



FACT SHEET

NPDES Permit Number: MDR 055500
MDE Permit Number: 13-IM-5500
Public Comment Period Expiration Date: March 30, 2017
Contact: Raymond Bahr 410-537-3543

The Maryland Department of the Environment (MDE) proposes to reissue the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4).

Introduction

MDE proposes to reissue the MS4 general discharge permit for small municipalities (permit #MDR 055500, 13-IM-5500). This permit will establish stormwater management programs to effectively control the discharge of storm drain system pollutants and improve water quality. This fact sheet provides basic information about the requirements in MDE's municipal stormwater general permit. Contact information and procedures for submitting comments can be found at the end of this fact sheet.

The draft general permit establishes conditions and prohibitions regarding the discharge of stormwater from small MS4s. It also relies on well-established State programs and an adaptive management approach to make continual improvements. Maryland has a long history of developing statewide programs to reduce stormwater pollution, which focus on protecting and restoring the water quality of Chesapeake Bay and its tributaries.

Examples include Maryland's erosion and sediment control law, passed in 1970 to control runoff from construction sites and the stormwater management law, passed in 1982 that required appropriate best management practices (BMPs) in order to maintain after development, as nearly as possible, the pre-development runoff conditions. Over the years, both programs have undergone significant revisions and enhancements, including the 2000 revision to the State's stormwater program. The new regulations provided enhanced requirements for water quality treatment, stream channel protection, and groundwater recharge. The Stormwater Management Act of 2007 included additional requirements to implement environmental site design (ESD) to the maximum extent practicable (MEP) on all new development and redevelopment projects.

Permit Authority

According to 40 Code of Federal Regulations (CFR) §122.32(a), owners of small MS4s must obtain NPDES permit coverage. MDE's general stormwater permits are subject to federal and State regulations. The Clean Water Act (CWA), federal regulations, and numerous guidelines and policies

of the United States Environmental Protection Agency (EPA) provide the federal permit requirements. The Annotated Code of Maryland, Environment Article, Code of Maryland Regulations (COMAR), and policies and guidelines of MDE provide the State permitting requirements.

General Permit History

EPA's NPDES municipal stormwater program regulations were published in 1990. These regulations were implemented in two phases. In 1990, NPDES Phase I established requirements for stormwater discharges associated with 11 categories of industrial activity, and for large and medium municipal separate storm sewer systems serving populations of 250,000 and 100,000 or greater, respectively. In Maryland, ten jurisdictions and the State Highway Administration (SHA) were required to apply for coverage under individual municipal NPDES stormwater permits to comply with the Phase I regulations. Smaller cities and towns, and State and federal agencies within these Phase I jurisdictions often had significant and interconnected storm drain systems but were not affected by the initial Phase I NPDES regulations.

In December 1999, EPA promulgated the NPDES Phase II requirements, expanding the stormwater permitting program to smaller localities as well as State and federal agencies located in Census-defined urbanized areas. MDE's first Phase II municipal stormwater general permit was issued on April 14, 2003. The Phase II program is described in 40 CFR §122.34 and requires the implementation of six minimum control measures by all entities covered by a general permit. These six measures are public education and outreach; public involvement and participation; illicit discharge detection and elimination; construction site stormwater runoff control; post construction runoff control; and pollution prevention and good housekeeping. Successful implementation of the six minimum control measures and other permit conditions constitute compliance with the standard of reducing pollutants to the MEP, protecting water quality, and satisfying the requirements of the CWA for this five year permit term.

This proposed permit action is to issue a "second-generation" NPDES stormwater general permit for Phase II entities. The draft permit represents another step forward for Maryland's small MS4 communities. Due in part to Maryland's continuing efforts to restore Chesapeake Bay and improve local water quality, MDE has added restoration requirements to address impacts from urban development that have little or no stormwater management.

Designation Criteria for Municipalities Requiring Small MS4 Permit Coverage

Designation criteria for coverage under the 2003 general permit included municipalities with populations greater than or equal to 1,000 that were located within a Phase I jurisdiction. In addition, municipalities located outside of a Phase I jurisdiction that had a population of at least 10,000 and a population density of 1,000 people per square mile were designated. Based on these criteria, MDE designated over 50 jurisdictions for coverage. Many of these municipalities later became co-permittees under the county Phase I MS4 permit.

