

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**  
**GENERAL PERMIT FOR DISCHARGES FROM STATE AND FEDERAL**  
**SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS**  
**GENERAL DISCHARGE PERMIT NO. 13-SF-5501**  
**GENERAL NPDES NO. MDR055501**

**Effective Date: TBD**  
**Expiration Date: TBD**

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**PART I. COVERAGE UNDER THIS GENERAL PERMIT**

**A. Permit Area**

This National Pollutant Discharge Elimination System (NPDES) general permit covers small municipal separate storm sewer systems (MS4s) in certain portions of the State of Maryland as defined under Title 40 of the Code of Federal Regulations (CFR) 122.26(b)(16) and located within the geographical area of:

1. Municipalities defined as “large” or “medium” MS4s under 40 CFR 122.26(b) that are permitted currently under an individual NPDES municipal stormwater permit; or
2. Urbanized areas as determined by the latest Decennial Census by the Bureau of the Census; or
3. Other areas designated by the Maryland Department of the Environment (MDE).

**B. Eligibility**

Small MS4s located within the Permit Area specified in PART I.A above that are eligible for coverage under this general permit include those that:

1. Are owned, operated, or maintained by the State of Maryland or the United States of America (U.S.);
2. Are already covered under an NPDES small MS4 general permit; and
3. Serve developed land area greater than 5 acres and have at least ten percent impervious area property wide.

A list of State and federal agencies that own or operate property in Maryland and are eligible for coverage under this general permit is included in Appendix A.

**C. Obtaining Coverage**

Owners of regulated small MS4s shall apply for coverage under this general permit by submitting a Notice of Intent (NOI) according to requirements in PART II below, using the form provided by MDE in Appendix C. A list of State and federal agencies eligible for permit coverage is found in Appendix A. Others not listed that meet designation criteria described in Appendix A are required to file an NOI as well. An NOI may represent:

1. An individual State or federal property; or
2. Multiple properties owned, operated, or maintained by a single government entity.

**D. Definitions**

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

**PART II. NOTICE OF INTENT REQUIREMENTS**

**A. Deadlines for Notification**

Small MS4 owners and operators in State of Maryland and U.S. government properties that meet the designation criteria in Appendix A shall seek coverage under this general permit and submit to MDE a new or updated NOI that contains the information outlined in PART II.B within 180 days of the effective date of this permit.

**B. Contents**

An NOI serves as the application for coverage under this general permit. A permittee may file an application for an individual property or file a joint application that includes multiple MS4s owned, operated, or maintained by an individual government entity. The NOI form is provided in Appendix C of this permit. The NOI shall contain the following:

1. The facility name and address of each property for which coverage under this general permit is being sought;
2. A brief description of each property for which coverage is being sought. This shall include the approximate size, land uses, a description of the stormwater conveyance system, and list of other NPDES permits that have been issued by MDE;
3. The contact name, address, telephone number, and e-mail address of responsible personnel for the required MS4 programs listed in Parts IV and V of this general permit;
4. A brief description of any agreements with another entity when responsibilities for permit compliance are shared between the permittee and other entity. The relationship and specific duties of all parties shall be provided;
5. An estimate of the anticipated expenditures to implement the required programs specified in this general permit; and
6. An authorized signature according to PART VII.O of this general permit.

### **C. Where to Submit**

State of Maryland and U.S. government entities seeking coverage under this general permit shall submit NOIs to the following:

Maryland Department of the Environment  
Water Management Administration  
Sediment, Stormwater, and Dam Safety Program  
1800 Washington Boulevard  
Suite 440  
Baltimore, Maryland 21230-1708

### **PART III. COMPLIANCE WITH WATER QUALITY STANDARDS**

State and federal government entities covered under this general permit must manage, implement, and enforce management programs for controlling all stormwater discharges in accordance with the Clean Water Act (CWA) and corresponding stormwater NPDES regulations, 40 CFR Part 122, to meet the following requirements:

1. Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with Maryland's receiving water quality standards;
2. Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with Title 33 of the U.S. Code (USC) 1342(p)(3)(B)(iii); 40 CFR 122.44(k)(2) and (3); and
3. Comply with all other provisions and requirements contained in this general permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with the conditions contained in Parts IV and V of this permit shall constitute compliance with Section 402(p)(3)(B)(iii) of the CWA and adequate progress toward compliance with Maryland's receiving water quality standards and any Environmental Protection Agency (EPA) approved stormwater WLA for this permit term.

### **PART IV. MINIMUM CONTROL MEASURES**

Permittees shall ensure that the following minimum control measures (MCMs) are implemented in the jurisdiction served by the small MS4 covered under this permit. The six MCMs described below include Personnel Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post Construction Stormwater Management, and Pollution Prevention and Good Housekeeping. Specific requirements for compliance with this general permit are outlined for each MCM below. Permittees shall report on the status of implementation of these required programs in accordance with the MS4 Progress Report (Appendix D).

Any permittee renewing coverage under the general permit shall continue to maintain, update, and report progress as described below. 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.

Permittees can choose to utilize partnerships or share responsibilities with other entities for compliance with any requirement of this general permit. This may entail establishing partnerships with the surrounding county or municipality performing similar activities under the requirements of an NPDES MS4 permit. If responsibilities for permit compliance are shared between the permittee and another entity, the relationship and specific duties of all participating entities shall be described in the NOI and updated information provided in the MS4 Progress Report. However, the permittee shall remain responsible for compliance with all conditions of this general permit. For this reason, a legally binding contract, memorandum of understanding (MOU), or other similar means shall be executed between the permittee and all other entities to avoid conflicts resulting from noncompliance with this general permit.

#### **A. Personnel Education and Outreach**

Permittees are required to implement and maintain a personnel education and outreach program and distribute education materials to the community and employees to help reduce the discharge of pollutants caused by stormwater runoff. This entails developing brochures, booklets, and training programs to educate personnel about the impacts of stormwater discharges on receiving waters, why controlling these discharges is important, and what personnel and the public can do to reduce pollutants in stormwater runoff. These activities may be coordinated with other portions of the permittee's MS4 program or developed independent of other pollution control efforts.

Renewal permittees shall update and continue to maintain their personnel education and outreach program. New permittees shall develop this program within one year of permit issuance and begin implementation thereafter. All permittees shall provide program updates in accordance with the MS4 Progress Report specified for this MCM.

In order to comply with this MCM, all permittees shall:

1. Develop a hotline for reporting of water quality complaints within one year of permit issuance;
2. Determine the target audience within the jurisdiction and develop materials to educate the audience on the impact of stormwater. These topics may include water conservation, chemical application on lawns and landscaping, proper car wash procedures, proper disposal of paint and other household hazardous waste, recycling and trash pick-up, and proper pet waste disposal;

3. Distribute stormwater educational materials through newsletters, website, or other appropriate methods. Submit examples of education material to MDE in accordance with reporting requirements;
4. Develop and implement an annual employee training program that addresses appropriate topics to prevent or reduce the discharge of pollutants into the storm drain system. Submit example training materials and attendee list to MDE in accordance with reporting requirements; and
5. Describe in reports to MDE how the education programs facilitate the permittee's efforts to reduce pollutants in stormwater runoff.

**B. Public Involvement and Participation**

Permittees are required to create and foster opportunities for public participation in the MS4 management program for controlling stormwater discharges. Recommended activities include adopt-a-stream programs, public surveys, storm drain stenciling, stream cleanups, tree plantings, and Earth Day events. These activities may be coordinated with other portions of the permittee's MS4 program or developed independent of other pollution control efforts.

Renewal permittees shall update and continue to maintain their public involvement and participation program. New permittees shall develop this program within one year of permit issuance and begin implementation thereafter. All permittees shall provide program updates in accordance with the MS4 Progress Report specified for this MCM.

In order to comply with this MCM, all permittees shall:

1. Determine the target audience within the jurisdiction to promote public involvement and participation activities;
2. Specify activities appropriate for the target audience and promote participation;
3. Perform at least 5 public participation events and during the permit term and report to MDE in accordance with reporting requirements;
4. Provide public access to the permittee's progress reports via website or other method and consider any substantive public comments received concerning the jurisdiction's MS4 program (a permittee may reserve from public review any information considered confidential); and
5. Comply with all State and federal public notice requirements for any regulated activity on the property of the MS4.



### **C. Illicit Discharge Detection and Elimination (IDDE)**

Permittees are required to develop, implement, and enforce a program to identify and eliminate illicit storm drain system discharges in accordance with CFR §122.34(b)(3). A permittee will satisfy this MCM by field screening storm drain system outfalls, inspecting the storm drain system to identify any source of an illicit discharge, eliminating any illegal connection or illicit discharge to the storm drain system, and enforcing penalties where appropriate. The illicit discharge program shall also contain components to address illegal dumping and spills. Additional guidance is provided in Appendix B, Section II to assist permittees with the development of an acceptable IDDE program.

Renewal permittees shall update and continue to maintain their illicit discharge detection and elimination program. New permittees shall begin development of this program within one year of permit issuance and begin implementation thereafter. All permittees shall provide program updates in accordance with the MS4 Progress Report specified for this MCM.

In order to comply with this MCM, all permittees shall:

1. Maintain a map of the jurisdiction's storm drain infrastructure, which identifies all pipes, outfalls, inlets, stormwater management best management practices (BMPs), illicit discharge screening locations, and surface waters;
2. Establish a policy or other agency directive that prohibits illicit discharges into the storm sewer system;
3. Maintain the capability to access the storm sewer system across the entire facility to investigate and eliminate illicit storm drain system discharges (e.g., physical access, proper internal permissions);
4. Develop and implement written standard operating procedures (SOPs) that specify the following:
  - a. Development of an inspection checklist describing how outfalls are screened for dry weather flows (see Appendix B, Figure B.2 for an example of an outfall screening checklist);
  - b. Frequency of outfall inspections; Screening efforts for State and federal facilities may be tiered based on property size. For small properties (i.e., less than 100 acres), all outfalls should be screened each year. Medium size properties (i.e., 100 - 2,000 acres) should screen 50% of total outfalls. Large properties (i.e., more than 2,000 acres) should screen 20% per year, up to 100 outfalls;
  - c. Methods for identifying the source and eliminating spills, illegal dumping, and other suspected illicit discharges;
  - d. Identification of priority areas for illicit discharge screening based on pollution potential;

- e. Facility policy to ensure illicit discharges are eliminated;
  - f. Means by which to inform employees, businesses, and the general public of illegal discharges and improper waste disposal; and
  - g. Coordination with adjacent MS4 jurisdiction.
5. Submit SOPs to MDE for review and approval within two years of permit issuance. MDE will review for consistency with guidance in Appendix B.II;
  6. Document results of illicit discharge screening efforts and include any necessary follow-up investigations and remediation measures implemented to address any suspected discharge. Submit to MDE in accordance with reporting requirements; and
  7. Maintain complete records of IDDE program investigations and make available to MDE during field reviews of the jurisdiction's MS4 program.

**D. Construction Site Stormwater Runoff Control**

Permittees are required to comply with Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland and State erosion and sediment control regulations under COMAR 26.17.01. The statute and COMAR specify the requirements for any construction activity that disturbs 5,000 square feet or 100 cubic yards or more of earth movement. MDE considers compliance with the State statute to be compliance with this MCM of this general permit, and CFR.

Stormwater management plans are reviewed and approved by MDE for State and federal construction projects. Enforcement of approved erosion and sediment control plans for State and federal projects is MDE's responsibility. All permittees shall provide program updates in accordance with the MS4 Progress Report specified for this MCM. In order to comply with State and federal laws and regulations pertaining to an acceptable erosion and sediment control program, all permittees shall:

1. Submit erosion and sediment control plans to MDE for review and approval in accordance with COMAR and with the *Maryland Stormwater Management and Erosion and Sediment Control Guidelines for State and Federal Projects* (February 2015);
2. Ensure compliance with requirements under *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* (MDE, 2011);
3. Ensure all necessary permits have been obtained, including MDE's General Permit for Stormwater Associated with Construction Activity for projects disturbing one acre or more, and local sediment and erosion control plan approval;

4. Develop a process for receiving, investigating, and resolving complaints from any interested party related to construction activities within the jurisdiction. Notify the complainant of the investigation and findings within seven days;
5. Track all active construction sites within each facility covered under this general permit and report disturbed areas for all active permits to MDE in accordance with reporting requirements;
6. Ensure that construction site inspections and enforcement procedures are performed in accordance with COMAR. This will require ongoing communication and collaboration with MDE to ensure that any violations are properly addressed;
7. Incorporate procedures within facility operations to effectively abate sediment pollution and comply with all applicable State and federal laws pertaining to erosion and sediment control practices; and
8. Ensure staff is adequately trained on proper procedures and actions to address potential discharge of pollutants into the storm drain system as a result of any construction activity. The Responsible Personnel Certification on-line training course through MDE shall be made available to appropriate staff.

