans and a Salt Management Plan to meet permit requirements. Comments are provided in the attached annual report review.
- The County should begin migrating all data into the Department's most recent geodatabase format, as directed in the Geodatabase Design and User's Guide 2.0, dated September 2024.
- The County must develop a plan describing how inspectors will gain access to inaccessible BMPs to perform the necessary inspections and submit the plan in the next Annual Report.
- The County demonstrated acceptable progress in maintaining and repairing stormwater best management practices (BMP). However, the geodatabase did not include inspection records prior to FY2024. As the County continues to transition to the most updated geodatabase format, please include the most recent inspection records for all active BMPs in the geodatabase.
- The Countywide Total Maximum Daily Load (TMDL) Stormwater Implementation Plan meets the requirements of PART IV.F.3 of the permit. Please reference the comments in the attached Memorandum: *Anne Arundel County Countywide Stormwater Total Maximum Daily Load (TMDL) Implementation Plan.*

The Department recognizes the effort required to implement a successful stormwater management program, which is essential in our mutual goal of restoring urban streams and Chesapeake Bay. The County is commended for the continued commitment and accomplishments toward this objective. If you have any questions, please contact me at 410-537-3533 or have a member of your staff contact Gillian Adkins at 410-537-3338 or gillian.adkins@maryland.gov.

Sincerely,



Deborah J. Cappuccitti, Acting Chief
Stormwater Program Review Division
Stormwater, Dam Safety, and Flood Management Program

Attachments

MS4 FY2024 Annual Report Review

Department Comments: Anne Arundel County Countywide Stormwater Total Maximum Daily Load (TMDL) Implementation Plan.

cc: Erik Michelsen, Anne Arundel County
Matt Gallagher, Anne Arundel County

PART V. Annual Progress Reporting

- The Annual Report was received on December 31, 2024, and covers July 1, 2023, to June 30, 2024 (fiscal year or "FY" 2024).
- This is the third Annual Report under the National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit number 22-DP-3316 (MD0068306), issued on November 5, 2021.

PART IV. Standard Permit Conditions

A & B. Permit Administration and Legal Authority

- The County submitted an updated organizational chart outlining the various County departments and their individual permit responsibilities.
- The County maintained adequate legal authority for compliance with all permit conditions. There were no changes to the County Code that affected legal authority.

The County has met the requirements of PARTs IV A & B.

C. Source Identification

- The County provided information in an MS4 Geodatabase, consistent with the format in the *Draft Supplement to the Geodatabase Design and User's Guide, September 2023 edits*. A supplemental storm drain geodatabase was also submitted, which highlights the storm drain structures and conveyances through the County's MS4. Additionally, the County submitted a geodatabase delineating industrial and commercial land uses and sites that have the potential to contribute significant pollutants to stormwater.
- Please reference and begin to implement the Department's updated schema and shell as directed in the *Geodatabase Design and User's Guide 2.0*, dated September 2024. Please note:
  - Two new fields have been added to the BMP feature class: PE_REDE and IMP_ACRES_REDE, to capture redevelopment project data with one record. Please work to populate this data for redevelopment projects that have been implemented during the current permit term. The Department understands that the transition to populate these new fields will take time.
- The Geodatabase reported 16,552 active BMP records in the *BMP* feature class.
  - The County reported BMP inspection records in the *BMPInspections* table. The County only included inspection records from FY2024. As a result, 9,124 active BMPs are missing inspection records. Please update the *BMPInspections* table to include the most recent inspection records for all active BMPs.
  - The County reported 117 BMPs with a failing inspection status. Please continue to prioritize maintenance to bring all failing BMPs back into compliance.
  - All inspection records provided in the *BMPInspections* table have the same BMP_ID. The BMP_ID should be unique for each inspection record and correspond to the same field in the *BMP* feature class.