Designation criteria under the second-generation municipal permit are summarized as follows:

1. Any small municipality with a population greater than 1,000 that is located within a regulated Phase I jurisdiction.
2. Urbanized areas as determined by the latest Decennial Census by the U.S. Census Bureau in accordance with 40 CFR 122.32(a)(1). A map of designated urbanized areas is located at the following website: <https://www.epa.gov/npdes/urbanized-area-maps-npdes-ms4-phase-ii-stormwater-permits>
3. Other areas located outside of urbanized areas that are designated by MDE. Based on 40 CFR 123.35(b)(2), this includes all municipalities with a population of at least 10,000 and a population density of at least 1,000 people per square mile.

Appendix A of the permit provides a list of all municipalities designated for coverage.

MS4 General Permit Waiver Criteria

The Code of Federal Regulations specifies that certain jurisdictions may be waived from permit coverage under one of the following conditions:

1. An MS4 serves a population of less than 1,000 within the urbanized area, does not contribute substantially to the pollutant loadings of a physically interconnected regulated MS4 jurisdiction, and does not need stormwater controls based on wasteload allocations (WLAs) in an EPA approved or established total maximum daily load (TMDL); MDE has determined that the towns of Chesapeake City, Burkittsville, New Market, Rosemont, and Funkstown, and Woodsboro meet these criteria; or
2. An MS4 serves a population of less than 10,000 and the permitting authority has evaluated receiving waters and determined that additional stormwater controls are not needed based on WLAs associated with an EPA approved TMDL. If a TMDL has not been approved, an equivalent analysis that determines sources and allocations for the pollutants of concern, and MDE has determined that future discharges from the MS4 do not have the potential to result in exceedances of water quality standards or other significant water quality impacts. MDE has determined that the towns of Charlestown, Delmar, and Fruitland meet these criteria.

In addition to the above waiver criteria, municipalities that discharge stormwater runoff combined with municipal sewage must obtain NPDES permits and therefore, are not subject to MS4 requirements (40 CFR 122.26(a)(7)). The cities of Cumberland and Frostburg meet these criteria.

When determining municipalities eligible for waivers, MDE has considered other State laws and regulations that remain in force and require stormwater controls for new construction projects. For example, all municipalities in Maryland are subject to statewide erosion and sediment control and stormwater management regulations under COMAR 26.17.01 and 26.17.02. Therefore, all new development and redevelopment are subject to stringent stormwater controls during and after

construction. State stormwater regulations require that ESD be implemented to the MEP. Because all municipalities identified as eligible for waivers under the MS4 program are still subject to statewide regulatory pollution control programs, MDE has determined that water quality of receiving streams is protected without requiring additional stormwater controls.

General Permit Requirements

As noted in the General Permit History, EPA's Phase II stormwater requirements are based on the implementation of six minimum control measures. Any permittee renewing coverage under the general permit shall continue to maintain, update, and report progress on working toward these measures in MS4 progress reports. All new permittees shall develop the programs described below within the first year of permit issuance and begin implementation thereafter. Annual reports will show progress toward program development and demonstrate full implementation of all permit requirements by the end of the five year permit term. Below is a general description of how each control measure will be addressed by permit requirements.

Public Education and Outreach

40 CFR §122.34(b)(1) requires permittees to develop, implement, and maintain a public education and outreach program to reduce the discharge of pollutants caused by stormwater runoff. New permittees shall develop these programs in the first year of the permit and begin implementation thereafter. Renewal permittees must maintain and update their existing programs. The permit contains specific requirements in order to assist the permittee with understanding tasks to be completed to comply with applicable regulations, including:

- Develop and distribute education materials describing the impacts of stormwater discharges on receiving waters, the reason that controlling these discharges is important, and what actions the public and employees can take to reduce pollutants in stormwater runoff;
- Develop a hotline for the public to report water quality complaints; and
- Develop an employee training program that addresses appropriate topics to prevent or reduce discharge of pollutants into the storm drain system.