#### **E. Post Construction Stormwater Management**

Permittees are required to maintain an acceptable stormwater management program in accordance with Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland and State stormwater management regulations under COMAR 26.17.02. The statute and COMAR require that stormwater management shall be addressed for new development and redevelopment for any proposed project that disturbs 5,000 square feet or more. MDE considers compliance with the State statute to be compliance with this MCM of this general permit, and CFR.

Stormwater management plans are reviewed and approved by MDE for State and federal construction projects. Enforcement of approved stormwater management plans for State and federal projects is MDE's responsibility. All permittees shall provide program updates in accordance with the MS4 Progress Report specified for this MCM. In order to comply with State and federal laws and regulations pertaining to an acceptable stormwater management program, all permittees shall:

1. Submit stormwater management plans to MDE for review and approval in accordance with COMAR and with the *Maryland Stormwater Management and Erosion and Sediment Control Guidelines for State and Federal Projects* (February 2015) for compliance with State stormwater management requirements;

2. Implement the principles, methods, and practices found in the latest version of the *2000 Maryland Stormwater Design Manual, Volumes I & II* (Manual), and the *Maryland Stormwater Management Guidelines for State and Federal Projects* (MDE, 2015). This requires that environmental site design (ESD) be implemented to the maximum extent practicable (MEP) for all new and redevelopment projects;
3. Maintain stormwater program implementation information and provide updates in accordance with the MS4 Progress Report that includes:
  - a. Total number of plans submitted to MDE for review and approval;
  - b. Total number of as-built plans submitted to MDE and approved;
  - c. Total number of violations issued by MDE during post construction inspections; and
  - d. Verification that BMPs are maintained in accordance with MDE requirements outlined on approved plans.
4. Provide training for staff on proper BMP design, performance, inspection, and routine maintenance. Report the number of trainings offered, topics covered, and number of attendees; and
5. Maintain and submit an Urban BMP database in accordance with the database structure in Appendix B, Table B.2. This information shall be submitted to MDE with annual reports.

**F. Pollution Prevention and Good Housekeeping**

Permittees are required to develop and implement an operation and maintenance program that includes a training component, to prevent and reduce pollutant runoff from municipal operations in accordance with CFR 40 122.34(b)(6). A permittee will satisfy this MCM by developing, implementing, and maintaining procedures for pollution prevention and good housekeeping throughout the jurisdiction's properties. Pollution prevention measures should address fleet yard operations, building maintenance activities, spill control, disposal of waste including hazardous waste, reducing or eliminating discharge of pollutants from roads and parking lots, and storage and transport of chemicals.

Renewal permittees shall update and continue to maintain their pollution prevention and good housekeeping program. New permittees shall develop this program within one year of permit issuance and begin implementation thereafter. All permittees shall provide program updates in accordance with the MS4 Progress Report.

In order to comply with this MCM, all permittees shall:

1. Ensure that appropriate staff and contractors receive training at least annually on all sections of the permit relevant to this MCM. The training shall be designed to

address the importance of water quality protection through pollution prevention and good housekeeping measures. Topics shall include spill prevention and response, controls for reducing or eliminating discharge of pollutants during facility operations, proper disposal of waste, and routine inspections to detect and correct potential stormwater discharges at facilities owned and operated by the jurisdiction;

2. Develop, implement, and maintain a pollution prevention plan at each jurisdiction owned or operated property covered under this general permit, that includes:
  - a. A description of site activities;
  - b. A site map identifying all buildings; stormwater conveyances including ditches, pipes, and swales; directions of stormwater flow (use arrows); water bodies receiving discharges; and locations of all existing structural control measures or BMPs;
  - c. A list of potential pollutants and their sources and locations, including run-on from adjacent properties;
  - d. Written good housekeeping procedures designed to reduce the potential for stormwater pollution from the facility;
  - e. Procedures for routine site inspections to detect and correct stormwater discharges, releases, and any spills or leaks on site; and
  - f. Documentation of any discharge, release, leak, or spill, including date, findings, and response actions.
3. Quantify efforts related to pollution prevention efforts related to the following activities:
  - a. Number of miles swept and pounds of material collected from street sweeping and inlet cleaning programs;
  - b. Describe good housekeeping methods for pesticide application such as integrated pest management plans or alternative techniques;
  - c. Describe good housekeeping methods for fertilizer application such as chemical storage, landscaping with low maintenance/native species, and application procedures;
  - d. Describe good housekeeping methods for deicing applications such as use of pretreatment, truck calibration and storage, salt dome storage and containment; and
  - e. Describe other good housekeeping BMP procedures not listed above.
4. Contact MDE to determine whether coverage is required for any jurisdiction owned or operated facility under the General Permit for Stormwater Discharges Associated with Industrial Activity, Sector AD.a, which provides coverage to Department of Public Works and Highway Maintenance facilities.

## **PART V. CHESAPEAKE BAY RESTORATION AND MEETING TOTAL MAXIMUM DAILY LOADS**

Maryland's Watershed Implementation Plan (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 develop planning strategies and work toward implementing water quality improvement projects. Restoration planning strategies and implementation schedules required under this general permit are consistent with addressing the water quality goals of the Chesapeake Bay TMDL by 2025. The conditions established below require permittees to perform watershed assessments, identify water quality improvement opportunities, secure appropriate funding, and develop an implementation schedule to show the twenty percent impervious area restoration requirement will be achieved by 2025. This constitutes adequate progress toward compliance with Maryland's receiving water quality standards and any stormwater WLA established or approved by the U.S. Environmental Protection Agency (EPA) for small MS4s regulated under this permit.

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 also be considered as another method to achieve pollutant reductions, once a program has been established, regulations are adopted, 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. A permittee will demonstrate compliance with restoration requirements by performing the following:

### **A. Develop a Baseline Impervious Area Assessment**

Permittees shall determine the total impervious surface area within their jurisdiction and delineate the portions that are treated with acceptable water quality BMPs. This analysis will provide the baseline used to calculate the twenty percent restoration requirement. This shall be done in accordance with the guidance outlined in Appendix B, Section III of this permit (which is consistent with MDE, 2014). The impervious area baseline assessment shall be submitted with the first year annual report for MDE review and approval. The following information shall be submitted with this assessment:

1. Total impervious acres for each property covered by this general permit;
2. Total impervious acres treated by stormwater water quality BMPs;
3. Total impervious acres treated by BMPs providing partial water quality treatment;
4. Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections, non-rooftop disconnections, or vegetated swales);
5. Verification that any impervious area draining to BMPs with missing inspection records are not considered treated; and
6. Total impervious acres untreated and twenty percent of this total area (restoration requirement).

**B. Develop and Implement an Impervious Area Restoration Work Plan**

Permittees shall submit a work plan with the first year annual report to describe the activities and milestones that will be performed over the permit term to show progress toward the twenty percent impervious area restoration requirement. This will form the basis of a long term plan; however, the plan may be adjusted and refined as part of the adaptive management process over the course of the permit term. A recommended work plan in the format of Table 1 below shall be submitted to MDE annually to describe progress and any modifications necessary to remain on track with restoration requirements. A suggested work plan is provided in Table 1. Permittees may use the work plan or develop a custom plan that addresses the unique circumstances of individual jurisdictions for MDE review and approval.

**Table 1. Impervious Area Restoration Work Plan**

Timeline	Management Strategies and Goals
Year 1	<ul style="list-style-type: none"> <li>• Develop impervious area baseline assessment.</li> <li>• Develop restoration work plan for MDE review and approval.</li> <li>• Assess opportunities and timelines for implementing water quality BMPs.</li> <li>• Assess opportunities to develop partnerships with other NPDES permittees.</li> <li>• Determine funding needs and develop a long term budget.</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Submit complete Urban BMP database.</li> <li>• Maintain inspection records for all BMPs.</li> <li>• Perform watershed assessments and identify water quality problems and opportunities for restoration.</li> <li>• Develop list of specific projects to be implemented for restoration and identify on the Restoration Activity Schedule (Table 2).</li> <li>• Incorporate future growth agency-wide/jurisdiction-wide master plans into restoration planning efforts.</li> <li>• Evaluate and refine budget needs for project implementation.</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>• Update and submit Urban BMP database and documented maintenance and inspection status for all BMPs.</li> <li>• Develop adaptive management strategies for BMP implementation that identify opportunities for improved processes and procedures.</li> <li>• Continue to identify opportunities for water quality improvement projects and collaborative partnerships to meet restoration requirements.</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>• Update and submit project implementation status in Table 2.</li> <li>• Update and submit Urban BMP database and documented maintenance and inspection status for all BMPs.</li> <li>• Submit narrative describing progress and updated adaptive management strategies toward implementing restoration projects.</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>• Update and submit project implementation status in Table 2.</li> <li>• Provide complete list of specific projects needed to meet the twenty percent restoration requirement in Table 2 and include the projected implementation year (no later than 2025).</li> </ul>

### C. **Develop a Restoration Activity Schedule**

Permittees are required to develop a Restoration Activity Schedule (Table 2) and provide annual updates on the status of projects in the planning, construction, and final phase of implementation. A brief narrative shall accompany Table 2 and describe progress of planned restoration activities. Table 2 below provides an example of how to submit the required information. The table outlines a schedule for various BMPs under different stages of implementation during the permit term. The impervious acre baseline is indicated as 100 acres and noted in year one. With the implementation of each BMP, the balance toward achieving the restoration requirement is recalculated in the Impervious Acre Restoration Target and Balance (“Imperv Acre Target and Balance”) column. This plan should be continuously refined and updated over the duration of the permit term. By the end of the permit term, a complete list of projects required to meet the twenty percent restoration requirement shall be provided. The projected implementation year shall be no later than 2025.

Permittees may take credit for retrofit and redevelopment that has been implemented between 2006 and the beginning of the permit term. When the impervious area baseline analysis considers the drainage areas to these practices as untreated, then these projects may be credited toward impervious area restoration requirements. Credits may be reported using the Restoration Activity Schedule (Table 2) discussed below.

Impervious acre credits are based on the level of water quality treatment provided. When water quality BMPs treat one inch of rainfall, the impervious acres draining to the BMP will be considered restored. When the rainfall treated is less than one inch, a proportional acreage will be calculated for impervious acres treated based on the percentage of one inch of rainfall treated. When alternative BMPs are implemented, acreage may be calculated based on an impervious acre equivalent identified in Appendix B, Table B.2. Additional information on BMP implementation and impervious acre credits may be found in *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2014).



**Table 2. Restoration Activity Schedule (Example)**

Type of Restoration Project	BMP <sup>1</sup> Code	Cost (\$K)	Imperv Acres Treated	Imperv Acre Target and Balance	Project Status <sup>2</sup>	Year Complete or Projected Implementation Year (by 2025)	MD Grid Coordinates	
							Northing	Easting
				100				
Dry pond retrofit to wet	PWET	1,500	36	64	UC			
Bioretention	FBIO	260	6	58	P			
Bioswale	MSWB	100	2	56	P			
Dry pond retrofit to wet	PWET	800	10	46	P			
BMP retrofit	PWET	500	8	38	P			
Redevelopment	REDE	300	5	33	P			
Rain Gardens (4)	MRNG	20	2	31	P			
Disconn rooftop r/o	NDRR	200	10	21	P			
Stream restoration (1,000 linear feet)	STRE	500	10	11	P			
Outfall Stabilization	OUT	200	2	9	P			
Shallow marsh	WSHW	150	4	5	P			
Reforestation on Imperv	IMPF	100	3	2	P			
Green Roof, extensive	AGRE	100	0.5	1.5	P			
Perm pavement on existing pavement	APRP	150	2	-0.5	P			

<sup>1</sup> See Appendix B, Table B.1, Urban BMP database. BMP codes are identified under “MDE BMP Classification.”

<sup>2</sup> Project Status: Enter P for planning and design, UC for under construction, and C for complete.

**D. BMP Database Tracking**

Permittees are required to develop a BMP inventory consistent with the required fields outlined in the BMP Database provided in Appendix B, Table B.1. A brief narrative shall accompany the BMP database and provide verification that routine inspection and maintenance activities are up to date. The database fields for inspection and maintenance need to be completed and show that BMPs are inspected every three years and routinely maintained. If the required inspection and maintenance data are missing or incomplete then any credit previously applied should be removed.

## **PART VI. EVALUATION AND ASSESSMENT, RECORDKEEPING, REPORTING, AND PROGRAM REVIEW**

### **A. Evaluation and Assessment**

The permittee must evaluate progress toward achieving compliance with all permit requirements, and the appropriateness of implemented BMPs. This shall be achieved through reporting to MDE as specified in Part VI.C below.

### **B. Recordkeeping**

The permittee shall keep records for at least three years after the termination of this general permit. In addition to the information required in annual reports specified below, permittees shall submit any additional supporting documentation at the request of MDE. The permittee shall make its MS4 program information, including records, available to the public during regular business hours.