- The Geodatabase includes 2,570 active AltBMP records (2,334 *AltBMPPoint*, 16 *AltBMPPolygon*, and 220 *AltBMPLine*) in their respective AltBMP feature classes.
  - The County reported AltBMP inspection records in the *AltBMPInspections* table. Currently, 615 AltBMPs have no corresponding inspection record. Please update the *AltBMPInspections* table to include the most recent inspection records for all active BMPs.
    - Ensure septic denitrification (SEPD) BMPs are verified annually; reporting inspection dates is optional.
    - Ensure septic pumping (SEPP) BMPs are inspected annually with the date reported in the MS4 Geodatabase.
  - The County reported that 25 AltBMPs have not been inspected in the last three years, and an additional 369 have an inspection date of 1/1/1899. The County explained that staff do not have the right to access many of these BMPs. The County must develop a plan detailing how these BMPs may be accessed in order to perform necessary inspections and submit in the next Annual Report.
  - Numerous records in the Geodatabase had incomplete information. Please continue to update records to populate and complete mandatory fields as information becomes available.

The County has met the requirements of PARTs IV.C 1 – 6.

D. Management Programs

1. Stormwater Management (SWM)

- The County reported the number of concept, site development, final, and redevelopment plans that were approved and/or received in FY2024, as required. The County also reported the number of stormwater exemptions and waiver requests, stormwater construction inspections performed, and construction notices issued.
- The County conducted 7,774 triennial or first-year maintenance inspections in FY2024. The number of maintenance inspections that were conducted is more than that of FY2023, thanks in part to the County's new inspection applications and increased staffing.
- In FY2024, the County issued three Blue Notice guidance documents after receiving approval from the Department. As a reminder, the County must continue to submit to the Department any modification or changes to plan review policies, details, standard plans, ordinances, or design requirements for the Department's review and concurrence.

The County has met the requirements of PART IV.D.1.

2. Erosion & Sediment Control

- The County submitted quarterly grading permit information, as required. In FY2024, the County approved 69 quarterly grading permits. The permitted sites comprised a total disturbed area of 499.4 acres.
- Anne Arundel County has maintained delegated authority for Erosion and Sediment Control enforcement through June 30, 2027.

The County has met the requirements of PART IV.D.2.

3. Illicit Discharge Detection and Elimination (IDDE)

- The County prioritizes and schedules outfall screenings according to the IDDE Outfall Screening Prioritization Process approved in the FY2022 Annual Report.
- The County maintains an ordinance that prohibits illicit discharges into the storm drain system as well as written standard operating procedures for implementing the IDDE program.
- In FY2024, County field crews inspected 173 major and minor outfalls, conducted chemical tests of dry weather discharges, and found 4 illicit discharges. While conducting routine visual inspections of 332 commercial and industrial areas, the County identified 19 upland pollutant sources. The County also responded to 38 illicit discharge complaints. The County submitted documentation demonstrating appropriate corrective actions through verbal warnings, notices of violation, and civil citations.

The County has met the requirements of PART IV.D.3.

4. Property Management and Maintenance

- A list of the 18 County-owned properties currently covered under the Maryland NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity (Industrial Stormwater General Permit) was provided in the Annual Report.
- The County swept 6,685 lane miles and prevented 300 tons of material from entering the County's MS4 from inlet and catch basin cleaning efforts in FY2024. The County also removed 91.3 tons of litter and 1,110 tons of debris from County roads.
- The County continued to reduce the use of pesticides, herbicides, fertilizers, and other pollutants associated with vegetation management.
- The County applied 4,287 tons of road salt and 126,150 gallons of brine during the winter season when the accumulated snowfall was 11.3 inches. Compared to previous years with similar total accumulated snowfall, the County has increased the amount of liquid brine used and decreased the amount of road salt used.
- The County provided salt management training and pollution prevention training to 108 and 174 staff, respectively.
- The County submitted a Salt Management Plan (SMP) as required in the third year Annual Report. The Department's comments are as follows:
    - The SMP described appropriate best practices for winter weather management activities, tracking material use, staff training, and public education. The County is commended for being an early adopter of salt management practices, as the original plan was first drafted in 2014. However, the plan does not outline specific actions beyond 2024. The Department advises that the SMP is intended to be updated and adapted over time. Therefore, the permit requires "a plan for evaluation of new equipment and methods, and other strategies for continual improvement." Accordingly, the Department will require the County to resubmit an updated plan by the fifth year Annual Report due December 31, 2026, and include the following information:
        - Outline updated goals and include specific timeframes to reflect objectives and progress beyond 2024. This should include short-term and longer-term goals (i.e. timeframes of 5 to 10 years or more).