Public Involvement and Participation

40 CFR §122.34(b)(2) requires permittees to update or develop, implement, and maintain a public involvement and participation program. New permittees shall develop these programs in the first year of the permit and begin implementation thereafter. Renewal permittees must maintain and update their existing programs. The permit contains specific requirements in order to assist the permittee with understanding tasks to be completed to comply with applicable regulations including:

- Promote and perform public participation events within the jurisdiction such as adopt-a-stream program, storm drain stenciling, stream cleanups, tree plantings, and Earth Day events;
- Quantify and report public participation efforts completed during the permit term;
- Allow public access to the permittee's progress reports and incorporate substantive public

- comments into improvements to the jurisdictions stormwater program; and
- Comply with public notice requirements for any regulated activity on the property of the MS4.

Illicit Discharge Detection and Elimination

40 CFR §122.34(b)(3) requires permittees to update or develop, implement, and maintain a program to identify and eliminate illicit storm drain system connections and non-stormwater discharges.

New permittees shall develop these programs in the first year of the permit and begin implementation thereafter. Renewal permittees must maintain and update their existing programs. The permit contains specific requirements in order to assist the permittee with understanding tasks to be completed to comply with applicable regulations including:

- Maintain a map of the permittee's storm drain system identifying all outfalls, inlets, stormwater management facilities, and illicit discharge screening locations;
- Adopt an ordinance or other regulation that prohibits illicit discharges into the storm drain system;
- Develop standard operating procedures that specify outfall screening locations, frequency, inspection checklists, spill control and illicit discharge investigation and elimination procedures;
- Develop a system for the public to report illegal dumping or spills;
- Maintain documentation of illicit discharge screening efforts and investigations;
- Report follow up investigations and status as a result of any suspected illicit discharge; and
- Report remedial actions to address any water quality problems identified during illicit discharge screening efforts.

Construction Site Stormwater Runoff Control

40 CFR §122.34(b)(4) requires permittees to update or develop, implement, and maintain a construction site stormwater runoff control program. The Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland and State erosion and sediment control regulations under COMAR 26.17.01 established a statewide erosion and sediment control program to control construction site runoff well before the EPA stormwater requirements. This statute and COMAR specify the requirements for any construction activity that disturbs 5,000 square feet of earth or 100 cubic yards or more of earth. Because Maryland's erosion and sediment control program regulates more earth disturbing activities than the NPDES stormwater program, MDE considers compliance with the State statute to be a qualifying local program and compliance with this minimum control measure. The permit contains specific requirements in order to assist the permittee with understanding tasks to be completed to comply with applicable regulations, including:

- Adopt an MDE approved erosion and sediment control ordinance which include procedures for plan review and approval of construction drawings, and inspection and enforcement of active construction projects;
- Comply with design criteria and performance requirements established in *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* (MDE, 2011);
- Develop procedures for receiving, investigating, and resolving complaints from any interested party related to construction activities;

- Ensure appropriate staff is trained in Maryland’s Responsible Personnel Certification related to proper procedures and actions to address potential discharge of pollutants into the storm drain system as a result of any construction activity;
- Perform construction site inspections to ensure compliance with approved sediment and erosion control plans; and
- Track all active construction sites and report disturbed areas to MDE.

Post Construction Stormwater Management

40 CFR §122.34(b)(5) requires permittees to update or develop, implement, and maintain a post construction stormwater management program. The Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland and COMAR 26.17.02 established a statewide stormwater management program. This statute and COMAR require all jurisdictions to have an approved qualifying local program to ensure that stormwater management for new development and redevelopment is addressed for any proposed project that disturbs 5,000 square feet or more of earth. Because Maryland’s stormwater management program regulates new and redevelopment projects, MDE considers compliance with the State statute to be a qualifying local program and compliance with this minimum control measure. The permit contains specific requirements in order to assist the permittee with understanding tasks to be completed to comply with applicable regulations, including:

- Adopt an MDE approved stormwater management ordinance that provide plan review and approval processes and inspection and enforcement procedures that ensure proper construction and maintenance of BMPs;
- Comply with design criteria and performance requirements established in the *2000 Maryland Stormwater Design Manual, Volumes I and II* (Manual);
- Perform triennial inspections of stormwater BMPs and use appropriate enforcement measures to ensure proper performance of all stormwater facilities;
- Perform routine maintenance of publicly owned BMPs and verify long term performance;
- Develop and maintain a stormwater BMP database to verify proper maintenance of BMPs; and
- Ensure appropriate staff is trained in proper BMP design, performance, inspection, and routine maintenance.