### **C. Reporting**

1. The required information specified in the MS4 Progress Report in Appendix D shall be completed each year. The reporting period shall be based on State fiscal year. MS4 Progress Reports are due no later than September 1<sup>st</sup> of each year with the first annual report due September 1, 2018.
2. Annually, the permittee shall submit a report to MDE that evaluates progress toward meeting the twenty percent impervious area restoration requirement specified in Part V above. Restoration activity described in the MS4 Progress Report shall be completed and include:
  - a. An impervious area baseline analysis in accordance with Part V.A and the guidance in Appendix B, Section III. This analysis shall be submitted with the first year annual report for MDE review and approval;
  - b. The Impervious Area Restoration Work Plan (Table 1) shall be submitted with the first year annual report and in annual updates. The work plan shall include a narrative discussing progress made toward restoration efforts and a description of adaptive management strategies necessary to keep proposed implementation efforts on track;
  - c. An updated Restoration Activity Schedule in accordance with Table 2 shall be submitted annually. By the end of the permit term, a complete list of projects required to meet the twenty percent restoration requirement shall be specified in Table 2. The projected implementation year shall be no later than 2025; and
  - d. An updated Urban BMP database in accordance with Appendix B, Table B.1 in electronic format and a brief narrative discussing progress

made toward completing the database and performing routine maintenance and inspections.

3. Reporting for the six MCMs specified in Part IV must be submitted in years two and four of the permit term and include all information requested in the MS4 Progress Report in Appendix D.

**D. Program Review**

In order to assess the effectiveness of the permittee's NPDES program for eliminating non-stormwater discharges and reducing the discharge of stormwater pollutants to the MEP, MDE will review program implementation as described in MS4 Progress Reports. Procedures for the review of local erosion and sediment control and stormwater management programs exist in Maryland's sediment control and stormwater management laws. Additional reviews of MCM implementation and the twenty percent restoration requirement may be conducted at any time to determine compliance with permit conditions.

**PART VII. STANDARD PERMIT CONDITIONS**

**A. Duty to Comply**

The permittee must comply with all conditions of this general permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action, permit coverage termination, revocation, or modification. The permittee shall comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3, Annotated Code of Maryland.

**B. Failure to Notify**

Agencies engaging in an activity under this general permit that fail to notify MDE of their intent to be covered under this general permit as described in PART II and who discharge to waters of the State without submitting an NOI application are in violation of the Environment Article, Annotated Code of Maryland and may be subject to penalties.

**C. Limitations on Coverage**

1. The following categories of non-stormwater discharges or flows shall be addressed where such discharges are identified by the jurisdiction as sources of pollutants to waters of the United States: landscape irrigation, diverted stream flows, rising groundwater, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, foundation drains, air conditioning condensate, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering runoff, flows from riparian habitats and wetlands, residual street wash water, and discharges or flows from fire fighting activities.

2. Non-stormwater sources, stormwater associated with industrial activity, or discharges associated with construction activities may be authorized to discharge via the municipal separate storm sewer system if such discharges are specifically authorized under an applicable NPDES discharge permit.
3. Only stormwater discharges from municipal separate storm sewer systems are authorized to discharge under this general permit.

**D. Penalties Under the CWA - Civil and Criminal**

Section 309(d) of the CWA, 33 USC 1319(d) provides that any person who violates any permit condition is subject to a civil penalty not to exceed \$25,000 per day for each violation. Pursuant to the Civil Monetary Penalty Inflation Adjustment Rule, 40 CFR Part 19, any person who violates any NPDES permit condition or limitation after December 6, 2013, is liable for an administrative penalty not to exceed \$37,500 per day for each such violation. Section 309(g)(2) of the CWA, 33 USC 1319(g)(2) provides that any person who violates any permit condition is subject to an administrative penalty not to exceed \$10,000 per day for each violation, not to exceed \$125,000. Pursuant to the Civil Monetary Penalty Inflation Adjustment Rule, 40 CFR Part 19, any person who violates any NPDES permit condition or limitation after December 6, 2013, is liable for an administrative penalty not to exceed \$16,000 per day for each such violation, up to a total penalty of \$187,500. Pursuant to Section 309(c) of the CWA, 33 USC 1319(c), any person who negligently violates any permit condition is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one year, or both. If a person has been convicted of negligent violations of the CWA previously, the criminal penalties may be increased to \$50,000 per day of violation, or imprisonment of not more than two years, or both. Any person who knowingly violates any permit condition is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three years, or both. If a person has been convicted of knowing violations of the CWA previously, the criminal penalties may be increased to \$100,000 per day of violation, or imprisonment of not more than six years, or both.

**E. Penalties Under the State's Environment Article - Civil and Criminal**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the county from civil or criminal responsibilities and/or penalties for a violation of Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation. Section 9-342 of the Environment Article provides that a person who violates any condition of this permit is liable to a civil penalty of up to \$10,000 per violation, to be collected in a civil action brought by MDE, and with each day a violation continues being a separate violation. Section 9-342 further authorizes the MDE to impose upon any person who violates a permit condition, administrative civil penalties of up to \$10,000 per violation, up to \$100,000.

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

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

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

**F. Need to Halt or Reduce Activity not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**G. Continuation of an Expired General Permit**

An expired general permit continues in force and effect for all permittees covered under this general permit until a new general permit is issued or the general permit is revoked or withdrawn. Coverage for new permittees may not be granted under an expired general permit.

**H. Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment and is in violation of this general permit.

**I. Duty to Provide Information**

The permittee shall furnish to MDE any information that may be requested to determine compliance with this general permit. The permittee shall also furnish to MDE, upon request, copies of records required to be maintained in compliance with the conditions of this general permit.

**J. Other Information**

When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to MDE, it shall promptly notify MDE of the facts or information.

**K. Requiring an Individual Permit**

1. MDE may require any agency to apply for and/or obtain an individual NPDES permit. When MDE requires a permittee to apply for an individual NPDES permit, MDE will provide notification in writing that an application is required. This notification shall include a brief statement of the reasons for the decision, an application form, and a deadline for filing the application. Applications must be submitted to MDE. MDE may grant additional time to submit an application upon request of the applicant.
2. Any agency eligible for coverage under this general permit may request to be excluded from the coverage of this general permit by applying for an individual permit. In such cases, the agency must submit an individual application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii), with reasons supporting the request, to MDE.
3. When an individual NPDES permit is issued to an agency eligible for coverage under this general permit, the applicability of this general permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit. When an individual NPDES permit is denied to an agency otherwise subject to this general permit, then coverage under this general permit may be terminated by MDE.

**L. Property Rights**

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

**M. Severability**

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

**N. Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition. The Environment Article, Section 9-330, Annotated Code of Maryland, provides that MDE may revoke coverage under this permit if it finds that:

1. False or inaccurate information was contained in the application;
2. Conditions or requirements of the discharge permit have been or are about to be violated;
3. Substantial deviation from the requirements has occurred;
4. MDE has been refused entry to the premises for the purpose of inspecting to insure compliance with the conditions of the discharge permit;
5. A change in conditions exists that requires temporary or permanent reduction or elimination of the permitted discharge;
6. Any State or federal water quality stream standard or effluent standard has been or is threatened to be violated; or
7. Any other good cause exists for revoking the discharge permit.

**O. Signature of Authorized Administrator and Jurisdiction**

All NOIs, annual reports, and information submitted to MDE shall be signed as required by COMAR 26.08.04.01-1 and 40 CFR 122.22. As in the case of municipal or other public facilities, signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

**P. Inspection and Entry**

The permittee shall allow representatives of MDE and EPA to enter the permittee's premises at reasonable times to conduct an inspection of a regulated facility or activity, or to review records that must be kept as a condition of this permit.

**Q. Proper Operations and Maintenance**

The permittee shall properly operate and maintain all facilities and controls which are used to achieve compliance with the conditions of this permit.

**R. Reporting Requirements**

The permittee shall report any non-compliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time when the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times; if the non-compliance has not been corrected, the anticipated time that it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance.

**PART VIII. REOPENER CLAUSE**

If there is evidence indicating that the stormwater discharges authorized by this general permit cause, have the reasonable potential to cause or contribute to, a violation of a water quality standard, the permittee may be required to obtain an individual permit or the general permit may be modified to include specific limitations and/or requirements. Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64, and 124.5.

**PART IX. AUTHORITY TO ISSUE GENERAL NPDES PERMITS**

In compliance with the provisions of the CWA, as amended (33 USC 1251 et seq. the Act), agencies that are defined in Parts I.B.1 and 2 of this general permit and that submit an NOI in accordance with Part II of this general permit are authorized to discharge in accordance with the conditions and requirements set forth herein.

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D. Lee Currey  
Acting Director  
Water Management Administration

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Date



**APPENDIX A**

**Maryland Designation Criteria for  
Small Municipal Separate Storm Sewer Systems**

## Appendix A

### Maryland Designation Criteria for Small Municipal Separate Storm Sewer Systems

Phase I of the U.S. Environmental Protection Agency's (EPA) stormwater program was promulgated in 1990 under the Clean Water Act (CWA). This program relies on National Pollutant Discharge Elimination System (NPDES) permit coverage to address polluted discharges from stormwater runoff from medium and large municipal separate storm sewer systems (MS4s) that serve populations of 100,000 or more. The Phase II program expands Phase I by requiring operators of "small" MS4s in urbanized areas to implement programs to control stormwater runoff through the use of an NPDES permit. A small MS4 can be a municipally owned storm sewer system, but can also apply to State and federal agencies, and include transportation, universities, local sewer districts, hospitals, military bases, and prisons. This appendix describes the designation criteria for regulating small MS4 municipalities and State and federal properties.

#### Small Municipal Separate Storm Sewer Systems Permit Area

Parts 1.A and 1.B of the Small Municipal Separate Storm Sewer System General Discharge Permits for municipalities and for State and federal properties specify that small MS4s in the State of Maryland are regulated if located within the following geographical areas:

- 1. Jurisdictions defined as "large" or "medium" MS4s under 40 CFR 122.26(b) that are permitted currently under an individual NPDES (Phase I) municipal stormwater permit.** Any small municipality with a population greater than 1,000 that is located within a regulated Phase I jurisdiction must seek permit coverage. The following jurisdictions in Maryland are regulated under individual Phase I MS4 permits:

Anne Arundel County	Frederick County
Baltimore City	Harford County
Baltimore County	Howard County
Carroll County	Montgomery County
Charles County	Prince George's County
	State Highway Administration

- 2. Urbanized areas as determined by the latest Decennial Census by the U.S. Census Bureau.** Coverage is also required for all operators of small MS4s located within the boundaries of an "urbanized area" based on the latest decennial census 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 designated by MDE.** MDE has developed a set of designation criteria for small municipalities located outside of urbanized areas in accordance with 40 CFR 123.35(b)(2). Based on federal guidance, all jurisdictions with a population of at least

10,000 and a population density of at least 1,000 people per square mile must seek permit coverage.

### **Municipal MS4 General Permit Waiver Criteria**

The Code of Federal Regulations (CFR) specifies that certain municipalities may be waived from permit coverage under the following conditions:

1. An MS4 serves a population of less than 1,000 within the urbanized area and does not contribute substantially to the pollutant loadings of a physically interconnected regulated MS4 jurisdiction and stormwater controls are not needed based on wasteload allocations (WLAs) in an EPA approved or established total maximum daily load (TMDL); 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 or , if a TMDL has not been approved, an equivalent analysis that determines sources and allocations for the pollutants of concern; and 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.

In addition to the above waiver criteria, municipalities that discharge stormwater runoff combined with municipal sewage are point sources that must obtain NPDES permits and, therefore, are not subject to MS4 requirements (CFR 122.26(a)(7)).

Table A.1 below provides a list of all Maryland counties and their municipalities that are required to be regulated under the MS4 program. The municipalities designated for Phase II MS4 general permit coverage are identified in the table based on the criteria herein. A municipality may request co-permittee status with its respective Phase I or Phase II county. Approximately 40 small municipalities are currently regulated through the MS4 NPDES program as co-permittees within Carroll, Montgomery, and Prince George's Counties.