- Develop a process for identifying and replacing old equipment with updated technology, with specific timeframes and budgetary projections to achieve this task.
- Develop a plan to improve tracking and record keeping of salt application on roads during storm events as current equipment and technologies are upgraded.
- Provide an update on the status of progress made to meet specific goals outlined in the 2014 SMP that were to be upgraded before the permit term. These include the tables for Safety, Mobility, and Winter Maintenance Policies; Trends and Data Analysis; Material Record Keeping; Storm Response; Environmentally Sensitive Areas; and Public Education and Outreach, which indicated completion dates were expected between 2014 and 2018. Provide updated timelines and projections for these items beyond 2025.
- Provide updates to the training program for winter weather operators, staff, and contractors. Additionally, provide updates on the County's public education and outreach efforts, including salt management strategies and communication with partners, private applicators, residents, and HOAs.

  - In addition to the items noted above, the Department offers the following suggestions that can be incorporated into future plans and longer-term objectives to demonstrate continual improvement:
    - Add a table of contents to the SMP for ease of navigation and readability.
    - Identify strategies and best practices to broaden the plan's scope beyond best practices for roadways. For example, consideration toward installing practices and strategies to protect public infrastructure, including County-owned properties, such as schools, libraries, sidewalks, and parking lots.
    - Incorporate best practices for limiting material waste, such as street sweeping to collect leftover salt applied and reusing gray water collected from wash areas.
    - Develop enhanced education opportunities with the private sector and contractors.
  - The Department advises that as new information becomes available on winter weather management science and technologies, we will work with the County to update and refine plans as appropriate.
  - As a reminder, in the fourth year Annual Report, the County must begin reporting information on the amount of deicing and anti-icing material applied on roads per precipitation event or date and the monthly and annual pounds used per lane mile per inch of snow. This can be done using best available data while the SMP identifies improved methods to track and record more accurate data over time.

- In FY2024, the County began tailoring the Department-approved Good Housekeeping Plan (GHP) templates for County-owned properties. As of November 15, 2024, 149 properties were assessed, and draft GHPs have been developed for 10 of them.
  - The County's GHP progress meets the permit requirements of Part IV.D.4.b. While the County is commended for these initial efforts, additional information is needed. The County must submit the following in the next Annual Report:
    - A Countywide map that indicates where properties are located that the County has determined require a GHP.
    - An update on the status of evaluating County properties to determine whether a GHP is required.

- An update on annually training staff in GHP-related good housekeeping activities expanded beyond the existing training in pollution prevention and good housekeeping practices related to the Industrial Stormwater General Permit.

The County has met the requirements of PART IV.D.4.

5. Public Education

- The County continues to conduct public outreach efforts, including operating a compliance hotline, implementing educational websites and social media sites targeting a variety of stormwater-related topics, and conducting the Watershed Stewards Academy. The County hosted numerous in-person and virtual outreach events, far exceeding the required 75 outreach efforts per year.

The County has met the requirements of PART IV.D.5.