Pollution Prevention and Good Housekeeping

40 CFR §122.34(b)(6) requires permittees to update or develop, implement, and maintain pollution prevention and good housekeeping techniques and procedures to reduce pollutants from all municipal operations. Components of this minimum control measure include the updating or development of policies and procedures to effectively reduce pollutant discharges to the storm drain system from activities located at municipal properties such as water and waste water treatment facilities, fleet yard operations, maintenance garages, parks and recreation sites, street and infrastructure maintenance, and grounds maintenance. New permittees shall develop these programs in the first year of the permit and begin implementation thereafter. Renewal permittees must maintain and update their existing programs. The permit contains specific requirements in order to assist the permittee with understanding tasks to be completed to comply with applicable regulations, including:

- Ensure that appropriate staff and contractors receive training designed to address the importance of water quality protection through pollution prevention and good housekeeping measures;
- Develop and implement pollution prevention plans at all facilities that describe good housekeeping procedures to detect and correct any pollutant discharge, release, leak, or spill on site;
- Document any spill, discharge, or release and efforts related to containment and clean up;
- Track and quantify efforts to reduce fertilizers, pesticides, and winter deicing materials;
- Ensure the permittee maintains proper coverage under the General Permit for Stormwater Discharges Associated with Industrial Activity, Sector AD.a. As a result, municipal facilities may require additional NPDES permit coverage beyond this MS4 permit.

Chesapeake Bay Restoration and Total Maximum Daily Loads (TMDLs)

In 2010, the Chesapeake Bay TMDL was established by EPA for the six Bay States (Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the District of Columbia. The TMDL describes the level of effort that is necessary to meet water quality standards and restore Chesapeake Bay. The TMDL is an aggregate of the load allocations (LAs) for nonpoint sources, the wasteload allocations (WLAs) for point sources, and a margin of safety. The State is required to issue NPDES permits to point source discharges that are consistent with the assumptions and requirements of any applicable TMDL WLA (40 C.F.R. §122.44(d)(1)(vii)(B)).

Urban stormwater is defined in the CWA as a point source discharge and is subsequently part of the WLA. NPDES stormwater permits play a significant role in regulating pollutants from the urban sector and are an essential management component of Maryland's Chesapeake Bay WIP. Therefore, the State's NPDES general stormwater permits support Maryland's WIP strategy and are part of the regulatory backbone for controlling urban pollutants to meet the Chesapeake Bay and other local TMDLs.

Maryland's WIP specifies the nutrient and sediment load reductions required to address the Chesapeake Bay TMDL by 2025. This general permit will make progress toward that strategy by requiring small MS4s to commence restoration efforts for twenty percent of existing developed lands that have little or no stormwater management. This five year permit term will require permittees to initiate planning strategies and implementation of water quality improvement projects. Restoration planning strategies and implementation schedules required under the conditions of this five year permit term are consistent with addressing the water quality goals of the Chesapeake Bay TMDL by 2025. This constitutes adequate progress toward compliance with Maryland's receiving water quality standards and EPA approved stormwater WLAs for this permit term.

The permit contains specific requirements in order to assist the permittee with understanding tasks to be completed to comply with applicable regulations including:

- Develop a baseline impervious area assessment and submit within the first year of permit issuance for MDE review;

- Develop and implement an impervious area restoration work plan within the first year of permit issuance that outlines the development of a new restoration program for the municipality and includes appropriate budget, staffing, and resources to comply with impervious area restoration requirements;
- Develop a restoration activity schedule and provide a list of water quality improvement projects that will be implemented by 2025 to meet Chesapeake Bay restoration targets;
- Develop a BMP database to track implementation, and comply with inspection and maintenance requirements.