**Table A.1. Phase II MS4 General Permit Designation by County**

<b>Counties and Baltimore City</b>	<b>Jurisdictions Designated for Phase II MS4 Coverage</b>	<b>Justification</b>
Allegany	Allegany County*	County is located within an urbanized area
Anne Arundel	Annapolis	City is located in a Phase I MS4
Baltimore	N/A	Phase I permit covers entire county
Baltimore City	N/A	Phase I permit covers entire city
Calvert	Calvert County*	County is located within an urbanized area
Caroline	N/A	Does not meet the urbanized area criteria
Carroll	N/A	Phase I permit covers all municipalities
Cecil	Cecil County, Elkton, North East*, Perryville*, and Rising Sun*	County and municipalities are located within an urbanized area
Charles	Indian Head* and La Plata*	Municipalities are located in a Phase I MS4
Dorchester	N/A	Does not meet the urbanized area criteria
Frederick	Brunswick, Emmitsburg, Frederick, Middletown, Mount Airy, Myersville, Thurmont, and Walkersville	Municipalities are located in a Phase I MS4
Garrett	N/A	Does not meet the urbanized area criteria
Harford	Aberdeen, Bel Air, Havre de Grace	Municipalities are located in a Phase I MS4
Howard	N/A	Phase I permit covers entire county
Kent	N/A	Does not meet the urbanized area criteria
Montgomery	Gaithersburg, Rockville, and Takoma Park	Municipalities are located in a Phase I MS4; Phase I permit covers all other municipalities
Prince George's	Bowie	Bowie is located in a Phase I MS4; Phase I permit covers all other municipalities
Queen Anne's	Queen Anne's County*	County is located within an urbanized area
St. Mary's	St. Mary's County*	County is located within an urbanized area
Somerset	N/A	Does not meet the urbanized area criteria
Talbot	Easton*	Easton population is greater than 10,000 and density greater than 1,000 people per sq. mi.
Washington	Washington County, Boonsboro*, Hagerstown, Smithsburg, and Williamsport*	County and municipalities are located within an urbanized area
Wicomico	Wicomico County* and Salisbury	County and city are located within an urbanized area
Worcester	N/A	Does not meet the urbanized area criteria

\* Indicates a municipality newly designated for coverage as a Phase II small MS4

## Eligible State and Federal Properties for MS4 Permit Coverage

Part 1.B. of the General Permit for Discharges from State and Federal Small Municipal Separate Storm Sewer Systems specifies eligibility criteria for government agencies. EPA gives states authority to determine which government properties require small MS4 general permit coverage. The definition of a small MS4 is noted under CFR 122.26(b)(16)(iii), and specifies: "...systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospitals or prison complexes, and highways or other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings." In determining eligibility criteria for State and federal permit coverage, MDE will rely on the CFR definition of a small MS4 which indicates that they are similar to municipal systems.

Other available documentation such as federal guidance defining urban areas and literature describing water resource impacts from developed lands are also an important consideration when determining eligibility criteria. For example, the U.S. Census Bureau defines "Nonresidential Urban Territory" in the Federal Register (volume 76, no. 164, August 24, 2011) as those areas that contain a "high degree of impervious surface," or twenty percent impervious area, and are within 0.25 miles of an urban area. Furthermore, documentation that evaluates the potential for properties to contribute pollutants to the storm drain system is also considered. For example, *Impacts of Impervious Cover on Aquatic Systems* (Center for Watershed Protection, 2003) indicates that in-stream water quality declines when watershed impervious cover exceeds ten percent.

Based on this information, MDE has determined that an impervious area threshold is appropriate for establishing eligibility criteria for government properties required to obtain MS4 general permit coverage. Eligible properties will be those that have greater than ten percent impervious area. This is a conservative threshold when compared to the U.S. Census Bureau's urban area definition for non-residential urban territory, and considers water quality and natural resource protection. This threshold will allow the focus of the small MS4 program to concentrate on the most developed properties, such as military bases, hospitals, prison complexes, and highways, and is consistent with the intent of federal regulations.

Based on the information described above, State and federal properties eligible for coverage:

1. Are owned, operated, or maintained by the State of Maryland or the United States of America (U.S.) and located within municipalities regulated under Phase I or Phase II permits; and
2. Serve developed land area greater than five acres and have at least ten percent impervious area property wide; or
3. Are those properties already covered under an NPDES small MS4 general permit.

## **State and Federal MS4 General Permit Waiver Criteria**

As noted above, EPA allows some flexibility for how states determine which State and federal properties require small MS4 general permit coverage. CFR is clear that waivers may be granted to municipalities under certain conditions. Therefore, MDE will rely on the CFR definition of a small MS4 noted above (CFR 122.26(b)(16)(iii)) and language that applies to municipal waivers as the basis for the waiver provisions outlined below. CFR considers small State and federal MS4s to be similar to municipal systems; therefore, MDE may grant a waiver from permit coverage if an agency can demonstrate that a State or federal property:

1. Is located in very discrete areas, such as individual buildings. For example, a small facility containing few buildings that have associated parking and driveways with storm drains directly connected to a surrounding MS4 jurisdiction may be eligible for a waiver. On the other hand, facilities with numerous buildings, interior roads, and interior storm sewer infrastructure would not qualify for a waiver; and
2. Does not contribute substantially to the pollutant loadings of a physically interconnected regulated MS4 jurisdiction; and
3. Is not a military base, large hospital complex, prison complex, highway, or thoroughfare that meets MDE eligibility criteria.

MDE has developed a potential list of State and federal agencies (Tables A.2 and A.3) that will be affected by the eligibility criteria for permit coverage described above. Because numerous State and federal agencies are responsible for multiple properties, MDE recommends that permittees utilize options for filing joint applications and sharing responsibilities to most efficiently comply with permit requirements. State and federal agencies that own or operate any property that meets MDE's eligibility criteria shall obtain coverage under the NPDES program and comply with all terms and conditions of this MS4 permit, or apply for a waiver (see Appendix C for notice of intent and waiver forms).

### **Summary**

In accordance with the CWA, the criteria described above will require general permit coverage for the small municipalities and State and federal properties that have the greatest likelihood of causing discharge of polluted stormwater runoff. Regulating these small MS4s under the NPDES program will allow implementation of stormwater programs to protect water quality. MDE will consider additional information from municipal, State, or federal MS4 operators regarding eligibility of permit coverage, such as high population and growth areas, as well as whether a system discharges to sensitive waters, is contiguous to other regulated systems, or is a significant contributor of pollutant loadings to a physically interconnected MS4 that is regulated by the NPDES program.

**Table A.2. Federal Agencies Potentially Eligible for Permit Coverage**

<b>Federal Agency</b>	<b>Property Name</b>
Amtrak	Multiple Properties
Architect of the Capitol	Library of Congress at Fort Meade *
Army Reserves	ISG Adam S Brandt Memorial (Curtis Bay),* Jachman USARC*, Jecelin USARC #1*, Prince George's County Memorial USARC*
Dept of Agriculture	Beltsville Agricultural Research Center, * and National Plant Germplasm & Biotechnology Lab *
Dept of Defense, Air Force	Joint Base Andrews *
Dept of Defense, Army	Aberdeen Proving Grounds*, Fort Detrick*, Adelphi Lab*, Fort George G. Meade*, Washington Aqueduct* and multiple properties
Dept of Defense, Navy	Indian Head*, Bethesda*, Carderock*, Naval Academy* and multiple properties
Federal Bureau of Prisons	Multiple Properties
National Security Agency (NSA)	Ft Meade * and Friendship Annex
Dept of Homeland Security	FLETC Cheltenham Training Center* and multiple properties
National Park Service	Multiple Properties
Dept of Veterans Affairs (VA)	Multiple Properties (VA Hospitals)
General Services Administration	Multiple Properties
National Aeronautics and Space Administration ( NASA)	Goddard Space Flight Center*
National Institutes of Health, NIH	Bethesda Campus * and multiple properties
National Institute of Standards & Technology (NIST)	Gaithersburg Campus *
U.S. Coast Guard	Multiple Properties
U.S. Postal Service	William F. Bolger Center * and multiple properties

\* Indicates a federal facility or agency currently regulated under the Phase II small MS4 program

**Table A.3. State Agencies Potentially Eligible for Permit Coverage**

<b>State Agency</b>	<b>Property Name</b>
MD Air National Guard	Multiple Properties*
MD Army National Guard	Multiple Properties*
MD Aviation Authority	Martin State Airport* and other
MD Dept of General Services	Ellicott City District Court* and multiple properties
MD Dept of Health and Mental Hygiene	Multiple Properties
MD Dept of Juvenile Services	Multiple Properties
MD Dept of Public Safety & Correct Services	Multiple Properties
MD Dept of Transportation, Motor Vehicle Admin	Multiple Properties* including Glen Burnie*
MD Dept of Transportation, Port Admin	Multiple Properties*
MD Dept of Transportation, Transit Admin	Multiple Properties*
MD Dept of Transportation, Transportation Auth	Multiple Properties*
MD Food Center Authority	Multiple Properties
MD National Capital Parks & Planning (MNCPPC)	Montgomery* and Prince George's Parks
MD Stadium Authority	Camden Yards Complex*
MD State Police	Multiple Properties
Universities	Towson University,* College Park* and numerous additional campuses
Washington Metropolitan Area Transit (WMATA)	Multiple Metro Stations*
Washington Suburban Sanitary Commission (WSSC)	Multiple Properties*

\* Indicates a State facility or agency currently regulated under the Phase II small MS4 program



## **APPENDIX B**

### **Compliance with General Permit Requirements for Small Municipal Separate Storm Sewer Systems**

## Appendix B

### Compliance with General Permit Requirements for Small Municipal Separate Storm Sewer Systems

The Maryland Department of the Environment (MDE) has issued two general discharge permits for Small Municipal Separate Storm Sewer Systems (MS4s): one for small municipalities and another for State and federal agencies. These two permits require that management programs be developed to effectively control the discharge of pollutants from stormwater runoff and improve water quality. These small MS4 general permits are issued in accordance with the Clean Water Act (CWA) and corresponding National Pollutant Discharge Elimination System (NPDES) regulations, 40 Code of Federal Regulations (CFR) 122.26. The permits establish the minimum requirements for municipal and State and federal agencies eligible for coverage under the NPDES program. This appendix provides guidance and additional information related to compliance with permit requirements. The guidance is organized into three sections as follows:

*Section 1: Describes management options for permit compliance;*

*Section 2: Provides guidance for developing an illicit discharge detection and elimination program; and*

*Section 3: Provides guidance for developing and implementing a restoration program to meet Chesapeake Bay water quality goals by 2025.*

#### Section I. Management Options for Permit Compliance

According to 40 CFR 122.30, the U.S. Environmental Protection Agency (EPA) strongly encourages partnerships and the watershed approach as the management framework for efficiently, effectively, and consistently protecting water quality and restoring aquatic ecosystems. This regulation offers flexibility to regulated operators for complying with permit requirements. Therefore, the following options may be considered by small MS4s during planning and implementation efforts. This will allow government entities and small municipalities to combine resources and collaborate with other NPDES programs to most effectively and efficiently achieve the water quality goals intended in the CWA.

##### A. Options for filing a Notice of Intent (NOI) Application.

MDE will allow multiple options for filing an NOI to receive permit coverage. An NOI application may represent an individual government facility or multiple properties owned or operated by a single entity. If an NOI represents all storm sewers owned, operated, or maintained by a single entity, the application must specify each individual property to be covered under the permit.

**B. Qualifying Local Programs (State or local).**

An applicant may develop programs to comply with all minimum control measures independently, or rely on another responsible entity, or rely on a qualifying local program to comply with permit requirements. Maryland has existing State statutes and local ordinances in place that already require implementation of specific management measures that are more stringent than the conditions in 40 CFR Part 122. Therefore, the statewide regulatory requirements under the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland for erosion and sediment control and Title 4, Subtitle 2 for stormwater management are considered to be “qualifying local programs.” Compliance with these laws will meet the “Construction Site Stormwater Runoff Control” and “Post Construction Management” permit requirements. The permittee remains responsible for the implementation of these measures through compliance with Maryland’s erosion and sediment control and stormwater management laws.

**C. Sharing Responsibility.**

A permittee may rely on another entity such as a State, federal, or municipal partner to satisfy one or more of the permit obligations. All permit obligations of each entity shall be noted in the NOI submitted to MDE according to PART II of this general permit and 40 CFR 122.35. Other responsible entities shall implement control measures that are at least as stringent as the corresponding requirements found in this NPDES general permit. Additionally, the other entity shall agree to implement the minimum control measures on the permittee’s behalf. However, the permittee remains responsible for all regulatory obligations. Therefore, MDE encourages the permittee to enter into a legally binding agreement such as a memorandum of understanding with the other entity to minimize uncertainty about compliance with the permit. This information shall be specified in the NOI (Appendix C).

## Section II. Illicit Discharge Detection and Elimination Program Guidance

Small municipalities and State and federal agencies covered under this NPDES MS4 permit are required to implement an illicit discharge detection and elimination (IDDE) program. The goal of an IDDE program is to find and eliminate pollutants entering the storm drain system. IDDE program activities include mapping the storm drain system, inspecting outfalls to discover polluted discharges, investigating the source of pollution, and taking steps to eliminate the discharge, which may include enforcement actions. Permittees are required to develop standard operating procedures (SOPs) that detail the steps to implement these activities. This section provides guidance that jurisdictions may use as a starting point to develop and implement their programs.

A discharge to a municipal separate storm sewer system is illicit if it is not composed entirely of stormwater [40 Code of Federal Regulations 122.26(b)(2)]. Illicit discharges can originate from a number of different types of sources, including incorrect plumbing, broken infrastructure, inappropriate business practices, and illegal dumping. For example, sanitary sewer lines or car wash drains may be connected to the storm sewer system instead of the sanitary sewer system. Drinking water lines or sanitary sewer pipes may be broken and leaking effluent into the storm sewer system. Businesses may be inappropriately washing vehicles, allowing wash water to drain into storm drain inlets. Illicit discharges may also result from purposeful dumping of pollutants into a storm drain.