E. Stormwater Restoration

- The County has restored a total of 2,232 acres, or approximately 74% of the 2,998 impervious acres required in the permit, exceeding the Year 3 benchmark of 1,800 impervious acres completed. In FY2024, the County completed restoration projects treating a total of 417.6 acres. The restored acres during the permit term include:
  - Stream Restoration (11 projects totaling 650.6 acres)
  - Septic System Pumping (611.8 acres, annual average)
  - Shoreline Management (10 projects totaling 285.6 acres)
  - Dry Channel Regenerative Step Pool Conveyance System (11 projects totaling 228.7 acres)
  - Septic Connections to WWTP (hundreds of projects totaling 90.1 acres)
  - Forestation on Pervious Urban (2 projects totaling 49.7 acres)
  - Catch Basin Cleaning (49.4 acres, annual average)
  - Septic Denitrification (hundreds of projects totaling 47.4 acres)
  - Advanced Street Sweeping (37.8 acres, annual average)
- An additional 473.6 acres of restoration are planned for Year 4. Planned projects include Stream Restoration (3 projects totaling 333.3 acres), Outfall Stabilization (1 project totaling 100.84 acres), Wet Pond (1 project totaling 26.47 acres), and Shoreline Management (1 project totaling 12.95 acres).
- The County submitted extensive project files for the 4 stream restoration projects that are underway. These project files comply with the recommendations made by the Chesapeake Bay Program (CBP) expert panels. In the next Annual Report, please continue to provide supporting documentation verifying credits and pre- and post-restoration photos for stream restoration projects completed during FY2025. The Department recommends that site photos should be taken from the same point of reference and same time of year documenting site conditions pre- and post-restoration.

The County has met the requirements of PART IV.E.

F. Countywide Total Maximum Daily Load (TMDL) Stormwater Implementation Plan

- The attached comments reflect a review of Anne Arundel County's progress toward TMDL goals presented in the *2024 Total Maximum Daily Load Stormwater Implementation Plan – Anne Arundel County, Maryland document.* Comments on the following plans will be forthcoming in a separate memo:
  - Patuxent Watershed PCB TMDL Implementation Plan
  - Baltimore Harbor Nutrient TMDL Restoration Plan Update

The County has met the requirements of PART IV.F.

G. Assessment of Controls

- The County participates in the Chesapeake Bay Trust's Pooled Monitoring Programs for BMP Effectiveness Monitoring and for Bacteria and Chloride Watershed Assessment Monitoring requirements.
- The County undertakes the required Biological and Habitat Assessment Monitoring via the previously established Countywide Biological Monitoring Program. The County submitted monitoring data using the Department's new reporting templates, distributed on November 27, 2024.
- On February 3, 2025, the Department shared the review by the Maryland Department of Natural Resources of the County's Biological Monitoring Plan via email.

The County has met the requirements of PART IV.G.

H. Program Funding

- The County provided detailed information on the expenditures and budget related to the implementation of the permit in the *FiscalAnalyses* table of the Geodatabase. The total annual cost for implementing the County's NPDES MS4 program was $57.2 million.
- The County submitted the Financial Assurance Plan (FAP) and Watershed Protection and Restoration Program (WPRP) annual reports for FY2024, as required. Comments on the County's FAP will be sent under separate correspondence.

The County has met the requirements of PART IV.H.

MEMORANDUM

To: Stormwater, Dam Safety, & Flood Management Program (SDSFM)

From: Watershed Protection Restoration and Planning Program (WPRPP)

Date: March 31, 2025

Subject: Anne Arundel County Countywide Stormwater Total Maximum Daily Load (TMDL) Implementation Plan

The Maryland Department of the Environment, Watershed Protection Restoration and Planning Program (WPRPP) has completed a review of Anne Arundel County's Countywide Stormwater TMDL Implementation Plan submitted with the FY24 Annual Report on December 31, 2024.

WPRPP finds that the plan meets the essential components as required PART IV.F.3 of the County's permit (Permit Number: 20-DP-3316 MD0068306). While the plan is of sufficient quality for the County to continue moving forward with the outlined implementation strategies, WPRPP recommendations for improvement of the Countywide plan and general comments are outlined below by TMDL pollutant.

I. Nutrient and Sediment
   A. Anne Arundel County demonstrated progress toward meeting nutrient and sediment TMDL SW-WLAs through documentation of ongoing BMP implementation and annual reductions achieved.