Restoration efforts may include the use of ESD practices, structural stormwater BMPs, retrofitting, stream restoration, or other alternative restoration practices. Trading with other sectors may be considered as another method to achieve pollutant load reductions, after a program has been established, regulations are issued, public participation requirements are satisfied, and its use approved by EPA. Acceptable design criteria for stormwater BMPs are outlined in the *Manual and Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2014). Appendix B of this permit provides relevant guidance from MDE (2014) for small MS4 permittees to comply with these requirements. The four deliverables listed above are required in annual report submittals for MDE review to determine compliance with the general permit.

The twenty percent restoration requirement established in the permit is informed by MDE's long history of incorporating restoration requirements into NPDES permits. For example, the first NPDES permits required Phase I MS4 jurisdictions to complete a retrofit assessment and implementation schedule within the first five year permit term. The second and third generation permits required Phase I MS4 jurisdictions to perform watershed assessments and develop a plan to retrofit ten percent of untreated impervious area. More recently, the fourth generation Phase I MS4 permits contain a requirement to commence and complete restoration for twenty percent of the jurisdiction's untreated impervious area in the five year permit term. Maryland's NPDES permits have established an iterative process that builds on restoration efforts from prior permit terms and strengthens provisions in subsequent permits. Because this is the first Phase II MS4 general permit to incorporate restoration requirements, MDE will initiate a similar iterative approach for small MS4 jurisdictions.

Permit provisions established in this small MS4 general permit reflect guidance from EPA provided during prior permit negotiations and detailed in the EPA Memorandum "Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs" (November 12, 2010). EPA noted the difficulty of establishing clear, effective, and enforceable NPDES permit limitations for sources that are expressed as single categorical or aggregated WLAs. Therefore, EPA advised that it is suitable to use a surrogate parameter to establish numeric targets that are expected to result in the attainment of water quality standards, such as decreasing stormwater flow volume or impervious cover. In addition, EPA advised that NPDES permits contain objective and measureable elements (e.g., schedule for BMP installation or level of BMP performance) to show adequate progress toward achieving applicable water quality standards and TMDL allowance.

In accordance with EPA guidance, this general permit establishes the twenty percent impervious area

restoration requirement as a parameter for meeting Chesapeake Bay and local TMDLs. MDE also requires specific deliverables and implementation schedules as enforceable provisions of the permit. In addition, performance standards are established by requiring that BMPs meet the design criteria in the Manual and MDE, 2014. The BMP implementation schedules established in this permit will be incorporated in future permits in accordance with MDE's iterative permitting approach in order to achieve pollutant reductions associated with Chesapeake Bay and local TMDLs. Therefore, restoration requirements established above are consistent with Maryland's efforts to address the Chesapeake Bay and local TMDLs for stormwater sources and EPA guidance related to NPDES permit requirements.

Addressing Local TMDLs

Research has demonstrated that stormwater BMPs are effective for reducing nutrients, sediments, and other pollutants associated with local TMDLs. In December 2015, the Chesapeake Stormwater Network (CSN) released the report, *Potential Benefits of Nutrient and Sediment Practices to Reduce Toxic Contaminants in the Chesapeake Bay Watershed*. The Chesapeake Bay Partnership's Toxic Work Group conducted an exhaustive research review to evaluate the potential benefits that stormwater BMPs can have for reductions in toxic pollutants. The report tied the treatment for urban toxic contaminants to reductions in sediment because they share many of the same characteristics, or the contaminants bind, adsorb, or attach to sediment particles. A large number of BMPs already have sediment removal rates approved by the Chesapeake Bay Program (CBP), allowing BMPs intended to be used for toxic contaminants to be associated with these practices. Several of the contaminants studied have been given local TMDLs in Maryland. This includes polychlorinated biphenyls (PCBs), mercury, and chlordane.

For example, according to the 2015 CSN report, research demonstrated that PCBs have sediment-like characteristics that allow them to settle. Stormwater BMPs that treat sediment are expected to promote the removal of PCBs. Some Phase I MS4 jurisdictions, such as Baltimore and Prince George's Counties, have already associated PCBs with sediments in their restoration plans. The 2015 CSN report also included research associating mercury and chlordane, a legacy organophosphate pesticide, with sediment-like characteristics.