### A. Mapping

As part of their IDDE programs, permittees must develop a map which identifies all outfalls and storm drain conveyance systems within the jurisdiction. Outfalls are end points where collected and concentrated stormwater flows are discharged from pipes, concrete channels, and other structures that transport stormwater within the jurisdictional property (see Figure B.1). Typically, an outfall would be the end of pipe where stormwater discharges to a stream. However, an outfall is not limited to stream bank discharge points. An end of pipe discharge may occur on a property above the receiving stream channel. These smaller pipes are good points to investigate in order to detect the source of an illicit discharge originating further up the system. An outfall can also be the discharge point of a stormwater management facility. In these instances; however, the inflow to the stormwater facility should also be mapped because an illicit discharge coming through the storm system is more likely to be detected at that location.



**Figure B.1.** The above outfalls are examples of locations that should be identified on storm drain maps and included in the permittee's screening program. Areas with highly developed land uses (e.g., commercial business complexes, aging infrastructure) have a greater potential to pollute and should be prioritized. Structural stability and erosion concerns should also be identified and corrected as part of an effective IDDE program.

## **B. Standard Operating Procedures**

After outfalls are mapped, permittees should develop SOPs that outline methods to find and eliminate pollutants entering the storm drain system. The SOPs will identify the number of outfalls to be investigated per year, the frequency of dry weather outfall screenings, and methods for conducting outfall inspections. In addition, procedures to investigate and eliminate any suspected discharge are to be provided in the SOPs.

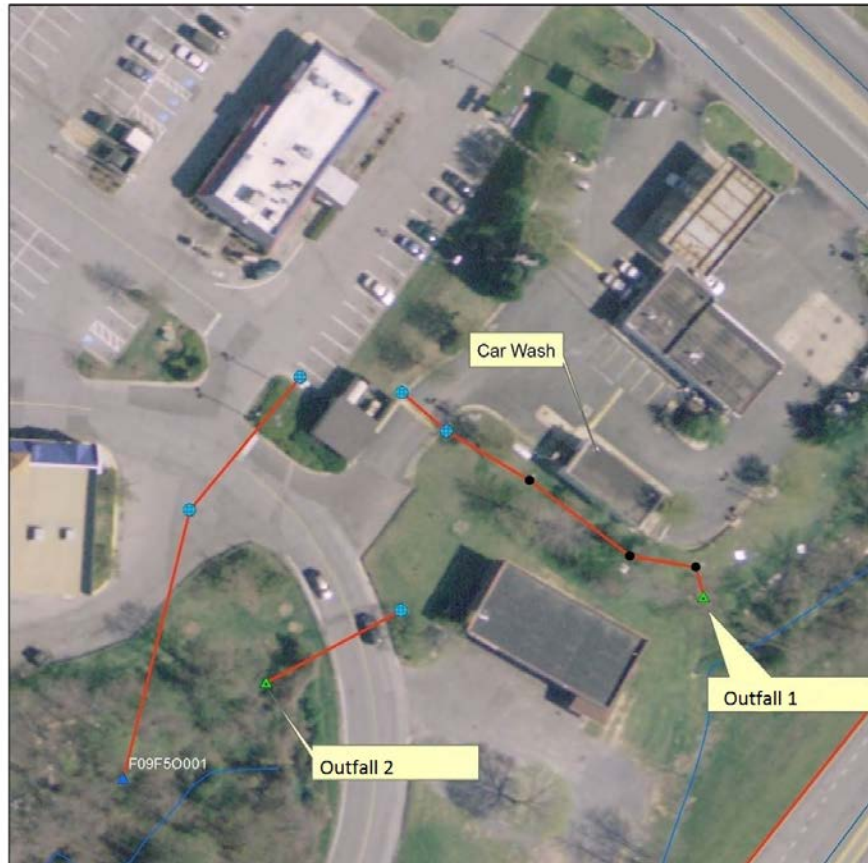
A Phase II MS4 municipality should screen 20% of total outfalls per year, up to 100 outfalls. This percentage would allow a jurisdiction to screen every outfall at least once per permit term, with the maximum amount being no greater than a medium Phase I MS4's requirement. Screening efforts for State and federal facilities may be tiered based on property size. For small properties (i.e., less than 100 acres), all outfalls should be screened each year. Medium size properties (i.e., 100 - 2,000 acres) should screen 50% of total outfalls. Large properties (i.e., more than 2,000 acres) should screen 20% per year, up to 100 outfalls. A tiered approach takes into consideration the scale of each State or federal property. For example, a small facility with a total of five outfalls would be expected to screen all five outfalls per year. Likewise, larger facilities may screen a smaller percentage per year to account for the increased effort a greater number of outfalls would require.

The permittee's SOPs should also include an inspection checklist to be used in the field to document the outfall screening. A good resource for developing the IDDE program and field checklist is found in, *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, authored by the Center for Watershed Protection and Dr. Robert Pitt (2004). Figure B.2, the "Outfall Reconnaissance Inventory/Sample Collection Field Sheet", is one of several tools permittees may choose to use in their own programs. This checklist will assist a jurisdiction in identifying any potential illicit discharge, determining the need for a more in-depth investigation, and noting any other outfall maintenance needs (e.g., cracks, erosion, excessive vegetation).

## **C. Illicit Discharge Investigation**

A dry weather screening is an outfall inspection conducted at a time when rain has not occurred recently, i.e., within the past 48 hours. During a period of dry weather, it is expected that any observed flow would be the result of some type of discharge other than precipitation. When a "dry weather flow" is observed, a jurisdiction must initiate an investigation to discover the source. If the source is determined to be illicit, the jurisdiction is required to take corrective measures to eliminate the discharge and initiate enforcement actions when necessary. Two examples of illicit discharge investigations are provided below to illustrate outfall identification, storm drain mapping, and discharge source tracking. These examples are taken from a Phase I MS4 annual report.

### Example 1: Illicit Discharge Investigation for Discovered Wash Water



During a dry weather screening of Outfall 1, a flow was observed dripping into green sudsy water that had an oily odor. A chemical test indicated a high level of detergents. In the process of tracking the source, a high level of detergents was detected at Outfall 2, as well. The contributing storm drain was traced to a car wash that was believed to be discharging wash water into the storm drain system.



## Example 2: Illicit Discharge Investigation for Detergents



A dry weather flow was discovered at the outfall of a stormwater management facility. A chemical test revealed the presence of chlorine and a high pH. A chemical test at the pond inflow indicated a high level of detergents. Upslope manholes were inspected to determine the path of the discharge through the storm drain system. Starting at the point of discharge and inspecting contributing segments of storm drain pipes (sometimes called a trunk investigation), a single point of flow that exceeded the acceptable level of detergents was isolated. The investigation revealed that the source of the discharge was located within the storm drain segment connected to inlets protected by berms on a private commercial business property yard.

### D. Illicit Discharge Elimination and Enforcement

After identifying the source of an illicit discharge, a jurisdiction is required to provide notice to the property owner and ensure that the responsible party takes appropriate action to eliminate the source of the discharge. The jurisdiction may exercise its legal authority to access the property and utilize enforcement. These IDDE investigation procedures and enforcement actions will be specified in the permittee's SOPs.





## Outfall Reconnaissance Inventory Field Sheet

### Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow?  Yes  No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
			1 - Faint	2 - Easily detected	3 - Noticeable from a distance
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!-	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

### Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present?  Yes  No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

### Section 6: Overall Outfall Characterization

Unlikely  Potential (presence of two or more indicators)  Suspect (one or more indicators with a severity of 3)  Obvious

### Section 7: Data Collection

1. Sample for the lab?  Yes  No

2. If yes, collected from:  Flow  Pool

3. Intermittent flow trap set?  Yes  No If Yes, type:  OBM  Caulk dam

### Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

### Section III. Guidance for Impervious Area Restoration Program Development

Small MS4 operators covered under this NPDES general permit are required to commence impervious area restoration for twenty percent of existing developed lands that have little or no stormwater management by the end of the permit term. This requirement supports the Maryland Watershed Implementation Plan (WIP) strategy for achieving nutrient and sediment load reductions on small MS4 properties to address Chesapeake Bay and local total maximum daily loads (TMDLs). Guidance for implementing restoration activities is available in the document, *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2014). While MDE, 2014 should be referenced by all stormwater permittees, the discussion below highlights the most relevant information from that document for small MS4 operators. This provides a clear outline for compliance with impervious area restoration for small MS4s.

#### A. Establishing Baselines: Impervious Surface Area Assessment

Permittees will need to determine the total impervious surface area under their responsibility and delineate the portions that are treated with acceptable water quality BMPs to the maximum extent practicable (MEP). This analysis will provide the baseline used to calculate the twenty percent restoration requirement. The following information is needed for this assessment:

- 1. Small MS4 Permit Area:** Determine the total impervious area jurisdiction-wide. MDE recommends collaborating with large or medium MS4 jurisdictions to assist with this analysis and ensure that no area is accounted for twice.
- 2. Land Use and Impervious Surface Area Analysis:** Evaluate the total impervious surface within a jurisdiction's regulated permit area using the best available land use data that can be generated from the same source from year to year. The baseline year for the impervious area assessment may be 2002, which is the year that the 2000 Maryland Stormwater Design Manual (Manual) was fully implemented. BMPs designed in compliance with the water quality volume (WQ<sub>v</sub>) treatment criteria found in the Manual are considered to provide water quality treatment to the MEP. Therefore, the impervious area draining to BMPs designed and approved in accordance with the Manual does not need to be counted toward impervious area restoration requirements.
- 3. Urban BMPs:** All municipalities and State and federal agencies are required to develop and maintain an urban BMP database in accordance with Table B.1. The database identifies all existing stormwater facilities within each jurisdiction along with design, construction, and inspection information. This database and accompanying field inspections shall be used to verify the level of water quality treatment provided for an existing facility. The following guidelines can be used to determine the level of water quality treatment provided by existing stormwater facilities:

- BMPs constructed according to the Manual for new development after the baseline year of 2002 provide acceptable water quality treatment. The impervious areas draining to these facilities do not need to be counted in the impervious area required to be restored.
- BMPs implemented for new development after 2002 may not be used for credit toward impervious area restoration.
- BMPs implemented prior to 2002 may provide some water quality treatment. These include wet ponds, wetlands, and infiltration facilities. In these cases, the original design parameters for each facility are needed to verify the level of treatment provided. The impervious area treated is based on the volume provided in relation to the  $WQ_v$  (i.e., runoff from 1 inch of rainfall). For example, if a BMP was designed to treat a half inch of rainfall, the amount of impervious area treated is 50% of the actual impervious area draining to the facility.
- Stormwater detention facilities designed for flood control do not provide water quality treatment. The impervious area draining to these BMPs must count toward the baseline.
- Where plans, design specifications, and complete inspection and maintenance records are not available, BMPs are not considered to provide acceptable water quality treatment. Impervious areas draining to these structures must count toward the baseline.
- The impervious area treated by BMPs implemented for retrofitting or redevelopment between 2002 and 2006 may be subtracted from the baseline number.

A useful tool for an initial assessment is the Stormwater Management by Era approach documented by MDE in 2009. The approach considers four distinct regulatory eras where stormwater management requirements correlate with a certain level of BMP performance. These eras are as follows:

- Prior to 1985. Stormwater management regulations came into effect after this era. Any development constructed in this time period is most likely untreated (unless retrofits were constructed in later years).
- Between 1985 and 2002. BMPs implemented during this time addressed flood control; however, individual BMP design criteria shall be used to verify whether water quality is provided.
- Between 2002 and 2010. The Manual was fully implemented during this era.
- Post-2010. Environmental site design (ESD) to the MEP is required. Any development project that complied with State regulations in the third and fourth eras is considered to have acceptable water quality treatment.

This approach was used in the development of Maryland's WIP for meeting Chesapeake Bay TMDLs. It can be used for identifying BMPs that provide water quality so that the treated impervious areas may be deducted from the baseline assessment. The stormwater management by era approach can also be valuable for long term planning and for targeting potential areas suitable for retrofitting.

4. **Impervious Surfaces in Rural Areas:** Many rural roads and residential subdivisions have open vegetated drainage systems, impervious area disconnections, and sheetflow to conservation areas that filter and infiltrate stormwater runoff. Each jurisdiction should conduct a systematic review of existing rural areas to determine the extent of water quality treatment already provided. This review will also aid in identifying opportunities for retrofitting.

Land use designation can help in selecting areas that are already adequately managed. For example, public roads and residential subdivisions in predominantly rural areas with low population densities (e.g., one or fewer dwelling unit per three acres) may have water quality design features equivalent to those defined in the Manual. Typically, areas that are less than fifteen percent impervious may meet ESD requirements according to the criteria for nonstructural practices in the Manual. These practices include rooftop disconnect, non-rooftop disconnect, and sheetflow to conservation areas. If a jurisdiction documents where conditions meet the Manual's criteria and adequate management is provided, then the impervious acres in these areas may be excluded from the baseline.

5. **Total Impervious Acres Not Treated to the MEP:** Subtract total impervious areas draining to water quality BMPs and nonstructural practices (determined in steps 3 and 4 above) from the total impervious land area owned or operated by the jurisdiction as of 2002 (step 2 above). Restoration requirements will apply to twenty percent of the remaining untreated land area.