   B. MDE commends the County's modeled achievement of the TMDL reduction target for the South River TSS TMDL in FY24. MDE is currently in the process of developing guidance for jurisdictions who have demonstrated achievement of WLAs via implemented practices and modeling exercises. MDE encourages the County to reach out if they wish to provide feedback or additional insight during the guidance development process.

   C. Table 15: TMDL summary for Other West Chesapeake Bay TSS is not consistent with the values presented in Table 7: Local TSS and nutrient TMDL progress. MDE believes Table 7 requires a correction.

II. Bacteria
   A. Anne Arundel County demonstrated its progress toward meeting bacteria TMDL SW-WLA in the form of watershed-specific upland BMP implementation and retrofits, septic connections, as well as programmatic initiatives that apply to all bacteria TMDL watersheds. The County has opted into Chesapeake Bay Trust's Pooled

Monitoring Program in lieu of conducting bacteria trend monitoring, looking to fund innovative monitoring methods that can aid in their future efforts. Additionally, the County summarized their implementation progress updates in a table in Appendix F.

B. On page 48, under the Tier A Monitoring section (IV.A.1.d), the County states: "Moving forward, the County intends to focus future bacteria reduction efforts in TMDL watersheds where SW-WLAs have not yet been met, to the greatest extent possible." WPRPP suggests pairing the County-collected data under the existing bacteria monitoring programs with the spatial analysis recommended in MDE's Guidance for Developing Bacteria TMDL SW-WLA. Overlaying land use and potential fecal bacteria pollution sources with existing data could help direct the County's implementation efforts.

C. The status of SSOs for FY2024 in Appendix F shows an increase in both number (67%) and volume of overflows (176%) compared to the previous year. Has the County investigated the increase and any corrective measures been taken? Did the overflows occur in areas where sanitary sewer infrastructure has not yet been upgraded/repaired? A map of those occurrences in the Countywide Implementation Plan could provide more perspective on sanitary sewer issues.

III. PCB

A. Anne Arundel County demonstrated its progress toward meeting PCB TMDL SW-WLA through the development and implementation of PCB source tracking monitoring plans. MDE commends Anne Arundel County for the progress they've made in conducting several phases of source trackdown investigations within the Sawmill Creek subwatershed and for partnering with Montgomery and Howard County in the development and implementation of the source tracking plan in order to coordinate monitoring efforts in the Patuxent River to maximize efficiency and reduce cost.

B. On page 63, under the PCB TMDL Progress section for Baltimore Harbor (VII.A), the County states: "The county is once again collaborating with UMBC on a Phase III monitoring effort in the Sawmill Creek watershed, as well as Phase I monitoring efforts in the Cabin Branch and Marley Creek subwatersheds." Could you please provide the workplans for these monitoring activities in Appendix G (PCB TMDL Supporting Documents).

C. On page 64, under the PCB TMDL Progress section for Patuxent River (VII.B), the County states: "The plan will be reviewed and potentially revised annually based on monitoring results and implementation and load reduction progress." MDE would like to reiterate that the County is not expected to estimate load reductions in order to demonstrate progress towards meeting the PCB SW-WLA reduction goal.

D. On page 65, under the PCB TMDL Progress section for Patuxent River (VII.B), the County states: "The plan builds upon the County's 2020 implementation plan, meets MDE's requirement to update previously approved TMDL plans by the end of the current MS4 permit term, and will include the development of a PCB monitoring plan

in collaboration with Howard County, Montgomery County, Prince George's County, and Maryland State Highway Administration." The County can remove Prince George's County and Maryland State Highway Administration from the statement as they are no longer collaborating partners in this monitoring effort.

IV. Other

A. MDE is satisfied with the County's responses to MDE's FY23 Countywide TMDL Plan comments.

The Department recognizes the effort required to implement a successful stormwater management and TMDL implementation program, which is essential in our mutual goal of restoring urban streams and the Chesapeake Bay. The County is commended for its commitment and accomplishments toward this objective. Any specific technical questions related to this review may be directed to Sophia Grossweiler at Sophia.Grossweiler@maryland.gov or Jeff White at Jeff.White@maryland.gov.