Other local TMDLs in Maryland include *Escherichia coli*, *Enterococci*, and fecal coliform. The National Pollutant Removal Performance Database (Version 3, 2007) provided removal efficiencies for bacteria for many stormwater BMPs already used for water quality treatment, such as wet ponds, wetlands, and filtering practices. In addition, Baltimore County identified several practices, including riparian buffers and wet ponds, as having bacteria reduction benefits. Anne Arundel County's restoration strategy to reduce bacteria includes the retrofit of pre-2002 ponds to meet current MDE stormwater criteria.

In summary, the twenty percent restoration requirement will result in implementation of CBP approved BMPs and will reduce nutrients, sediments, and other pollutants such as PCBs, bacteria, mercury, and chlordane. Utilizing BMPs with specific performance standards and providing implementation schedules will provide confidence that Chesapeake Bay and local TMDLs can be met. In this way, small MS4s will demonstrate progress toward meeting local stormwater WLAs

and the water quality goals for Chesapeake Bay restoration by 2025.

MDE Program Review

As described above, the six minimum control measures and impervious area restoration requirements establish specific deliverables and tasks that permittees shall accomplish to comply with the conditions of the permit. MDE has developed an MS4 Progress Report (provided in Appendix D of the permit) that itemizes the specific information to be submitted to demonstrate acceptable progress toward implementing all program requirements. This will assist the MS4 community in preparing complete progress reports to show compliance with the permit. The MS4 Progress Report also notes specific records, such as inspection reports, that permittees shall maintain and make available for MDE review during field audits. Upon receipt of the complete information outlined in MS4 Progress Reports, MDE will assess a permittee's progress toward successful implementation of all program elements of the permit. This will enable MDE to evaluate compliance with the terms and conditions of the permit.

Sharing Responsibilities

Permittees may choose to partner or share responsibilities with other entities for meeting compliance with specific permit requirements. This could entail establishing partnerships with the surrounding county, municipality, or other government entity performing similar activities under the requirements of an NPDES MS4 permit. If responsibilities for permit compliance are shared, the relationship and specific duties of all participating entities need to be described and submitted to MDE. However, each permittee remains responsible for compliance with all conditions of its respective permit. Therefore, it is recommended that a legally binding contract, memorandum of understanding, or other similar document be executed between permittees to avoid conflicts in meeting permit requirements.

Summary

Maryland's proposed municipal small MS4 general permit represents another step forward in stormwater management, restoration, and water quality improvement. This permit supports Maryland's efforts to restore Chesapeake Bay and comply with TMDLs established or approved by EPA by establishing significant requirements for impervious area restoration. This permit will be Maryland's first MS4 Phase II permit to incorporate restoration programs to address water quality impacts from urban areas that were developed prior to the State's stormwater management program. These restoration efforts will build upon the six minimum control measures and existing programs that were required under the previous permit cycle. Together they ensure a comprehensive watershed management strategy for controlling stormwater, improving the health of local streams and rivers, and meeting water quality standards.

Public Review and Participation Opportunities

Upon advertisement, the tentative determination will be available on MDE's website at:

http://www.mde.state.md.us/programs/water/stormwatermanagementprogram/pages/programs/water/programs/sedimentandstormwater/storm_gen_permit.aspx

Copies of the draft permit may also be procured at a cost of \$0.36 per page. Written requests for copies should be directed to Mr. Raymond P. Bahr, Maryland Department of the Environment, Water Management Administration, Sediment, Stormwater, and Dam Safety Program, 1800 Washington Blvd., Ste. 440, Baltimore, Maryland 21230-1708. Additional information on stormwater management in Maryland can also be found on MDE's website or by calling Mr. Bahr at 410-537-3543 or 1-800-633-6101.

Once tentative determination is issued, the public will have 20 days to request a hearing and 30 days to provide written comments on the draft permit. If no hearing request is made nor comments received, the tentative determination will become final. If requested, a public hearing will be held within one month of notification. MDE will prepare a written response to comments and written testimony received at the hearing prior to issuing final determination. Once final determination is issued, the public will have 30 days to request a judicial review of the permit.