## **B. Impervious Area Restoration Criteria**

The water quality objective for impervious area restoration is based on treating the  $WQ_v$  (1 inch of rainfall) using BMPs defined in the Manual. Because of numerous constraints inherent in the urban environment, meeting the design standards specified in the Manual may not always be achievable. In these cases, retrofit opportunities that currently achieve less than the  $WQ_v$  should be pursued where they make sense. Applying impervious area treatment credit for these projects will be based on the proportion of the full  $WQ_v$  treated.

Where stormwater retrofits provide water quality treatment for existing unmanaged urban areas, impervious area restoration credit may be applied according to the following criteria:

- An acre for acre impervious credit will be given when a BMP is designed to provide treatment for the full  $WQ_v$  (1 inch of rainfall); or
- A proportional acreage of credit will be given when less than the  $WQ_v$  is provided: (percent of the  $WQ_v$  achieved) x (drainage area impervious acres).

### C. Acceptable Restoration Strategies

The following are acceptable restoration strategies for receiving impervious area restoration credit. Permittees may submit alternative actions to comply with impervious area restoration requirements, subject to MDE approval.

- 1. New Retrofit BMPs:** This includes new stormwater BMPs installed to provide water quality treatment for existing developed lands with no controls. Acceptable water quality BMPs and design criteria are provided in the Manual. When a BMP from this list is used and the full  $WQ_v$  is provided, the total impervious surface within the drainage area may be credited toward restoration.
- 2. Existing BMP Retrofits:** These are existing BMPs that were not originally designed to provide water quality treatment (e.g., detention pond). As discussed previously, the impervious area draining to these BMPs may not be counted as treated. However, when retrofitted to an acceptable water quality BMP, such as converting a dry pond to a wetland, or providing additional  $WQ_v$  storage; the impervious acres draining to the BMP may be credited as restored.
- 3. BMP Enhancement and Restoration:** Routine inspection and maintenance is essential to ensure optimal water quality treatment of any BMP. When BMP maintenance has not been performed, substantial structural problems will occur over time, undermining any water quality benefit intended from the practice. Therefore, when BMPs are not properly maintained they may not be considered to provide effective treatment for impervious surfaces. If credit was originally taken for water quality treatment, then future annual reports should remove that credit until the facility is restored.

MDE has published guidance for inspection and maintenance in the *Maryland Stormwater Management Guidelines for State and Federal Projects* (MDE, 2015). These guidelines offer maintenance schedules for each BMP and specified time periods for inspection and corrective action. In addition, the Natural Resources Conservation Service of Maryland has published *Pond Code 378*, which includes an inspection checklist for ponds. Code 378 identifies areas that will cause significant problems if left unaddressed. When inspections and repairs are performed according to these guidelines (or others required by local review authorities), then the facility is considered properly maintained.

When a BMP has failed and significant structural problems exist, the BMP must be restored to receive proper restoration credit. Restoring a failed BMP should include providing the full  $WQ_v$ , and may entail increasing storage capacity, providing forebays, increasing the flow path by installing berms or other design enhancements, re-planting with desirable wetland and native vegetation, or significant sediment clean outs. This is intended to ensure that BMPs are functioning as designed and that routine maintenance is addressed throughout the life of the BMP in order for the permittee to keep the credit.

4. **Alternative Stormwater BMPs:** MDE, 2014 recognizes that new and innovative approaches to stormwater management are being developed on a continuous basis. Therefore, several alternative BMPs are documented that may be used for the purpose of impervious area restoration. Some of these alternative BMPs include street sweeping, buffer planting, reforestation, stream restoration, shoreline stabilization, and others. A complete list of these alternative BMPs is provided in Table B.2, below. MDE, 2014 provides a method for translating pollutant load reductions from alternative BMPs into an impervious acre equivalent in order to credit these practices toward restoration requirements.

Impervious acres treated shall be reported according to the “impervious acre equivalent” identified in Table B.2 for each alternative practice. As an example, where stream restoration is proposed, the impervious acre equivalent is equal to 0.01 acre per linear foot. This means that when 1,000 linear feet of stream is restored, then 10 acres of credit may be granted toward impervious area restoration.

5. **Trading:** MDE supports trading as a cost effective means for achieving pollutant load reductions. Adoption of new trading regulations in Maryland will include public participation and approval by EPA. Therefore, trading with other source sectors may be an option after formal regulatory procedures are satisfied.
6. **Redevelopment:** Maryland’s stormwater management regulations for redeveloped lands are intended to gain water quality treatment on existing developed lands while supporting initiatives to improve urban areas. Therefore, when water quality treatment practices are provided to address State redevelopment regulations, the existing impervious area treated may be credited toward restoration requirements. In most cases the credit will be equivalent to 50% of the existing impervious area for the project. When additional volume above the regulatory requirements is provided, additional credit will be accepted on a proportional basis as described in Section III.A above.
7. **Establishing Partnerships and Master Planning:** As discussed above, redevelopment activities may be credited toward restoration requirements. This presents an opportunity to develop future growth master plans to provide water quality treatment beyond regulatory requirements. This can be a cost effective solution for addressing Maryland’s stormwater management regulations while incorporating impervious area restoration initiatives into long-range planning efforts.

Small MS4 municipalities may work with private developers and offer incentives in order to gain additional water quality treatment for a project. MDE encourages localities to actively engage the development community through the stormwater plan review and approval process. There are numerous examples where larger MS4 jurisdictions have successfully partnered with private developers for this purpose.

In addition to partnerships with the private sector, small municipalities and government entities have the opportunity to collaborate with other watershed groups, and State, federal, or local entities to combine resources and facilitate implementation of restoration activities. As discussed in Section I of Appendix B, this could be a formal agreement with another entity and outlined in the NOI application, or this may be a partnership established for an individual project. Because the intent of the small MS4 general permit is to encourage partnerships to achieve the water quality goals of the CWA, MDE will remain flexible when any permittee pursues this option.

**Table B.1. Urban Best Management Practice (BMP) Database and Codes**

The BMP database below will tabulate a list of all BMPs within a jurisdiction. BMPs may be entered as a single structure or as a system of practices. For example, the ESD to the MEP mandate requires numerous ESD practices to be installed throughout a site in order to meet stormwater requirements; in these cases, local jurisdictions may enter the system of ESD practices by specifying the number and type of BMPs used to meet the target rainfall requirements (PE\_REQ). These data may be entered in the NUM\_BMPS and ESD\_MEP fields shown below. Data for the Maryland grid coordinates for ESD systems should report the location of the most downstream practice.

Column Name	Data Type	Size	Description
YEAR	NUMBER	4	Annual report year
BMP_ID	TEXT	13	BMP ID code <sup>1</sup>
MD_NORTH	NUMBER	8	Maryland grid coordinate (NAD 83 meters) Northing
MD_EAST	NUMBER	8	Maryland grid coordinate (NAD 83 meters) Easting
WATERSHED8DGT	NUMBER	8	Maryland 8-digit hydrologic unit code
WATERSHED12DGT	NUMBER	12	USGS 12-digit hydrologic unit code
BMP_NAME	TEXT	50	Name of BMP
BMP_CLASS	TEXT	1	BMP classification category (see list of BMPs: E, S, or A)
BMP_TYPE	TEXT	5	Type of BMP (see list of BMP classifications: enter code) <sup>2</sup>
NUM_BMPS	NUMBER	2	Number of all BMPs used to meet PE_REQ
ESD_MEP	TEXT	75	Type of all BMPs used to meet PE_REQ
LAND_USE	NUMBER	3	Predominant land use <sup>3</sup>
GEN_PERM_NUM	TEXT	10	General Discharge Permit Number
NPDES_PERM_NUM	TEXT	9	General NPDES No.
ADDRESS	TEXT	75	BMP address
CITY	TEXT	50	BMP City
STATE	TEXT	2	BMP State
ZIP	NUMBER	5	BMP zip code
ON_OFF_SITE	TEXT	10	On or offsite structure
CON_PURPOSE	TEXT	4	New development (NEWD), Redevelopment (REDE), or Restoration (REST)
CONVERTED_FROM	TEXT	5	If conversion of existing BMP then prior BMP type is required <sup>8</sup>
BMP_STATUS	TEXT	10	Status of BMP (active, removed) <sup>8</sup>
DRAIN_AREA	NUMBER	6	Structure drainage area (acres) <sup>4, 8</sup>
IMP_ACRES	NUMBER	8	Structure impervious drainage area (acres) <sup>4, 8</sup>
PE_REQ	NUMBER	8	P <sub>E</sub> required <sup>5, 8</sup>
PE_ADR	NUMBER	8	P <sub>E</sub> addressed <sup>6, 8</sup>
IMP_ACRES_REST	NUMBER	4	Equals IMP_ACRES when PE_ADR = 1 inch (for restoration only) <sup>8</sup>
RCN_PRE	NUMBER	2	Runoff curve number (weighted) <sup>7, 8</sup>
RCN_POST	NUMBER	2	Runoff curve number (weighted) <sup>7, 8</sup>
RCN_WOODS	NUMBER	2	Runoff curve number (weighted) <sup>7, 8</sup>
APPR_DATE	DATE/TIME	8	Permit approval date <sup>8</sup>
BUILT_DATE	DATE/TIME	8	As Built completion date (MM/DD/YYYY)
GEN_COMNT	TEXT	60	General comments



Column Name	Data Type	Size	Description
<b>ADDITIONAL DATA REQUIREMENTS FOR ALL ALTERNATIVE BMPS</b>			
PROJECT_NAME	TEXT	25	Name of project
PROJECT_DESCR	TEXT	75	Description of project
PROJECT_LENGTH	NUMBER	6	For stream restoration, shoreline stabilization, or outfall stab in feet
ACRES_SWEPT	NUMBER	6	Acres swept for street sweeping
TIMES_SWEPT	NUMBER	6	Number of times per year area is swept
ACRES_PLANTED	NUMBER	6	Acres of trees planted on urban impervious (IMPF)
ACRES_PLANTED	NUMBER	6	Acres of trees planted on pervious (FPU)
IMPERV_ACR_ELIM	NUMBER	6	Impervious acres removed to pervious land (IMPP)
EQ_IMP_ACRES	NUMBER	6	Equivalent impervious acres treated by alternative BMP (see Table B.2)
<b>INSPECTION/MAINTENANCE DATA REQUIRED FOR ALL NEW, REDEVELOPMENT, RETROFIT, AND ALTERNATIVE BMPS</b>			
BMP_STATUS	TEXT	4	Pass/Fail
LAST_INSP_DATE	DATE/TIME	8	Last inspection date
MAIN_DATE	DATE	8	Last date maintenance was performed (MM/DD/YYYY)
REINSP_STATUS	DATE/TIME	4	Pass/Fail
REINSP_DATE	DATE/TIME	8	Next planned inspection date (MM/DD/YYYY)
REPORTING YEAR	TEXT	4	State fiscal year (YYYY)
GEN_COMNT	TEXT	60	General comments

### **MDE Approved BMP Classifications**

Category	Code	Code Description
<b>ESD BMPs</b>		
<b>Alternative Surfaces (A)</b>		
E	AGRE	Green Roof – Extensive
E	AGRI	Green Roof – Intensive
E	APRP	Permeable Pavements
E	ARTF	Reinforced Turf
<b>Nonstructural Techniques (N)</b>		
E	NDRR	Disconnection of Rooftop Runoff
E	NDNR	Disconnection of Non-Rooftop Runoff
E	NSCA	Sheetflow to Conservation Areas
<b>Micro-Scale Practices (M)</b>		
E	MRWH	Rainwater Harvesting
E	MSGW	Submerged Gravel Wetlands
E	MILS	Landscape Infiltration
E	MIBR	Infiltration Berms
E	MIDW	Dry Wells
E	MMBR	Micro-Bioretenion
E	MRNG	Rain Gardens
E	MSWG	Grass Swale
E	MSWW	Wet Swale
E	MSWB	Bio-Swale
E	MENF	Enhanced Filters
<b>Structural BMPs</b>		
<b>Ponds (P)</b>		
S	PWED	Extended Detention Structure, Wet
S	PWET	Retention Pond (Wet Pond)
S	PMPS	Multiple Pond System

Category	Code	Code Description
S	PPKT	Pocket Pond
S	PMED	Micropool Extended Detention Pond
<b>Wetlands (W)</b>		
S	WSHW	Shallow Marsh
S	WEDW	ED – Wetland
S	WPWS	Wet Pond – Wetland
S	WPKT	Pocket Wetland
<b>Infiltration (I)</b>		
S	IBAS	Infiltration Basin
S	ITRN	Infiltration Trench
<b>Filtering Systems (F)</b>		
S	FBIO	Bioretention
S	FSND	Sand Filter
S	FUND	Underground Filter
S	FPER	Perimeter (Sand) Filter
S	FORG	Organic Filter (Peat Filter)
S	FBIO	Bioretention
<b>Open Channels (O)</b>		
S	ODSW	Dry Swale
S	OWSW	Wet Swale
<b>Other Practices (X)</b>		
S	XDPD	Detention Structure (Dry Pond)
S	XDED	Extended Detention Structure, Dry
S	XFLD	Flood Management Area
S	XOGS	Oil Grit Separator
S	XOTH	Other

### **MDE Approved Alternative BMP Classifications**

Alt. BMPs (A)	Code	Code Description
A	MSS	Mechanical Street Sweeping
A	VSS	Regenerative/Vacuum Street Sweeping
A	IMPP	Impervious Surface Elimination (to pervious)
A	IMPF	Impervious Surface Elimination (to forest)
A	FPU	Planting Trees or Forestation on Pervious Urban
A	CBC	Catch Basin Cleaning
A	SDV	Storm Drain Vacuuming
A	STRE	Stream Restoration
A	OUT	Outfall Stabilization
A	SPSC	Regenerative Step Pool Storm Conveyance
A	SHST	Shoreline Management
A	SEPP	Septic Pumping
A	SEPD	Septic Denitrification
A	SEPC	Septic Connections to WWTP
A	NNET	Nutrient Net (Agriculture Trading)
A	POTW	Publicly Owned Treatment Works (WWTP Trading)

**Notes:**

1. Use unique BMP identification codes listed below
2. For ESD to MEP, enter the most predominant BMP type
3. Use Maryland Office of Planning (MDP) land use codes listed below
4. GIS shapefile optional
5. Rainfall target (from Table 5.3, Design Manual pp.5.21-22) used to determine ESD goals and size practices (for new development or redevelopment). If practice is for restoration, then PE\_REQ is 1inch.
6. Rainfall addressed (using both ESD techniques and practices, and structural practices) by the BMPs within the drainage area
7. Optional – information should be submitted if available
8. Information not applicable for alternative BMPs

**BMP Identification Codes:** Each stormwater best management structure or water quality improvement project will need a unique identification code. For management of these data statewide it is necessary that these codes also indicate the jurisdiction where they are implemented, the year, and unique BMP number. County, City, or State abbreviations are listed below for NPDES Phase I jurisdictions to use as part of each BMP's identification code.

Jurisdiction	Code
Anne Arundel County	AA
Baltimore City	BC
Baltimore County	BA
Carroll County	CA
Cecil County	CC
Charles County	CH
Frederick County	FR
Harford County	HA
Howard County	HO
Prince George's County	PG
Montgomery County	MO
Maryland State Highway Administration	SHA
Washington County	WH

Small municipalities and State and federal agencies may develop their own jurisdiction code. An example BMP code for a federal agency using the required 13 characters is provided for a BMP located at National Institute of Health (NIH) implemented in 2012. In this case, the BMP ID code may be: NIH12BMP00001

## MDP Land Use/Land Cover

### 10 Urban Built-up

- **11 Low Density Residential** – Detached single family/duplex dwelling units, yards, and associated areas. Areas of more than 90 percent single family/duplex dwelling units, with lot sizes less than five acres but at least one-half acres (0.2 dwelling units/acre to 2 dwelling units/acre).
- **12 Medium Density Residential** – Detached single family/duplex, attached single unit row housing, yards, and associated areas. Areas of more than 90 percent single family/duplex units and attached single unit row

housing, with lot sizes of less than one-half acre but at least one-eighth acre (2 dwelling units/acre to 8 dwelling units/acre).

- **13 High Density Residential** – Attached single unit row housing, garden apartments, high rise apartments/condominiums, mobile home and trailer parks. Areas of more than 90 percent high density residential units, with more than 8 dwelling units/acre.
- **14 Commercial** – Retail and wholesale services. Areas used primarily for the sale of products and services, including associated yards and parking areas.
- **15 Industrial** – Manufacturing and industrial parks, including associated warehouses, storage yards, research laboratories, and parking areas.
- **16 Institutional** – Elementary and secondary schools, middle schools, junior and senior high schools, public and private colleges and universities, military installations (built-up areas only, including buildings and storage, training, and similar areas) churches and health facilities, correctional facilities, and government offices and facilities that are clearly separable from the surrounding land cover.
- **17 Extractive** – Surface mining operations, including sand and gravel pits, quarries, coal surface mines, and deep coal mines. Status of activity (active vs. abandoned) is not distinguished.
- **18 Open Urban Land** – Urban areas whose use does not require structures, or urban areas where non-conforming uses characterized by open land have become isolated. Included are golf courses, parks, recreation areas (except associated with schools or other institutions), cemeteries, and entrapped agricultural and undeveloped land within urban areas.
- **191 Large Lot Subdivision (Agriculture)** – Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of open fields or pasture.
- **192 Large Lot Subdivision (Forest)** - Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of deciduous, evergreen or mixed forest.

## 20 Agriculture

- **21 Cropland** – Field and forage crops.
- **22 Pasture** – Land used for pasture, both permanent and rotated: grass.
- **23 Orchards/Vineyards/Horticulture** – Areas of intensively managed commercial bush and tree crops, including areas used for fruit production, vineyards, sod and seed farms, nurseries, and green houses.
- **24 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals, and commercial fishing areas (including oyster beds).
- **241 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals.
- **242 Agricultural Building** – Breeding and training facilities, storage facilities, built-up areas associated with a farmstead, small farm ponds, and commercial fishing areas.
- **25 Row and Garden Crops** – Intensively managed track and vegetable farms and associated areas.

## **40 Forest**

- **41 Deciduous Forest** – Forested areas in which the trees characteristically lose their leaves at the end of the growing season. Included are such species as oak, hickory, aspen, sycamore, birch, yellow poplar, elm, maple, and cypress.
- **42 Evergreen Forest** - Forested areas in which the trees are characterized by persistent foliage throughout the year. Included are such species as white pine, pond pine, hemlock, southern white cedar, and red pine.
- **43 Mixed Forest** – Forested areas in which neither deciduous or evergreen species dominate, but in which there is a combination of both types.
- **44 Brush** – Areas that do not produce timber or other wood products but may have cut-over timber stands, abandoned agriculture fields, or pasture. These areas are characterized by vegetation types such as sumac, vines, rose, brambles, and tree seedlings.

**50 Water** – Rivers, waterways, reservoirs, ponds, bays, estuaries, and ocean.

**60 Wetlands** – Forested and non-forested wetlands, including tidal flats, tidal and non-tidal marshes, and upland swamps and wet areas.

## **70 Barren Land**

- **71 Beaches** – Extensive shoreline areas of sand and gravel accumulation, with no vegetative cover or other land use.
- **72 Bare Exposed Rock** – Areas of bedrock exposure, scarps, and other natural accumulations of rock without vegetative cover.
- **73 Bare Ground** – Areas of exposed ground caused naturally, by construction, or other cultural processes.

**Table B.2. Alternative Urban BMPs and Impervious Acre Credit**

<b>Alternative BMP</b>	<b>Calculating Impervious Acre Credit<sup>1</sup></b>	<b>Impervious Acre Equivalent</b>
Mechanical Street Sweeping	Acres swept multiplied by 0.07 = acres of credit	0.07
Regen/Vacuum Street Sweeping	Acres swept multiplied by 0.13 = acres of credit	0.13
Reforestation on Pervious Urban	Acres of reforested land multiplied by 0.38 = acres of credit	0.38
Impervious Urban to Pervious	Acres of reforested land multiplied by 0.75 = acres of credit	0.75
Impervious Urban to Forest	Acres of reforested land multiplied by 1.00 = acres of credit	1.00
Regenerative Step Pool Storm Conveyance (SPSC) <sup>2</sup>	Located in dry or ephemeral channels; credit is based on rainfall depth treated	Varies <sup>2</sup>
Catch Basin Cleaning	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Storm Drain Vacuuming	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Mechanical Street Sweeping	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Regen/Vacuum Street Sweeping	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Stream Restoration	Linear feet of stream restored multiplied by 0.01 = acres of credit	0.01
Outfall Stabilization	Linear feet of outfall stabilized multiplied by 0.01 = acres of credit; max credit is 2 acres per project	0.01
Shoreline Management	Linear feet of shoreline restored multiplied by 0.04 = acres of credit	0.04
Septic Pumping	Units pumped (annually) multiplied by 0.03 = acres of credit	0.03
Septic Denitrification	Units upgraded (w/denitrification) multiplied by 0.26= acres of credit	0.26
Septic Connections to WWTP	Units connected to a WWTP multiplied by 0.39 = acres of credit	0.39
<p>1. For more information on calculating credits for alternative BMPs, see <i>Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated</i> (MDE, 2014).</p> <p>2. Full impervious area credit is granted when practice treats 1 inch of rainfall. If the full WQ<sub>v</sub> is not provided, then the impervious area credit is based on the percentage of 1 inch that is treated. Described in Section III.B.</p>		

**APPENDIX C**

**State and Federal Small MS4  
Notice of Intent  
and  
Waiver Forms**

**State and Federal Small MS4 Notice of Intent**

**Maryland Department of the Environment (MDE)**

**National Pollutant Discharge Elimination System (NPDES)  
Small Municipal Separate Storm Sewer Systems (MS4) General Permit**

This Notice of Intent (NOI) is intended for State and federal agencies applying for coverage under the General Discharge Permit (No. 13-SF-5501) for Small MS4s. Submitting this application constitutes notice that the entity below agrees to comply with all terms and conditions of the general permit. The information required in this NOI shall be submitted to:

Maryland Department of the Environment, Water Management Administration  
Sediment, Stormwater, and Dam Safety Program  
1800 Washington Boulevard, Baltimore, MD 21230-1708  
Phone: 410-537-3543 FAX: 410-537-3553  
Web Site: [www.mde.maryland.gov](http://www.mde.maryland.gov)

**Contact Information**

Jurisdiction Name:

Responsible Personnel:

Mailing Address:

Phone Number(s):

Email address:

Additional Contact(s):

Mailing Address:

Phone Number(s):

Email address:

**Signature of Responsible Personnel**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this NOI and all attachments. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Printed Name

Signature

Date



## State and Federal Small MS4 Notice of Intent

**Due Date:**

**Date of Submission:**

**Permittee Information:**

Renewal Permittee:

New Permittee:

Check if sharing responsibilities with another entity:  Yes  No

Check if this NOI applies to multiple properties:  Yes  No

**Required Information:**

1. A brief description of jurisdiction for which coverage is being sought (when multiple properties are covered under this general permit, provide a separate attachment identifying the specific information required below for each property):
  
2. The approximate size of jurisdiction in acres:
  
3. Population (or number of employees):
  
4. Provide a list of all other NPDES permits that have been issued by MDE to the jurisdiction:
  
5. Describe any programs that the applicant will share responsibilities for compliance with another entity. Describe the role of all parties and include a copy of a memorandum of agreement when applicable:
  
6. Anticipated expenditures to implement the terms and conditions of the permit:

**State and Federal Small MS4 Waiver Application**

**Maryland Department of the Environment (MDE)**

**National Pollutant Discharge Elimination System (NPDES)  
Small Municipal Separate Storm Sewer Systems (MS4) General Permit**

This Waiver Application is intended for State and federal agencies applying for a waiver of coverage under the General Discharge Permit (No. 13-SF-5501) for Small MS4s. The information required in this Waiver Application shall be submitted to:

Maryland Department of the Environment, Water Management Administration  
Sediment, Stormwater, and Dam Safety Program  
1800 Washington Boulevard, Baltimore, MD 21230-1708  
Phone: 410-537-3543 FAX: 410-537-3553  
Web Site: [www.mde.maryland.gov](http://www.mde.maryland.gov)

**Contact Information**

Jurisdiction Name:

Responsible Personnel:

Mailing Address:

Phone Number(s):

Email address:

Additional Contact(s):

Mailing Address:

Phone Number(s):

Email address:

**Signature of Responsible Personnel**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Waiver Application and all attachments. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Printed Name

Signature

Date

**State and Federal Small MS4 Waiver Application**

**Due Date:**

**Date of Submission:**

**Permittee Information**

Properties for which the jurisdiction is requesting a waiver:

Size and Description of each property:

**Justification for Waiver**

*If requesting a waiver for more than one property, answer all of the following questions on a separate sheet of paper for each additional property.*

1. Attach a map of the property showing all directions of stormwater flow (indicate using arrows).
2. Does the site have interior roads?  Yes  No
3. Does the site have an interconnected storm drain system?  Yes  No

4. If the answer to either Question 2 OR 3 is Yes, explain why the property qualifies for a waiver:

5. Describe any stormwater controls or pollution control programs implemented on the property:

6. Explain why the site will not contribute substantially to the downstream storm drain system, to justify the waiver request:

**APPENDIX D**

**State and Federal Small MS4 Progress Report**

State and Federal Small MS4 Progress Report

**Maryland Department of the Environment (MDE)**

**National Pollutant Discharge Elimination System (NPDES)  
Small Municipal Separate Storm Sewer Systems (MS4) General Permit**

This Progress Report is required for those State and federal agencies covered under General Discharge Permit No. 13-SF-5501. Progress Reports shall be submitted to:

Maryland Department of the Environment, Water Management Administration  
Sediment, Stormwater, and Dam Safety Program  
1800 Washington Boulevard, Suite 440, Baltimore, MD 21230-1708  
Phone: 410-537-3543 FAX: 410-537-3553  
Web Site: [www.mde.maryland.gov](http://www.mde.maryland.gov)

**Contact Information**

Jurisdiction Name:

Responsible Personnel:

Mailing Address:

Phone Number(s):

Email address:

Additional Contact(s):

Mailing Address:

Phone Number(s):

Email address:

**Signature of Responsible Personnel**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this annual report. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Printed Name

Signature

Date

## State and Federal Small MS4 Progress Report

### Reporting Period (State Fiscal Year):

Due Date:

Date of Submission:

### Type of Report Submitted:

Impervious Area Restoration Progress Report (Annual):

Six Minimum Control Measures Progress (Years 2 and 4):

Both:

### Permittee Information:

Renewal Permittee:

New Permittee:

### Compliance with Reporting Requirements

Part VI of the Small MS4 General Discharge Permit (No. 13-SF-5501) specifies the reporting information that needs to be submitted to MDE to demonstrate compliance with permit conditions. The specific information required in this MS4 Progress Report includes:

1. Annual progress toward compliance with impervious area restoration requirements in accordance with Part V of the general permit. All requested information and supporting documentation shall be submitted as specified on pages D-4 – D-6 of this report.
2. Periodic reports showing progress toward compliance with the six minimum control measures shall be submitted in years 2 and 4 of the permit term (unless otherwise specified by MDE). All requested information and supporting documentation shall be reported as specified on pages D-7 – D-18 of this report.

### Instructions for Completing Appendix D Reporting Forms

The reporting forms provided in Appendix D allow the user to electronically fill in answers to questions. Users may enter quantifiable information, e.g., number of outfalls inspected, in text boxes. When a more descriptive explanation is requested, the reporting forms will expand as the user types to allow as much information needed to fully answer the question. The permittee should indicate in the forms when attachments are included to provide sufficient information required in the MS4 progress report.

### Impervious Area Restoration Reporting

1. Was the impervious area baseline assessment submitted in year 1?

Yes  No

If No, describe the status of completing the required information and provide a date at which all information required by MDE will be submitted:

Total impervious acres of jurisdiction covered under this permit:

Total impervious acres treated by stormwater water quality BMPs:

Total impervious acres treated by BMPs providing partial water quality treatment  
(multiply acres treated by percent of water quality provided):

Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections,  
non-rooftop disconnections, or vegetated swales):

Total impervious acres untreated in the jurisdiction:

Twenty percent of this total area (this is the restoration requirement):

Verify that all impervious area draining to BMPs with missing inspection records is not considered treated. Describe how this information was incorporated into the overall analysis:

2. Has an Impervious Area Restoration Work Plan been developed and submitted to MDE in accordance with Part V.B, Table 1 of the permit?

Yes  No

Has MDE approved the work plan?

Yes  No

If the answer to either question is No, describe the status of submitting (or resubmitting) the work plan to MDE and provide a date at which all outstanding information will be available:

### Impervious Area Restoration Reporting

Describe progress made toward restoration planning, design, and construction efforts and describe adaptive management strategies necessary to meet restoration requirements by the end of the permit term:

3. Has a Restoration Schedule been completed and submitted to MDE in accordance with Part V.B, Table 2 of the permit?

Yes  No

In year 5, has a complete restoration schedule been submitted including a complete list of projects and implementation dates for all BMPs needed to meet the twenty percent restoration requirement?

Yes  No

Are the projected implementation years for completion of all BMPs no later than 2025?

Yes  No

Describe actions planned to provide a complete list of projects in order to achieve compliance by the end of the permit term:

Describe the progress of restoration efforts (attach examples and photos of proposed or completed projects when available):

4. Has the BMP database been submitted to MDE in Microsoft Excel format in accordance with Appendix B, Table B.1?

Yes  No

Is the database complete?

Yes  No

If either answer is No, describe efforts underway to complete all data fields, and a date that MDE will receive the required information:

5. Provide a summary of impervious area restoration activities planned for the next reporting cycle (attach additional information if necessary):



### **Impervious Area Restoration Reporting**

6. Describe coordination efforts with other agencies regarding the implementation of impervious area restoration activities:

7. List the total cost of developing and implementing impervious area restoration program during the permit term:

**MCM #1: Personnel Education and Outreach**

1. Does the jurisdiction maintain a public hotline for reporting water quality complaints?

Yes  No

Number of complaints received:

Describe the actions taken to address the complaints:

2. Describe training to employees to reduce pollutants to the storm drain system:

3. Describe the target audience(s) within the jurisdiction:

4. Are examples of educational/training materials attached with this report?

Yes  No

Provide the number and type of education materials developed:

Describe how the personnel education program is appropriate for the target audience(s):

5. Describe how stormwater education materials were distributed to the public (e.g. newsletters, website):

6. Describe how educational programs facilitated efforts to reduce pollutants in stormwater runoff:

7. Provide a summary of activities planned for the next reporting cycle:

8. List the total cost of implementing this MCM over the permit term:

**MCM #2: Public Involvement and Participation**

1. List all education and outreach events and the number of participants:

2. Describe how the public involvement and participation program is appropriate for the target audience:

3. Quantify and report public involvement and participation efforts as shown below where applicable.

Number of participants at Earth Day events:

Quantity of trash and debris removed at clean up events:

Number of employee volunteers participating in sponsored events:

Number of trees planted:

Length of stream cleaned (feet):

Number of storm drains stenciled:

Number of public notices published to facilitate public participation:

Number of public meetings organized:

Total number of attendees at all public meetings:

Describe the agenda, items discussed, and collaboration efforts with interested parties for public meetings:

Describe how public comments have been incorporated into the jurisdiction's MS4 program including water quality improvement projects to address impervious area restoration requirements:

**MCM #2: Public Involvement and Participation**

Describe other events and activities:
4. Provide a summary of activities planned for the next reporting cycle:
5. List the total cost of implementing this MCM for the permit term:

**MCM #3: Illicit Discharge Detection and Elimination (IDDE)**

1. Does the jurisdiction maintain a map showing the extent of its storm drain system, including all outfalls, inlets, stormwater management facilities, and illicit discharge screening locations?  
 Yes  No

If Yes, attach the map to this report. If No, detail the current status of map development and provide an estimated date of submission to MDE:

2. Does the jurisdiction have a facility policy, or other agency directive, that prohibits illicit discharges into the storm sewer system?  
 Yes  No

If Yes, describe the policy utilized by the jurisdiction. If No, describe the jurisdiction's plan, including approximate time frame, to establish a policy that prevents illicit discharges into the storm sewer system:

3. Did the jurisdiction submit to MDE standard operating procedures (SOPs) in accordance with PART IV.C of the permit?  
 Yes  No

If No, provide a proposed date that SOPs will be submitted to MDE. MDE may require more frequent reports for delays in program development:

Did MDE approve the submitted SOPs?  
 Yes  No

If No, describe the status of requested SOP revisions and approximate date of resubmission for MDE approval:

4. Describe how the jurisdiction considers priority areas of high pollutant potential when determining screening locations:

5. Answers to the following questions should reflect this reporting period.

How many outfalls were identified on the storm drain map?

**MCM #3: Illicit Discharge Detection and Elimination (IDDE)**

Per the jurisdiction's SOP, how many outfalls were required to be screened for dry weather flows?

How many outfalls were screened for dry weather flows?

Per the jurisdiction's SOP, how often were outfalls required to be screened?

How often were outfalls screened?

How many dry weather flows were observed?

If dry weather flows were observed, how many were determined to be illicit discharges?

Describe the investigation process to track and eliminate each suspected illicit discharge and report the status of resolution:

6. Describe maintenance or corrective actions undertaken during this reporting period to address erosion, debris buildup, sediment accumulation, or blockage problems:

7. Is the jurisdiction maintaining all IDDE inspection records and are they available to MDE during site inspections?

Yes  No

8. If spills, illicit discharges, and illegal dumping occurred during this reporting period, describe the corrective actions taken, including enforcement activities, and indicate the status of resolution:

9. Attach to this report specific examples of educational materials distributed to the public related to illicit discharge reporting, illegal dumping, and spill prevention. If these are not available, describe plans to develop public education materials and submit examples with the next progress report:

**MCM #3: Illicit Discharge Detection and Elimination (IDDE)**

10. Specify the number of employees trained in illicit discharge detection and spill prevention:

11. Provide examples of training materials. If not available, describe plans to develop employee training and submit examples with the next progress report:

12. List the cost of implementing this MCM during this permit term:

**MCM #4: Construction Site Stormwater Runoff Control**

1. Does the agency have a process for receiving, investigating, and resolving complaints from interested parties related to construction activities and erosion and sediment control?

Yes  No

Describe the process:

Provide a list of all complaints and a summary of actions taken to resolve them:

2. Total number of active construction projects within the reporting period:

Provide a list of all construction projects and tabulate the total disturbed area:

3. Total number of violation notices issued by MDE related to this MCM on the agency's property:

Describe the status of enforcement activities:

Describe how the jurisdiction communicates and collaborates with MDE to maintain compliance with this MCM for all active construction projects on the agency's property:

Are erosion and sediment control inspection records retained and available to MDE during field review of the agency MS4 program?

Yes  No

If No, explain:

4. Number of staff trained in MDE's Responsible Personnel Certification:

5. Describe the coordination with other agencies regarding implementation of this MCM:



**MCM #4: Construction Site Stormwater Runoff Control**

6. List the total cost of implementing this MCM over the permit term:

**MCM #5: Post Construction Stormwater Management**

1. Has an Urban BMP database been submitted in accordance with the database structure in Appendix B, Table B.1 as a Microsoft Excel file?  
 Yes  No

Describe the status of the database, efforts to complete all data fields, and provide a date as to when the required information will be submitted to MDE:

2. Total number of BMPs located on each property covered under the general permit (list individual property, and total BMPs for that property – provide separate attachment if necessary):

Does the jurisdiction perform BMP inspections for all structural facilities in accordance with Maryland Pond Code 378 at least once every three years?  
 Yes  No

If No, describe efforts to train staff and develop a program to perform these required inspections on a triennial basis:

Are BMP inspection records retained and available to MDE during field review of local programs?  
 Yes  No

3. Provide a summary of routine maintenance activities for all BMPs:

Are BMP maintenance procedures consistent with maintenance requirements on MDE approved plans?  
 Yes  No

Are completed BMP maintenance checklists available to MDE during field review of local programs?  
 Yes  No

If either answer is No, describe planned actions to implement maintenance checklists and procedures and provide formal documentation of these activities:

**MCM #5: Post Construction Stormwater Management**

Describe all problems discovered during routine maintenance operations and repair work performed to restore the function of the BMP(s) (attach photos and additional documentation as needed):

4. Number of staff trained in proper BMP design, performance, inspection, and routine maintenance:

5. Provide a summary of activities planned for next reporting cycle:

6. List the total cost of implementing this MCM over the permit term:

**MCM #6: Pollution Prevention and Good Housekeeping**

1. Provide a list of topics covered during the last training session related to pollution prevention and good housekeeping, and attach to this report specific examples of training materials:

List the last training date(s):

Number of staff attended:

2. Are the pollution prevention plan, site map, and inspection records at each facility retained and available to MDE during field review of the local program?  Yes  No  
If No, explain:

Provide details of all discharges, releases, leaks, or spills that occurred in the past reporting period using the following format (attach additional sheets if necessary).

Facility Name:

Date:

Describe observations:

Describe permittee's response:

3. Quantify and report property management efforts as shown below, where applicable (attach additional sheets if necessary).

Number of miles swept:

Amount of material collected (indicate units):

If roads and streets are swept, describe the strategy the permittee has implemented to maximize efficiency and target high priority areas:

Number of inlets cleaned:

Amount of debris collected from inlet cleaning (indicate units):

**MCM #6: Pollution Prevention and Good Housekeeping**

Describe how trash and hazardous waste materials are disposed of at permittee owned and operated facilities, including debris collected from street sweeping and inlet cleaning:

Does the permittee have a current State of Maryland public agency permit to apply pesticides?

Yes  No

If No, explain (e.g., contractor applies pesticides):

Does the permittee employ at least one individual certified in pesticide application?

Yes  No

If Yes, list name(s):

If the permittee applied pesticides during the reporting year, describe good housekeeping methods, e.g., integrated pest management, alternative materials/techniques:

If the permittee applied fertilizer during the reporting year, describe good housekeeping methods, e.g., application methods, chemical storage, low maintenance species, training:

If the permittee applied deicing materials during the reporting year, describe good housekeeping methods, e.g., pre-treatment, truck calibration and storage, salt domes:

Describe good housekeeping BMP alternatives not listed above:

4. How many facilities require coverage under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity?

If applicable, provide the status of obtaining coverage for all required facilities:

5. List the total cost of implementing this MCM over the permit term: