



## APPROVAL OF NPDES MS4 INDIVIDUAL PERMIT (IP) COVERAGE

### UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) INDIVIDUAL PERMIT (IP) FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

NPDES PERMIT NO: <u>PAI136119</u>	
In compliance with the provisions of the Clean Water Act, 33 U.S.C. Sections 1251 <i>et seq.</i> ("the Act") and Pennsylvania's Clean Streams Law, <i>as amended</i> , 35 P.S. Section 691.1 <i>et seq.</i> , the Pennsylvania Department of Environmental Protection (DEP) hereby approves coverage for an NPDES MS4 Individual Permit pursuant to the application submitted by:	
APPLICANT(S) (NAME AND ADDRESS):	WATERSHED(S):
<b>South Connellsville Borough                  1503 South Pittsburgh Street                  South Connellsville, PA 15425</b>	<b>19-D</b>
to discharge stormwater to surface waters of the Commonwealth.	
This approval to discharge is made subject to DEP's enclosed Authorization to Discharge Under the NPDES Individual Permit for Discharges of Stormwater from Small MS4s. <b>This Authorization is granted</b> based, in part, on information provided by the permittee in the IP Application. <b>The information provided by the person seeking the authorization, including all appendices, attachments, plans and supporting documentation, is incorporated by reference as a part of this Approval of NPDES MS4 IP Coverage and is enforceable as a condition of the authorization.</b> If there is a conflict between the permit and the IP Application, <b>including any appendices, attachments, plans and other supporting documentation, the more environmentally stringent provisions apply.</b>	
THIS PERMIT SHALL BECOME EFFECTIVE ON _____	
THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON _____	
<b>OR UPON TERMINATION OF THIS PERMIT IN WRITING BY DEP.</b> TO CONTINUE DISCHARGING AFTER THE EXPIRATION DATE FOR COVERAGE UNDER THIS INDIVIDUAL PERMIT, AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE APPLICATION MUST BE RECEIVED BY DEP NO LATER THAN 180 DAYS PRIOR TO THE COVERAGE EXPIRATION DATE. (SEE ITEM #6 ON PAGE 1 OF THE AUTHORIZATION TO DISCHARGE FOR FURTHER INFORMATION).	
DATE PERMIT ISSUED _____	ISSUED BY _____ <b>Christopher Kriley, P.E.                  Clean Water Program Manager                  Southwest Regional Office</b>



## AUTHORIZATION TO DISCHARGE

### UNDER THIS NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) INDIVIDUAL PERMIT (IP) FOR DISCHARGES OF STORMWATER FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

#### GENERAL PROVISIONS:

Dischargers of stormwater from regulated small MS4s, as defined in 40 CFR § 122.26(b)(16), are required under the federal stormwater regulations (40 CFR Part 122) and state regulations incorporating those federal requirements by reference (25 Pa. Code § 92a.3), to submit an application and obtain a National Pollutant Discharge Elimination System (NPDES) permit to discharge stormwater into surface waters of the Commonwealth of Pennsylvania.

This Individual Permit (IP) authorizes stormwater discharges subject to the provisions of the Clean Water Act, 33 U.S.C. Sections 1251 *et seq.*, Pennsylvania's Clean Streams Law, as amended, 35 P.S. Sections 691.1 *et seq.*, and 25 Pa. Code Chapter 92a.

Municipalities operating under this permit have been either automatically designated as regulated by the Environmental Protection Agency (EPA) pursuant to 40 CFR § 122.32(a)(1) or designated as regulated by DEP under 40 CFR § 122.32(a)(2).

This authorization to discharge stormwater is subject to the terms and conditions set forth in Parts A, B and C herein. This permit authorizes discharges from regulated small MS4s, as defined herein, to surface waters of the Commonwealth, when such discharges are composed entirely of stormwater as defined in this Individual Permit, except as otherwise provided herein. The permittee is required to submit reports to document the implementation of the Stormwater Management Program (SWMP), as set forth in Appendix A hereto, designed to reduce the discharge of pollutants from the regulated small MS4 to the Maximum Extent Practicable (MEP); and when required, progress with the development, submission to DEP for approval, and activity to ensure implementation of an MS4 Total Maximum Daily Load (TMDL) Plan consistent with applicable Wasteload Allocations (WLAs) in an approved TMDL; and when required, progress with the development, submission to DEP for approval, and ensuring implementation of a Chesapeake Bay Pollutant Reduction Plan.

#### THE AUTHORITY GRANTED BY THIS INDIVIDUAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

1. When an NPDES MS4 Individual Permit is issued to an owner or operator of a regulated small MS4 otherwise subject to a General Permit, the applicability of the General Permit to said regulated small MS4 is automatically terminated on the effective date of the Approval of Coverage for this NPDES MS4 Individual Permit.
2. This Individual Permit may be modified or revoked and reissued by DEP.
3. An application for renewal of coverage under this Individual Permit shall be received by DEP at least 180 days prior to the Expiration Date on the Approval of Individual Permit Coverage (unless written permission has been granted by DEP for submission at a later date). A request for renewal of coverage must be made using an application form provided by DEP.
4. Permittees who submit a timely renewal application in accordance with paragraph 3 may continue to operate pursuant to the terms and conditions of this permit until the Approval of Coverage under the renewal permit becomes effective.
5. For those portions of the permittee's regulated small MS4 that are located in, or discharge to, Waters of the Commonwealth, including wetlands, that have an existing or designated use that qualifies as either "High Quality Waters" or "Exceptional Value Waters" under 25 Pa. Code Chapter 93 of DEP's regulations, the permittee shall not authorize stormwater discharges from any new development or redevelopment into that portion of the regulated small MS4 until the person proposing the discharges demonstrates that appropriate measures will be implemented to ensure that the discharges will not cause or contribute to degradation of the quality of those receiving waters.
6. DEP will publish a notice in the *Pennsylvania Bulletin* of the draft renewal Individual Permit. After a comment period specified in the notice of draft Individual Permit, a notice that the final renewal Individual Permit was issued will be published in the *Pennsylvania Bulletin*.

7. No condition of this Individual Permit shall release the permittee from any responsibility or requirements under other federal or Pennsylvania environmental statutes or regulations.
8. Timely submission of the application and, if applicable, the MS4 TMDL Plan.
9. Permittees may implement a local or tribal Qualifying Local Program (QLP) pursuant to 40 CFR 122.44(s) under this Individual Permit. Permittees wishing to propose a QLP must submit complete documentation of the proposed QLP for review and approval by DEP.
10. The permittee agrees to fully implement and enforce to the MEP the SWMP (outlined in Part A, Section 2 below, and detailed in Appendix A); and if required, an MS4 TMDL Plan (outlined in Part C below), consistent with the assumptions and requirements of any applicable Waste Load Allocation (WLA) defined in approved TMDLs, that is designed to reduce the discharge of pollutants from the permittee's regulated small MS4 to meet applicable requirements, to protect water quality, and to satisfy the appropriate water quality requirements of the federal Clean Water Act, the Pennsylvania Clean Streams Law, and regulations promulgated thereto.

#### **INDIVIDUAL PERMIT ELIGIBILITY:**

This Individual Permit authorizes the discharge of stormwater from regulated small MS4s defined at 40 CFR §122.26(b)(16). This includes small MS4s designated as regulated under 40 CFR §122.32(a)(1) and 40 CFR §122.32(a)(2). The operator of the regulated small MS4 is eligible to discharge under this Individual Permit if all of the following conditions are met:

1. The regulated MS4 is not large or medium MS4s as defined in 40 CFR §122.26(b)(4) or (7);
2. The regulated small MS4 is located fully or partially in an Urbanized Area (UA) as determined by the latest Decennial Census by the Bureau of Census at the time an administratively complete and acceptable application for an Individual Permit is submitted to DEP;
3. The permittee submits an administratively complete and acceptable application and obtains written authorization from the DEP.
4. The regulated small MS4 does not, and shall not, discharge hazardous pollutants, toxics or any other substance which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or contribute to an increase in mortality or morbidity in either an individual or the total population or pose a substantial present or future hazard to human health or the environment when discharged into waters of the Commonwealth.

#### **INDIVIDUAL PERMIT COVERAGE AND LIMITATIONS:**

1. The following are authorized discharges:
  - a. Stormwater discharges. This permit authorizes stormwater discharges to surface waters of the Commonwealth from regulated small MS4s, except as excluded in Section 2 below.
  - b. Non-stormwater discharges. The following categories of non-stormwater discharges or flows are authorized by this permit unless the permittee or DEP has identified them as significant contributors of pollutants to the regulated small MS4 or its discharges:
    - i. discharges or flows from fire fighting activities;
    - ii. discharges from potable water sources including dechlorinated water line and fire hydrant flushing;
    - iii. irrigation water and landscape drainage;
    - iv. diverted stream flows;
    - v. uncontaminated pumped ground water;
    - vi. uncontaminated water from foundation and footing drains;
    - vii. air conditioning condensation;
    - viii. springs;
    - ix. water from crawl space pumps;

- x. water from lawn watering;
- xi. individual residential car washing;
- xii. flows from riparian habitats and wetlands; and
- xiii. dechlorinated swimming pool discharges. (clean, no filter backwash)

2. Limitations on Coverage: This permit does not authorize any of the following:

- a. Discharges that are mixed with sources of non-stormwater unless such non-stormwater discharges are in compliance with a separate NPDES permit, or are determined not to be a significant contributor of pollutants to surface waters of the Commonwealth (as per section 1(b) herein).
- b. Stormwater discharges associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi).
- c. Stormwater discharges associated with construction activity as defined in 40 CFR §122.26(b)(14)(x) or 40 CFR §122.26(b)(15).
- d. Stormwater discharges currently covered under another NPDES permit.
- e. Discharges that contain hazardous pollutants, toxics or any other substance which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or contribute to an increase in mortality or morbidity in either an individual or the total population or pose a substantial present or future hazard to human health or the environment when discharged into waters of the Commonwealth.
- g. MS4 systems where any portion of the discharges would be to impaired waters with an applicable and approved TMDL wasteload allocation (WLA) unless the permittee has an approved MS4 TMDL Plan.
- h. Discharges that are not, or shall not be, in compliance with the terms or conditions of this permit.
- i. Discharges where the applicant has failed and continues to fail to comply, or has shown a lack of ability or intention to comply, with a regulation, permit, schedule of compliance, or order issued by DEP.
- j. Discharges that do not, or shall not, result in compliance with applicable effluent limitations or water quality standards.
- k. Discharges that may adversely affect a Pennsylvania or federal endangered or threatened species, or its critical habitat.
- m. Discharges from an MS4 where an NPDES permit has been terminated or denied.

## PART A

### STORMWATER MANAGEMENT PROGRAM (SWMP)

The Stormwater Management Program is contained at Appendix A hereto, which is incorporated by reference herein. The SWMP that you submitted with your application for each of the six (6) MCMs may be either DEP's program or your own alternative program. If you prepared and submitted your own program for any of the MCMs, your program must be at least as protective of water quality as the program in DEP's version of Appendix A. You must implement, enforce and report on such activities related to the approved Stormwater Management Program in Appendix A which is designed to reduce the discharge of pollutants from your regulated small MS4 to the Maximum Extent Practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the federal Clean Water Act, the Pennsylvania Clean Streams Law, and regulations promulgated thereto.

This permit requires enactment and implementation of one of the following: (1) adoption of an MS4 Stormwater Management Ordinance; (2) adoption of an Ordinance from an applicable Act 167 Stormwater Management Plan approved by DEP in 2005 or later; or (3) an ordinance(s) that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist.

#### 1. DEFINITIONS

**Applicant:** Refers to the owner or operator of a regulated small municipal separate storm sewer system (MS4) seeking to discharge under, and pursuant to, the terms of this permit.

**Best Management Practices (BMPs):** Schedules of activities, prohibitions of practices, structural controls (e.g., infiltration trenches), design criteria, maintenance procedures, and other management practices to prevent or reduce pollution to the waters of the Commonwealth. BMPs include Erosion and Sedimentation Control Plans, Post Construction Stormwater Management Plans, MS4 TMDL Plans, Stormwater Management Act Plans, and other treatment requirements, operating procedures and practices to control runoff, spillage or leaks, sludge or waste disposal, drainage from raw material storage, and methods to reduce pollution, to recharge groundwater, to enhance stream base flow and to reduce the threat of flooding and stream bank erosion.

**Better Site Design (BSD):** An approach to residential and commercial development that, when properly conducted, can simultaneously reduce pollutant loads, conserve natural areas, save money, and increase property values. BSD promotes three main goals for new development sites: (1) to reduce the amount of impervious cover, (2) to increase the amount of natural lands set aside for conservation, and (3) to better integrate stormwater treatment systems on-site. Green Infrastructure techniques like green roofs, rain gardens, and vegetated swales can be used in BSD to manage stormwater runoff and increase the amount of local green space. Also, reducing the overall scale of streets, driveways, setbacks, parking spaces, and lot sizes are effective methods of reducing impervious cover.

<http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary>

**Clean Water Act (CWA):** The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 U.S.C. §§ 1251, et. seq.

**Control Measure:** As used in this permit refers to any BMP in the MS4 Stormwater Management Program, the MS4 TMDL Plan or any other method used to prevent or reduce the discharge of pollutants to waters of the Commonwealth.

**Consistent with the TMDL:** Implementing measures as soon as practicable to make measurable progress in substantially reducing the applicable pollutant loads specified in the applicable WLA of the TMDL, and ultimately achieving the pollutant reductions required in the WLA through implementation of measures in accordance with an implementation timeline contained in the MS4 TMDL Plan.

**Department:** The Department of Environmental Protection (DEP)

**Designated uses:** Those uses specified in 25 Pa. Code §§ 93.4(a) and 93.9a – 93.9z for each waterbody or segment whether or not they are being attained.

**Director:** The Secretary of the Department of Environmental Protection or any authorized employee thereof.

**Dry Weather:** For required outfall inspections, dry weather is a continuous time interval without stormwater producing events that immediately follows an initial 48 hour period with no stormwater producing events. (**NOTE:** For additional information regarding dry weather, see Chapter 11 of *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* [CWP, October 2004]. <http://cfpub.epa.gov/NPDES/stormwater/idde.cfm>.)

**Existing uses:** Those uses actually attained in the waterbody on or after November 28, 1975, whether or not they are included in the water quality standards.

**Illicit Connection:** Any physical connection to a separate stormwater drainage system that conveys illicit discharges into the system and/or is not authorized or permitted by the local authority.

**Illicit Discharge:** Any discharge (or seepage) to a municipal separate storm sewer that is not composed entirely of stormwater. This does not refer to discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the regulated small MS4); certain allowable non-stormwater discharges described in the EPA regulations, NPDES MS4 permit or the MS4 permittee's ordinance; and discharges resulting from fire fighting activities. Examples of illicit discharges include dumping of motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, animal wastes, or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-stormwater waste into a separate stormwater drainage system. Illicit discharges can be accidental or intentional.

**Load Allocation (LA):** The portion of a surface water's loading capacity that is assigned or allocated to existing and future nonpoint sources and natural quality (25 Pa Code § 96.1).

**Low Impact Development (LID):** A set of site design approaches and small-scale stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater. LID can be applied to new development, urban retrofits, and revitalization projects. LID utilizes design techniques that infiltrate, filter, evaporate, and store runoff close to its source. Rather than rely on costly large-scale conveyance and treatment systems, LID addresses stormwater through a variety of small, cost-effective landscape features located on-site. <http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary>

**Maximum Extent Practicable (MEP):** A technology-based discharge standard established in the CWA at §402(p)(3)(B)(iii) that requires NPDES MS4 permittees to optimize reductions in stormwater pollutants on a location-by-location basis by minimizing pollutant loads in stormwater discharges and maximizing technically achievable and cost-effective water quality improvements. MEP as used in this program also includes the requirement under the Pennsylvania Clean Streams Law to prevent pollution from changes in stormwater rate, volume, and temperature associated with alteration of the land. The MEP standard requires the development, implementation, and enforcement of measures including BMPs, control techniques, system design, engineering methods, and other provisions that DEP determines to be appropriate for the control of such pollutants. MEP is an iterative, dynamic, flexible standard that the permittee shall evaluate and update continuously, as necessary, to better tailor or expand the program based on its effectiveness in reducing pollutant discharge load.

**Measurable Goals:** Best Management Practice design objectives or goals that quantify the progress of program implementation and the performance of the chosen BMPs. They are objective markers or milestones that can be used to track the progress and effectiveness of BMPs in reducing pollutants to the MEP.

**Municipal Separate Storm Sewer:** A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), which is all of the following:

- (1) owned or operated by a state, city, town, borough, township, county, district, association or other public body (created under state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes,
- (2) designed or used for collecting or conveying stormwater,
- (3) not a combined sewer, and
- (4) not part of a Publicly Owned Treatment Works as defined at 40 CFR § 122.2.

**Municipal Separate Storm Sewer System (MS4):** All separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to 40 CFR §§ 122.26(b)(18), or designated as regulated under 40 CFR § 122.26(a)(1)(v).

**Municipality:** Any county, city, borough, town, township, school district, or any institution or any authority created by one or more of the aforementioned.

**MS4 TMDL Plan:** A plan that is required for a regulated small MS4 that discharges stormwater into a waterbody with an approved applicable wasteload allocation (WLA) in a TMDL. The MS4 TMDL Plan shall detail measures that will be implemented to make measurable progress in substantially reducing the applicable pollutant loads specified in the applicable WLA of the TMDL, as soon as practicable, consistent with the TMDL. In addition, the MS4 TMDL Plan shall include a timeline, with milestones, that specifies when the pollutant load reductions set forth in the WLA will be attained. Implementation of the MS4 TMDL Plan may be phased, in accordance with the timeline, and can be adaptive, iterative and dynamic. The MS4 TMDL Plan shall be evaluated and updated by the permittee continuously, as necessary. The term “implement” includes any action that may be necessary for the permittee to ensure the proper operation and maintenance of all pollutant control measures identified in, or associated with, the MS4 TMDL Plan.

**National Pollutant Discharge Elimination System (NPDES):** A permit issued under 25 Pa. Code Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance) for the discharge or potential discharge of pollutants from a point source to surface waters.

**New Permittee:** Any municipality that has been designated as a regulated small MS4 and has not previously obtained coverage under PAG-13 or obtained an Individual NPDES MS4 Permit.

**NOI:** The Notice of Intent for Coverage under the NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems.

**Non-structural BMP:** Actions that involve management and source controls such as: (1) Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect areas such as wetlands and riparian areas, maintain and/or increase open space, provide buffers along waterbodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; (2) policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure; (3) education programs for developers and the public about minimizing water quality impacts; (4) other measures such as minimizing the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought of as good housekeeping, maintenance, and spill prevention.

**Outfall:** A “Point Source”, as that term is defined herein, where an MS4 discharges stormwater to other surface waters of this Commonwealth. This does not include open conveyances connecting two (2) municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream and are used to convey waters of the Commonwealth.

**Owner or operator:** The owner or operator of any “facility” or “activity” subject to regulation under the NPDES program.

**Permittee:** Refers to the owner or operator of a regulated small municipal separate storm sewer system seeking to discharge under, and pursuant to, the terms of this Permit, and thereby agreeing to fully comply with all terms set forth therein. Permittees assume all responsibility for meeting conditions of coverage under this Permit.

**Point Source:** As defined by 25 Pa. Code § 92a.2, which is any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated aquatic animal production facility, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft, from which pollutants are or may be discharged.

**Pollutant:** Any contaminant or other alteration of the physical, chemical, biological, or radiological integrity of surface water which causes or has the potential to cause pollution as defined in section 1 of The Clean Streams Law, 35 P.S. § 691.1.

**Pollution:** Shall be construed to mean contamination of any waters of the Commonwealth such as will create or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, municipal, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life, including but not limited to such contamination by alteration of the physical, chemical or biological properties of such waters, or change in temperature, taste, color or odor thereof, or the discharge of any liquid, gaseous, radioactive, solid or other substances into such waters. The department shall determine when a discharge constitutes pollution, as herein defined, and shall establish standards whereby and wherefrom it can be ascertained and determined whether any such discharge does or does not constitute pollution as herein defined (The Clean Streams Law, 35 P.S. § 691.1).

**Regulated Small MS4:** Any small MS4 that is covered by the federal Phase II stormwater program, either through automatic nationwide designation under 40 CFR § 122.32(a)(1) (via the Urbanized Area criteria) or by designation on a case-by-case basis by DEP pursuant to 40 CFR § 122.32(a)(2). “Regulated small MS4s” are a sub-set of “small MS4s.”

**Riparian Forest Buffer (Riparian Buffer):** An area of permanent vegetation consisting of native trees, shrubs, forbs and grasses along surface water that is maintained in a natural state or sustainably managed to protect and enhance water quality, stabilize stream channels and banks, and buffer land use activities from surface waters.

**Section 303(d) Listed Waters:** Stream segments placed on a list when, based on existing and readily available data and/or information, the technology-based effluent limitations required by the federal Clean Water Act, more stringent effluent limitations, and other pollution control requirements are not sufficient to implement an applicable water quality standard and a TMDL is needed.

**Small Municipal Separate Storm Sewer System (Small MS4):** All separate storm sewers that are:

- (1) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity.
- (2) Not defined as “large” or “medium” municipal separate storm sewer systems pursuant to 40 CFR §§122.26(b)(4) and (7), or designated under 40 CFR § 122.26(a)(1)(v).
- (3) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospitals or prison complexes, and highways and other thoroughfares.

**Storm Sewershed:** The catchment area that drains into the storm sewer system based on the surface topography in the area served by the storm sewer.

**Stormwater:** Runoff from precipitation, snow melt runoff and surface runoff and drainage. “Stormwater” has the same meaning as “Storm Water.”

**Stormwater Management Program (SWMP):** A comprehensive program prepared by the applicant and approved by DEP to manage the quality of stormwater discharged from the municipal separate storm sewer system. Permittees are required to develop, implement and enforce a SWMP designed to reduce the discharge of pollutants from the regulated small MS4s to the MEP, to protect water quality and quantity, and to satisfy the appropriate water quality requirements of the Pennsylvania Clean Streams Law and the CWA and regulations promulgated thereto. The permittee is required to implement the SWMP attached as Appendix A hereto.

**Structural BMP:** Storage practices including, but not limited to, wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches.

**Surface Waters:** Perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps and estuaries, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds and constructed wetlands used as part of a wastewater treatment process.

**Total Maximum Daily Load (TMDL):** The sum of individual wasteload allocations for point sources, load allocations for nonpoint sources, a margin of safety, and natural background. TMDLs can be expressed in terms of mass per time, toxicity or other appropriate measures.

**Urbanized Area (UA):** Land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile, as defined by the United States Bureau of the Census and as determined by the latest available decennial census. The UA outlines the extent of automatically regulated areas. UA maps are available at: <http://www.epa.gov/npdes/stormwater/urbanmaps> or at: <http://www.epa.gov/enviro/html/em/index.html>

**Wasteload Allocation (WLA):** The portion of a surface water's loading capacity that is allocated to existing and future point source discharges.

**Water Quality Criteria:** Numeric concentrations, levels or surface water conditions that need to be maintained or attained to protect existing and designated uses.

**Water Quality Standards:** The combination of water uses to be protected and the water quality criteria necessary to protect those uses.



**Waters of the Commonwealth:** Any and all rivers, streams, creeks, rivulets, impoundments, ditches, water courses, storm sewers, lakes, dammed water, ponds, springs and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

## **2. EFFLUENT LIMITATIONS AND OTHER REQUIREMENTS FOR THIS INDIVIDUAL PERMIT**

- a. The permittee shall implement, enforce and report on the Stormwater Management Program (SWMP) as set forth in Appendix A hereto, designed to reduce the discharge of pollutants from the regulated small MS4s to the MEP, to protect water quality and quantity, and to satisfy the appropriate water quality requirements of the Clean Water Act, the Pennsylvania Clean Streams Law, and regulations promulgated thereto.
- b. The SWMP shall include Best Management Practices (BMPs) to comply with the following six (6) Minimum Control Measures (MCMs) in the following areas:
  1. Public Education and Outreach on Stormwater Impacts
  2. Public Involvement/Participation
  3. Illicit Discharge Detection and Elimination
  4. Construction Site Stormwater Runoff Control
  5. Post-Construction Stormwater Management (PCSM) in New and Re-Development Activities
  6. Pollution Prevention/Good Housekeeping for Municipal Operations
- c. The SWMP as set forth in Appendix A of this permit contains the approved approach for satisfying each of the six (6) MCMs. The SWMP in Appendix A describes each MCM including BMPs and measurable goals.
- d. New permittees shall enact and implement within the first year of permit coverage, one (1) of the appropriate MS4 Stormwater Management Ordinances; an Ordinance from an applicable Act 167 Stormwater Management Plan approved by DEP in 2005 or later; or an ordinance(s) that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist. The permittee must satisfy these requirements in accordance with the information provided by the permittee in the permit application.

Renewal permittees must continue to maintain, update, implement, and enforce a Stormwater Management Ordinance that satisfies all applicable requirements.
- e. The permittee shall ensure that its SWMP, including its stormwater management ordinance(s), is designed to prevent increased loadings of pollutants and to not cause or contribute to a violation of water quality standards by any discharges from its regulated small MS4s (40 CFR 122.4(i), 40 CFR 122.44(d)(1), and 25 Pa. Code Chapters 91-97, 102, and 105).
- f. The permittee shall develop and maintain adequate legal authorities to implement all parts of this permit, including the SWMP attached as Appendix A hereto.
- g. The permittee shall maintain adequate funding and staffing to implement and manage all provisions of the attached SWMP.
- h. Sharing responsibility
  1. Implementation of one (1) or more of the minimum control measures may be shared with another entity, or the other entity may fully take over implementation of the measure. Because the permittee is responsible for meeting all permit conditions regardless of its delegations to other entities, the permittee should take steps to ensure that:
    - i. The other entity, in fact, implements the control measures in the regulated small MS4 area;
    - ii. The particular control measures as implemented by the other entity, or components of control measures, are at least as protective of water quality as the corresponding permit requirement.
    - iii. The other entity agrees to implement the control measures on behalf of the permittee. The agreement between the parties shall be documented in writing and retained by the permittee consistent with the record keeping requirements for this permit.

2. The permittee shall perform reasonable oversight and the permittee remains responsible for compliance with the obligations of this permit if any other entity fails to implement any of the control measures (or any components thereof).
- i. The permittee shall submit reports to DEP as described in Part B, Section 3.d. below.

DRAFT

## PART B

### STANDARD CONDITIONS

#### 1. RESPONSIBILITIES

- a. **Duty to Comply.** The permittee shall comply with all terms and conditions of this permit. Any permit non-compliance constitutes a violation of the Pennsylvania Clean Streams Law and the federal Clean Water Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification or denial of a permit or permit renewal. Financial distress does not relieve the permittee of the terms and conditions of this permit.
- b. **Penalties for Violations of Permit.** The permittee may be subject to criminal and/or civil penalties for violations of the terms and conditions of this permit under Section 602 and 605 of the Clean Streams Law, 35 P.S. Sections 691.602 and 691.605, and under the Clean Water Act as specified in 40 CFR Sections 122.41(a)(2) and (3).
- c. **Need to Halt or Reduce Activity Not a Defense.** The permittee may not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.
- d. **Penalties and Liability.** Nothing in this permit may be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA (33 U.S.C. §1321) or Section 106 of the Comprehensive Environmental response, Compensation, and Liability Act, 42 U.S.C. § 9606.
- e. **Periodic report (periodic reports, periodically report):** First term permittees and all permittees with any portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall submit all required information in annual reports. Renewal permittees with no portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall provide all required information in periodic progress reports submitted in permit years one (1), three (3), and with the renewal application (or renewal NOI for PAG-13) in year five (5) (also see Part B.3.d).
- f. **Property Rights.** The issuance of this 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.
- g. **Severability.** The provisions of this permit are severable. If any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.
- h. **Other Laws.** Nothing in this permit may be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.
- i. **Right of Entry.** Pursuant to Sections 5(b) and 305 of the Pennsylvania Clean Streams Law (35 P.S. §§ 691.5(b) and 691.305), 25 Pa. Code Chapter 92a, section 1917-A of the Administrative Code, section 308 of the CWA and 40 CFR § 122.41 (i), the permittee shall allow an authorized representative of the Environmental Protection Agency (EPA) or DEP, upon the presentation of credentials and other documents, as may be required by law, to:
  - i. Enter upon the permittee's premises where a regulated activity is located or conducted or where records must be kept under the conditions of this permit;
  - ii. Have access to and copy at reasonable times, any records that must be kept under the terms and conditions of this permit;
  - iii. Inspect any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required under this permit;
  - iv. Sample or monitor any substances or parameters, including the discharge of stormwater, at any location within the regulated small MS4.

- j. **Penalties for Falsification of Reports.** Section 309(c)(4) of the Clean Water Act provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two (2) years or by both. In addition, criminal sanctions are set forth for false swearing and unsworn falsification at 18 Pa. C.S. §§ 4903-4904.
- k. **Penalties for Falsification of Monitoring Systems.** The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the Clean Water Act. In addition, criminal sanctions are set forth for false swearing and unsworn falsification at 18 Pa. C.S. §§ 4903-4904.
- l. **Test Procedures.** With the exception of the field screening conducted under the Illicit Discharge Detection and Elimination (IDD&E) measure, wherever monitoring or sampling may be required, it shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the Authorization to Discharge or have been approved by DEP in writing.
- m. **Removed Substances.** Solids, sludge, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters or drinking water, implementation of BMPs, or operating or maintaining the regulated small MS4, shall be managed and disposed of in accordance with the requirements of the Solid Waste Management Act, 35 P.S. § 6018.101, *et seq.*, and the Clean Streams Law, 35 P.S. §§ 691.1 *et seq.*, and in a manner such as to prevent any pollutant in such materials from adversely affecting the environment.
- n. **BMP Implementation and Facilities Construction, Operation, and Maintenance.** The permittee shall properly design, build, operate, and maintain all facilities and systems of treatment and control, including BMPs and any stormwater pollution prevention or management plans, which are installed or used by the permittee to achieve compliance with the conditions of this permit. The permittee shall ensure that BMPs are planned, designed, implemented, and maintained to minimize or eliminate the impacts of stormwater runoff to the maximum extent practicable (MEP) for BMPs associated with the Stormwater Management Program and to reduce the discharge of pollutants consistent with applicable TMDLs for BMPs associated with approved MS4 TMDL Plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures and requires the operation of backup or auxiliary facilities, BMPs, or similar systems, installed or implemented by a permittee only when necessary to achieve compliance with the conditions of this permit.
- o. **Adverse Impact.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
- p. **Monitoring Requirement.** DEP may require monitoring of an individual discharge as may be reasonably necessary in order to characterize the nature, volume or other attributes of that discharge or its sources. If the permittee is required to develop, submit to DEP for approval, and ensure implementation of an MS4 TMDL Plan pursuant to Condition C.1. herein, the permittee shall conduct monitoring of the BMPs and other measures undertaken pursuant to such section in order to demonstrate that measurable progress toward meeting the pollutant load reductions is being achieved consistent applicable waste load allocations in approved TMDLs.

## 2. MANAGEMENT REQUIREMENTS

### a. **Permit Modification, Termination, or Revocation and Reissuance**

1. This permit may be modified, suspended, revoked, reissued, or terminated during its term for any of the causes specified in 25 Pa. Code Chapters 92a and 102, as applicable.
2. The filing of a request by the permittee or co-permittee for a permit or coverage modification, revocation, reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not eliminate any existing permit conditions.
3. Permit modification or revocation shall be conducted according to 25 Pa. Code Chapters 92a and 102, as applicable.

**b. Duty to Provide Information**

1. The permittee shall furnish to DEP, within a reasonable time, any information that DEP may request to determine whether cause exists for modifying, revoking and reissuing, terminating, or determining compliance with, this permit.
2. The permittee shall furnish to DEP, upon request, copies of records that are required to be kept under the conditions of this permit.
3. When the permittee becomes aware of a failure to submit any relevant facts, of the existence of incorrect information in the permit application, or in any other report to DEP, the permittee shall promptly submit documents to correct such facts or information.
4. The permittee shall give advance notice to DEP of any planned physical alterations or additions to the regulated small MS4 which could, in any way, substantially affect the quality and/or quantity of stormwater discharged from the regulated small MS4.

- c. Operation and Maintenance Requirements.** The Stormwater Management Program (Appendix A), MS4 stormwater management ordinance(s), and MS4 TMDL Plan, if required, shall include provisions to ensure that proper operation and maintenance is performed on all stormwater BMPs and all pollutant reduction BMPs that discharge through the regulated small MS4. The requirement to perform proper operation and maintenance of BMPs that discharge through the regulated small MS4s applies to the owners and operators of all such BMPs, including the permittee.

**3. MONITORING, REPORTING, AND RECORDKEEPING**

The permittee shall evaluate program compliance, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals.

- a. Records of field investigations.** When the permittee conducts monitoring of illicit discharges pursuant to MCM #3, samples and measurements taken shall be representative of the monitored activity. Records of monitoring information shall include:

1. The date, exact place, and time of sampling, measurements, or observations;
2. The name(s) of the individual(s) who performed the sampling, measurements, or observations;
3. The date(s) when sample analyses were performed;
4. The names of the individuals who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of such analysis.

- b. Retention of Records.** The permittee shall retain copies of the documentation related to the SWMP developed in accordance with this permit for a minimum of three (3) years, and until at least one (1) year after coverage under this permit terminates. The permittee shall retain all records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application until at least one (1) year after coverage under this permit terminates. In addition, the permittee shall retain on site, at all times, a complete copy of the application, this permit, and any authorizations received from DEP pursuant to this permit, until at least one (1) year after coverage under this permit terminates. This period may be explicitly modified by alternative provisions of this permit or extended by request of DEP at any time.

**c. Signatory Requirements**

1. All reports and applications required by the permit and other information requested by DEP shall be signed and certified by a principal executive officer or ranking elected official or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - i. The authorization is made in writing by a person described above and submitted to DEP with the reports.
  - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall

responsibility for environmental matters for the organization. (A duly authorized representative may be either a named individual or any individual occupying a named position).

2. **Changes in Authorized Individuals or Positions.** If an authorization for an individual or a position to submit reports to DEP is no longer accurate because a different individual or position has responsibility for the overall operation of the regulated small MS4, a new authorization satisfying the above requirements shall be submitted to DEP prior to, or together with, any reports, information, or applications to be signed by the newly authorized representative.

3. **Progress Reports Shall Include the Following Signed and Dated Certification:**

"I certify under penalty of law that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

**d. Periodic Reports (Annual Reports and Progress Reports)**

1. New permittees and all permittees with any portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall submit annual reports to DEP reporting on SWMP activities, Chesapeake Bay Pollutant Reduction Plan activities, and MS4 TMDL Plan activities performed during the preceding permit year. The report shall be in the format provided by the Department. Report Forms are available on DEP's website at <http://www.elibrary.dep.state.pa.us>, select "Forms", "Point and Non-Point Source Management", and "Municipal Separate Storm Sewer System MS4 Annual Progress Report".
2. Renewal permittees with no portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall submit Progress Reports to DEP documenting the SWMP and MS4 TMDL Plan activities that were performed during the preceding reporting time interval.
3. Permittees shall submit the appropriate report form, available on DEP's website.
4. The reports shall include information regarding (but not limited to):
  - i. Status of compliance with the conditions of this permit and progress towards meeting the measurable goals of each MCM;
  - ii. Status of progress towards achieving the statutory requirements of reducing the discharge of pollutants to the MEP and complying with water quality standards.
  - iii. Assessment of the appropriateness of the BMPs;
  - iv. Steps to be taken to address any deficiencies in the BMPs or other aspects of the SWMP developed by the permittee;
  - v. Results of information collected and analyzed during the reporting period;
  - vi. Summary of stormwater activities planned during the next reporting cycle;
  - vii. Any proposed changes to the permittee's SWMP, including changes to BMPs, measurable goals, or responsible parties;
  - viii. Notices, intergovernmental agreements, and other relevant documents if the permittee is relying on another governmental entity to satisfy any of its permit obligations;
  - ix. Progress with implementation of the MS4 TMDL Plan, including a summary of implementation and monitoring data of all control measures and of all BMPs implemented in connection with the MS4 TMDL Plan;
  - x. Progress with preparation, submission to DEP for approval, and implementation of the Chesapeake Bay Pollutant Reduction Plan for permittees with any regulated small MS4s are located in and discharging to receiving watersheds draining to the Chesapeake Bay. Include a list of BMPs implemented and their associated pollutant load reductions.
  - xi. For new permittees, a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to the first year report certifying the enactment of either an ordinance from an Act 167 Plan approved by the DEP in 2005 or later; enactment of the appropriate MS4 Stormwater Management Ordinance; or enactment of an ordinance(s) that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist.

5. All Reports shall be submitted to the appropriate Regional DEP Office.
6. The deadlines for submission of Annual Reports and Progress Reports are as follows:
  - a. Annual Reports no later than 90 days following the end of each permit year.
  - b. Progress Reports no later than 60 days following the end of permit years one (1) and three (3). In year five (5) the report shall be submitted with the application for renewal of this permit.

#### 4. TRANSFER OF OWNERSHIP OR CONTROL

This permit is not transferable to any person except after notice to DEP.

- a. In the event of any pending change in control or ownership of the regulated small MS4 from which the authorized discharges emanate, the permittee shall notify DEP by letter of such pending change at least 30 days prior to the change in ownership or control. The letter shall be accompanied by the application and a written agreement between the existing permittee and the new owner or operator stating that the existing permittee shall be liable for violations of the permit up to and including the date of coverage transfer and that the new owner or operator shall be liable for permit violations under the permit after that date.
- b. After receipt of the required documentation, DEP shall notify the existing permittee and the new owner or controller of its decision concerning approval of the transfer. Such requests shall be deemed approved unless DEP notifies the applicant otherwise within 30 days.

#### 5. TERMINATION OF COVERAGE

- a. **Notice of Termination.** Where all stormwater discharges from a regulated small MS4 that are authorized by this permit are eliminated, the operator of the regulated small MS4 may submit a letter that is signed in accordance with Part B.3.c. (signatory requirements) of this permit certifying that:

"Under penalty of law, I hereby certify that all MS4 discharges that are authorized by this NPDES MS4 Permit have been eliminated. I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater from the small MS4 regulated under this permit, and that discharging stormwater or pollutants to surface waters of the Commonwealth is unlawful under the Clean Water Act and Clean Streams Law where the discharge is not authorized by an NPDES MS4 permit."

- b. **Addresses.** All letters certifying discharge termination are to be sent to the appropriate regional office of DEP.

#### 6. ANNUAL FEE

Permittees shall pay an annual fee in accordance with 25 Pa. Code § 92a.62. Annual fees are due on each anniversary of the effective date of the most recent new or reissued permit.

Invoices for annual fees will be mailed to permittees approximately three months prior to the due date. In the event that an invoice is not received, the permittee is nonetheless responsible for payment. Throughout a five year permit term, permittees will pay four annual fees followed by a permit renewal application fee in the last year of permit coverage. Permittees may contact the DEP at 717-787-6744 with questions related to annual fees.

Payment for annual fees shall be remitted to DEP at the address below by the anniversary date. Checks should be made payable to the Commonwealth of Pennsylvania.

PA Department of Environmental Protection  
Bureau of Point and Non-Point Source Management  
Re: Chapter 92a Annual Fee  
P.O. Box 8466  
Harrisburg, PA 17105-8466

## PART C

### OTHER CONDITIONS

#### 1. TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS:

If the regulated small MS4 discharges stormwater into any portion of a receiving water with applicable Wasteload Allocations (WLAs) in approved TMDLs, the permittee shall implement an approved MS4 TMDL Plan that is designed to achieve pollutant reductions consistent with the applicable WLAs in the TMDLs. When an MS4 TMDL Plan is required, that MS4 TMDL Plan must be implemented according to the schedule in the approved plan.

For each regulated small MS4 that discharges stormwater into any portion of a receiving water with applicable wasteload allocations in approved TMDLs, permittees shall develop, submit to DEP for approval, and ensure implementation of a written MS4 TMDL Plan that is designed to achieve pollutant reductions consistent with the assumptions and requirements of the applicable wasteload allocations in the approved TMDLs. An MS4 TMDL Plan consists of two (2) components: an MS4 TMDL Strategy and MS4 TMDL Design Details. The MS4 TMDL Strategy must include a narrative discussion of how the MS4 TMDL Plan will satisfy the requirements in Subsections a through c below. MS4 TMDL Design Details must be submitted to DEP within one (1) year of the effective date of this permit for written approval by DEP. The complete MS4 TMDL Plan must satisfy the requirements in Subsections a through d below, including final design details for the BMPs that will be implemented during the term of this permit. MS4 TMDL Plans must include a timeline (schedule) with milestones and upon approval the plan must be implemented as soon as practicable, and no later than according to the approved timeline.

##### a. MS4 TMDL Plan for Impaired Waters with a TMDL

The MS4 TMDL Plan must be consistent with the conditions and assumptions of the any applicable waste load allocation(s) (WLAs) in approved TMDLs, and it must include implementation of pollutant control measures that reduce pollutants in discharges from the regulated small MS4s as required by the wasteload allocations in the TMDLs. (Note: The MS4 TMDL Plan is in addition the Stormwater Management Program (SWMP) in Appendix A required to satisfy the six (6) mandatory MCMs).

The permittee's progress with implementation of the MS4 TMDL Plan must be fully described in every periodic report (see Part B.3.d of the Authorization to Discharge).

##### b. MS4 TMDL Plan, Required Contents

The MS4 TMDL Plan shall reduce pollutants in discharges from the regulated small MS4 as required by applicable wasteload allocations in approved TMDLs. The permittee must develop, submit to DEP for approval, and ensure implementation of the MS4 TMDL Plan in accordance with the approved timeline.

MS4 TMDL Plans shall include:

- i. The Title of TMDL or TMDL(s);
- ii. A list of the watershed name(s) and the eight-digit Hydrologic Unit Code (HUC) for the areas that discharge through the regulated MS4s to waterbodies with TMDLs;
- iii. A list of the pollutant(s) and Waste Load Allocations (WLAs) assigned to each regulated small MS4 in each municipality covered by this permit;
- iv. For each applicable TMDL, a list all of the municipalities subject to the TMDL within the area of the same eight-digit HUC;
- v. For each applicable TMDL, a list of all the counties subject to the TMDL within the area of the same eight-digit HUC;
- vi. Allocated pollutant loadings established in each applicable TMDL;
- vii. Reductions in pollutant loads (pounds or percent) necessary to meet each applicable TMDL or WLA;
- viii. For each regulated small MS4 outfall that discharges to waters with TMDLs, and for each TMDL, list all of the control measures and BMPs that will be implemented and reported to achieve consistency



with each applicable TMDL or WLA. Include a brief analysis to explain and justify the control measures and BMPs that were selected for implementation.

- ix. Permittees must include an analysis to show that implementation of the MS4 TMDL Plan, including the selected control measures and BMPs, will reduce the pollutant loads consistent with the applicable WLAs established in approved TMDLs. Permittees must include a timeline with milestones. Implementation of the MS4 TMDL Plan may be phased, in accordance with the timeline, and can be adaptive, iterative, and dynamic to show measurable progress toward meeting pollutant load reductions. Permittees must evaluate and update MS4 TMDL Plans as necessary, based on effectiveness in reducing pollutant discharge loads to meet approved TMDLs and applicable WLAs. MS4 TMDL Plans must include a process for evaluating control measures and BMPs, implementation efforts undertaken to date, and any changes made to the control measures or BMPs to obtain greater reductions in pollutant loadings from the outfalls of the regulated MS4s.
- x. Additional information deemed necessary by DEP or by the permittee for addressing the TMDL.

Information for TMDLs (including HUC numbers) can be found at [www.depweb.state.pa.us](http://www.depweb.state.pa.us), keyword: TMDL.

### **c. Signature and Seal by Professional Engineer for MS4 TMDL Plans**

MS4 TMDL Strategies and an MS4 TMDL Plans must be signed and sealed by a Professional Engineer (PE) holding a valid license in good standing from the Pennsylvania Department of State.

### **d. Implementation Requirements**

Permittees shall develop, submit to DEP for approval, and ensure implementation of an MS4 TMDL Plan that is consistent with the applicable WLAs in approved TMDLs and that is designed to achieve the pollutant reductions established by applicable WLAs in the TMDLs. The term “implement” includes any action that may be necessary for the permittee to ensure the proper operation and maintenance of all pollutant control measures identified in, or associated with, the MS4 TMDL Plan. Permittees shall report on implementation of the MS4 TMDL Plan in each periodic report submitted under this permit. All pollutant control measures needed to reduce the pollutant load consistent with the TMDL shall be implemented as soon as practicable, in accordance with the MS4 TMDL Plan’s timeline, to make measurable progress in substantially reducing the applicable pollutant loads. Implementation of all measures can be adaptive, iterative, and dynamic. The MS4 TMDL Plan shall be evaluated and updated by the permittee as necessary, based on its effectiveness in reducing pollutant loads in discharges from the regulated small MS4s.

The MS4 TMDL Plan shall demonstrate that the required pollutant load reductions will be achieved, consistent with the TMDL, and the Plan must be implemented as soon as practicable. The MS4 TMDL Plan can demonstrate this by showing how measurable implementation progress will be made in substantially reducing applicable pollutant loads specified in the WLA, in accordance with the implementation timeline, including attainment of applicable milestones, along with the proposed end date for ultimate attainment of the pollutant load reductions set forth in the WLA.

Permittees shall report on progress with implementation of the MS4 TMDL Plan in all periodic reports and in the final report submitted with the next renewal application. Permittees must include the reductions in pollutant loads attained by implementation of control measures or BMPs, broken down measure by measure or BMP by BMP. Permittees must have physical pollutant removal measures installed on-the-ground in time for their successful operation to be documented in the periodic report or the progress report submitted at the end of the third year of coverage under this permit. Additional measurable substantial progress with installation of physical pollutant removal measures must be documented in the reports submitted with the next successive application for a renewal permit.

## **2. DISCHARGES TO IMPAIRED WATERS WITHOUT A TMDL:**

For each regulated small MS4 that discharges stormwater into any portion of a receiving water that is impaired, but does not have an approved TMDL, permittees shall ensure that new discharges from the permittee’s regulated small MS4s do not cause or contribute to exceedances of water quality standards. Permittees must:

- a. identify outfalls that discharge to impaired waters;
- b. identify additional or modified BMPs in the SWMP to ensure that new discharges do not cause or contribute to the impairment; and

- c. implement such BMPs and report on the status of each.

Permittees shall report on progress with implementation of the additional or modified BMPs in the each periodic report.

### **3. CHESAPEAKE BAY POLLUTANT REDUCTION PLANS:**

Permittees with regulated small MS4s located in and discharging to receiving watersheds draining to the Chesapeake Bay:

- a. Shall within twelve (12) months of the effective date of the Approval of Coverage, develop and submit to DEP for approval a Chesapeake Bay Pollutant Reduction Plan, including a schedule, to implement BMPs to reduce nitrogen, phosphorus, and sediment associated with existing stormwater discharges into regulated small MS4s discharging to receiving waters tributary to the Chesapeake Bay;
- b. The Chesapeake Bay Pollutant Reduction Plan required under this permit shall include a narrative description of the estimated area, including impervious cover, draining to the regulated small MS4, which may be based upon existing documents or data, such as zoning maps. This narrative description should identify areas where municipal infrastructure upgrades are planned and include an evaluation of the suitability for incorporation of green infrastructure, ESD, or LID BMPs into the planned municipal infrastructure upgrades. Where feasible, such practices should be incorporated into the municipal infrastructure upgrades and be included in the Chesapeake Bay Pollutant Reduction Plan BMP implementation schedule.
- c. The Chesapeake Bay Pollutant Reduction Plan required under this permit shall include BMPs that are designed to achieve reductions of nitrogen, phosphorus, and sediment consistent with the goals and objectives of the Pennsylvania Chesapeake Watershed Implementation Plan and must be signed and sealed by a Professional Engineer holding a valid license in good standing from the Pennsylvania Department of State;
- d. In the development of the Chesapeake Bay Pollutant Reduction Plan, the permittee shall evaluate and incorporate into the plan a combination of TMDL control measures listed in Section II.F of the Instructions for an Application for an Individual Permit;
- e. Upon approval by DEP, the permittee shall ensure implementation of the Chesapeake Bay Pollutant Reduction Plan consistent with the approved schedule; and
- f. In the annual report to the Department required under Part B of this permit, the permittee shall include a list of BMPs implemented and their associated reductions, and a narrative description of the progress with development, submission to DEP for approval, and ensuring implementation of the Chesapeake Bay Pollutant Reduction Plan.
- g. Where the permittee is required to develop, submit to DEP for approval, and ensure implementation of an MS4 TMDL Plan to meet a WLA for nitrogen, phosphorus, or sediment as described in Part C(1) of this permit, the permittee may rely on and incorporate the portions of such MS4 TMDL Plan that address nitrogen, phosphorus, and sediment associated with existing stormwater discharges into the Chesapeake Bay Pollutant Reduction Plan.



## Individual Permit Appendix A Stormwater Management Program

This Appendix A contains specific Best Management Practices (BMPs) and Measurable Goals that make up the permittee's Stormwater Management Program (SWMP) and that are required for the permittee to comply with this NPDES Municipal Separate Storm Sewer System (MS4) permit. There are six (6) Minimum Control Measures (MCMs), which are required by Federal Regulations. Within each MCM, the permittee will implement several BMPs as conditions of this permit. Associated with each BMP are Measurable Goals, which represent the means by which the permittees' accomplishments shall be reported and evaluated. For supplemental information on the six (6) MCMs, permittees are encouraged to refer to [www.depweb.state.pa.us](http://www.depweb.state.pa.us), keyword: Stormwater. For a national perspective on guidance for setting measurable goals, please refer to EPA's publication "Measurable Goals Guidance for Phase II Small MS4s," available from EPA's website: <http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm>.

**In your permit application you indicated whether the BMPs and Measurable Goals under each of the six (6) MCMs follow exactly the wording provided by DEP in DEP's version of this Appendix A, or whether you provided alternative BMPs and Measurable Goals for any of the MCMs. You are required to satisfy all requirements of this Stormwater Management Program as a condition of this permit during the term of this permit.**

### **MCM #1: Public Education and Outreach on Stormwater Impacts**

The following are the requirements for MCM #1 that are included in the Federal Regulations:

- *Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff (40 CFR Part 122.34(b)(1)(i)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

**BMP #1:** Develop, implement and maintain a written Public Education and Outreach Program (PEOP).

**Measurable Goal:** For new permittees, a PEOP shall be developed and implemented during the first year of coverage under this permit and shall be re-evaluated each permit year thereafter and revised as needed. For renewal permittees, the existing PEOP shall be reviewed and revised as necessary. The permittee's PEOP shall be designed to achieve measurable improvements in the target audience's understanding of the causes and impacts of stormwater pollution and the steps they can take to prevent it.

**Recommendation:** Refer to the Environmental Protection Agency (EPA) document, "[Getting In Step, A Guide for Conducting Watershed Outreach Campaigns](#)" (EPA 841-B-03-002, December, 2003), for guidance on developing and implementing the PEOP.

**BMP #2:** Develop and maintain lists of target audience groups that are present within the areas served by your regulated small MS4s. In most communities, the target audiences shall include residents, businesses (including commercial, industrial and retailers), developers, schools, and municipal employees.

**Measurable Goal:** For new permittees, the lists shall be developed within the first year of coverage under the permit and reviewed and updated as necessary every year thereafter. For renewal permittees, the lists shall continue to be reviewed and updated annually.

**Recommendation:** Utilize databases or spreadsheets to record and track this information and to allow for easy identification and creation of mailing lists easily retrievable.

**BMP #3:** You must annually publish at least one (1) issue of a newsletter, a pamphlet, a flyer, or a website that includes general stormwater educational information, a general description of your Stormwater Management Program, and/or information about your stormwater management activities. The list of publications, including websites, and the content of the publications must be reviewed and updated at least once during each year of permit coverage. Publications should include a list of references (or links) to refer the reader to additional information (e.g., PADEP and US EPA stormwater websites, and any other sources that will be helpful to readers). You must implement at least one of the following alternatives:

- a. Publish and distribute in printed form a newsletter, a pamphlet or a flyer containing information consistent with this BMP.
- b. Publish educational and informational items including links to DEP's and EPA's stormwater websites on your municipal website.

**Measurable Goals:** For new permittees, stormwater educational and informational items shall be produced and published in print and/or on the Internet within the first year of permit coverage. In subsequent years (and for renewal permittees), the list of items published and the content in these items shall be reviewed, updated, and maintained annually. Your publications shall contain stormwater educational information that addresses one (1) or more of the six (6) MCMs.

Recommendation: There are numerous example educational resources available from the sources listed at: [www.depweb.state.pa.us](http://www.depweb.state.pa.us), keyword: Stormwater. Periodically you should review and consider distributing or republishing stormwater information available from DEP, EPA, and other sources. Your stormwater materials can be published either in print format or electronically on the internet. Permittees can partner with other MS4 permittees to meet this BMP.

**BMP #4:** Distribute stormwater educational materials and/or information to the target audiences using a variety of distribution methods, including, but not limited to: displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, other advertisements (e.g., at bus and train stops/stations), bill stuffers, posters, presentations, conferences, meetings, fact sheets, giveaways, or storm drain stenciling.

**Measurable Goal:** All permittees shall select and utilize at least two (2) distribution methods in each permit year. These are in addition to the newsletter and website provisions of BMPs #3 and #4.

Recommendations: Abundant educational resources and examples are available from numerous sources (see [www.depweb.state.pa.us](http://www.depweb.state.pa.us), keyword: Stormwater) that can be adapted for use, including the DEP brochure titled "When It Rains, It Drains." Since school districts frequently cross MS4 boundaries, seek out watershed groups or other qualified service providers to help assist and/or implement school education on behalf of the group of permittees. Permittees also can partner with other permittees to jointly arrange for school education.

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

The following are the requirements for MCM #2 that are included in the Federal Regulations:

- *Comply with applicable state and local public notice requirements when implementing a public involvement / participation program (40 CFR Part 122.34(b)(2)(i)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved by MS4 permittees in Pennsylvania:

**BMP #1:** Develop, implement and maintain a written Public Involvement and Participation Program (PIPP), which describes various types of possible participation activities and describes methods of encouraging the public's involvement and of soliciting the public's input.

Measurable Goal: New permittee's PIPP shall be developed and implemented during the first year of coverage under this permit. All permittees shall re-evaluate the PIPP each permit year and revise as needed. Your PIPP shall include, but not be limited to:

- a. Opportunities for the public to participate in the decision-making processes associated with the development, implementation, and update of programs and activities related to this permit.
- b. Methods of routine communication to groups such as watershed associations, environmental advisory committees, and other environmental organizations that operate within proximity to the permittee's regulated small MS4s or their receiving waters.
- c. Making your periodic reports available to the public on your website, at your municipal offices, or by US Mail upon request.

**BMP #2:** Prior to adoption of any ordinance required by this permit, provide adequate public notice and opportunities for public review, input, and feedback.

Measurable Goal: Advertise any proposed MS4 Stormwater Management Ordinance, provide opportunities for public comment, evaluate any public input and feedback, and document the comments received and the municipality's response.

**BMP #3:** Regularly solicit public involvement and participation from the target audience groups. This should include an effort to solicit public reporting of suspected illicit discharges. Assist the public in their efforts to help implement your SWMP. Conduct public meetings to discuss the on-going implementation of your SWMP.

Measurable Goals: Conduct at least one (1) public meeting per year to solicit public involvement and participation from target audience groups. The public should be given reasonable notice through the usual outlets a reasonable period in advance of each meeting. During the meetings, you should present a summary of your progress, activities, and accomplishments with implementation of your SWMP, and you should provide opportunities for the public to provide feedback and input. Your presentation can be made at specific MS4 meetings or during any other public meeting. Under this MCM, you should document and report instances of cooperation and participation in your activities; presentations you made to local watershed organizations and conservation organizations; and similar instances of participation or coordination with organizations in your community. You also should document and report activities in which members of the public assisted or participated in your meetings and in the implementation of your SWMP, including education activities or organized implementation efforts such as cleanups, monitoring, storm-drain stenciling, or others.

### **MCM #3: Illicit Discharge Detection and Elimination (IDD&E)**

The following are the requirements for MCM #3 that are included in the Federal Regulations:

- *Develop, implement, and enforce a program to detect and eliminate illicit discharges into the MS4 (40 CFR Part 122.34(b)(3)(i)).*
- *Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and locations of all surface waters of the Commonwealth that receive discharges from those outfalls (40 CFR Part 122.34(b)(3)(ii)(A)).*
- *To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions (40 CFR Part 122.34(b)(3)(ii)(B)).*
- *Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to your system (40 CFR Part 122.34(b)(3)(ii)(C)).*
- *Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste (40 CFR Part 122.34(b)(3)(ii)(D)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

**BMP #1:** You shall develop and implement a written program for the detection, elimination, and prevention of illicit discharges into your regulated MS4s. Your program shall include dry weather field screening of outfalls for non-stormwater flows and sampling of dry weather discharges for selected chemical and biological parameters. Test results shall be used as indicators of possible discharge sources. The program shall include the following:

- a. Procedures for identifying priority areas. These are areas with a higher likelihood of illicit discharges, illicit connections, or illegal dumping. Priority areas may include areas with older infrastructure, a concentration of high-risk activities, or past history of water pollution problems.
- b. Procedures for screening outfalls in priority areas during varying seasonal and meteorological conditions.
- c. Procedures for identifying the source of an illicit discharge when a contaminated flow is detected at a regulated small MS4 outfall.
- d. Procedures for eliminating an illicit discharge.
- e. Procedures for assessing the potential for illicit discharges caused by the interaction of sewage disposal systems (e.g., on-lot septic systems, sanitary piping) with storm-drain systems.
- f. Mechanisms for gaining access to private property to inspect outfalls (e.g., land easements, consent agreements, search warrants).
- g. Procedures for program documentation, evaluation and assessment.

Measurable Goal: For new permittees, the IDD&E program shall be developed during the first year of coverage under this permit and shall be implemented and evaluated each year thereafter. For renewal permittees, the existing IDD&E program shall continue to be implemented and evaluated annually. Records shall be kept of all outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program.

Recommendation: For information on development and implementation of an IDD&E program, refer to: *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* (CWP, October 2004). <http://cfpub.epa.gov/NPDES/stormwater/idde.cfm>

**BMP #2:** Develop and maintain a map of your regulated small MS4. The map must also show the location of all outfalls and the locations and names of all surface waters of the Commonwealth (e.g., creek, stream, pond, lake, basin, swale, channel) that receive discharges from those outfalls.

Measurable Goals: For new permittees, develop the map(s) of your regulated small municipal separate storm sewer systems (MS4) and the information on all outfalls from your regulated small MS4 by the end of the fourth (4<sup>th</sup>) year of

permit coverage. For renewal permittees, the existing map(s) of your regulated small MS4 shall be updated and maintained as necessary during each year of coverage under the permit.

**BMP #3:** In conjunction with the map(s) created under BMP #2 (either on the same map or on a different map), new permittees shall show, and renewal permittees shall update, the entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, and any other features of the permittee's storm sewer system, including municipal boundaries and/or watershed boundaries.

Measurable Goal: For new permittees, develop the map(s) by the end of the fourth (4<sup>th</sup>) year of coverage under the permit and update and maintain the map(s) as necessary each year of permit coverage thereafter. For renewal permittees, update and maintain the map(s) as necessary during each year of permit coverage.

**BMP #4:** Following the IDD&E program created pursuant to BMP #1, the permittee shall conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges using procedures developed under BMP #1.

Measurable Goals: For new permittees, all of the identified regulated small MS4 outfalls shall be screened during Dry Weather on at least two (2) different occasions during the permit coverage term. In each permit coverage year, at least forty percent (40%) of the total number of outfalls should be screened.

For renewal permittees, each of the identified regulated small MS4 outfalls shall be screened at least once during each permit coverage term. For areas where past problems have been reported or known sources of dry weather flows occur on a continual basis, outfalls shall be screened annually.

For each outfall, if the screening reveals dry weather flow, the discharge from the outfall and the area around the outfall shall be inspected visually for color, turbidity, sheen, floating or submerged solids; for adverse affects on plants or animals in proximity to the outfall; and for odor. If the outfall produces any odor, or if the visual inspection shows any indication that the discharge may contain pollutants, then samples of the discharge shall be collected for field and / or lab testing of selected chemical and biological parameters as part of a process to determine if the dry weather flow is illicit. Common parameters include: pH; conductivity; E. Coli bacteria; fecal coliform bacteria; metals; suspended solids; dissolved solids; oils; ammonia; surfactants; chlorine; and fluoride.

You shall implement the IDD&E plan that you developed to address any non-storm water discharges. If an outfall does not have any dry weather flow, then sampling and testing are not needed.

For all permittees, outfall inspections need to be prioritized according to the perceived chance of illicit discharges within the outfall's contributing drainage area. Observations of each outfall shall be recorded each time an outfall is screened, regardless of the presence of dry weather flow. Proper quality assurance and quality control procedures shall be followed when collecting, transporting or analyzing water samples. All outfall inspection information shall be recorded on the Outfall Reconnaissance Inventory/Sample Collection field sheet (attached below) excerpted from the *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* (CWP, October 2004). Adequate written documentation shall be maintained to justify a determination that an outfall flow is not illicit. If an outfall flow is illicit, the actions taken to identify and eliminate the illicit flow also shall be documented.

The results of outfall inspections and actions taken to remove or correct illicit discharges shall be summarized in periodic reports.

Recommendation: All permittees should consider conducting some outfall screenings during varying seasonal and meteorological conditions since it is possible for illicit discharges/connections to occur during different times of the year and during or just after rain events. Seasonal outfall screenings conducted during periods of both low and high groundwater conditions can be beneficial in identifying illicit discharges that can occur during these times.

**BMP #5:** Enact a stormwater management ordinance to implement and enforce a stormwater management program (SWMP) that includes prohibition of non-stormwater discharges to the regulated small MS4.

Measurable Goal - 1: Within the first year of coverage under the permit, new permittees shall enact and implement an ordinance from an Act 167 Plan approved by the Department in 2005 or later; one (1) of the MS4 Stormwater Management Ordinances; or an ordinance that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist.

Renewal permittees must continue to maintain, update, implement, and enforce a Stormwater Management Ordinance that satisfies all applicable requirements.

Measurable Goal - 2: New permittees shall submit a letter signed by a municipal official, municipal engineer, or the municipal solicitor as an attachment to their first year report certifying the enactment of an ordinance that meets all applicable requirements of this permit. Renewal permittees shall update their existing ordinance, if necessary, and submit documentation of completion to the DEP.

**BMP #6:** Provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials (i.e., target audiences) about the program to detect and eliminate illicit discharges.

Educational outreach should include:

- a. Distribution of brochures and guidance for target audiences including schools;
- b. Programs to encourage and facilitate public reporting of illicit discharges;
- c. Organizing volunteers to locate and visually inspect outfalls and to stencil storm drains; and
- d. Implement and encourage recycling programs for common wastes such as motor oil, antifreeze and pesticides.

Measurable Goals: During each year of permit coverage, appropriate educational information concerning illicit discharges shall be distributed to the target audiences using methods outlined under MCM #1. If not already established, set up and promote a stormwater pollution reporting mechanism (e.g., a complaint line with message recording) by the end of the first year of permit coverage for the public to use to notify you of illicit discharges, illegal dumping or outfall pollution. Respond to all complaints in a timely and appropriate manner. Document all responses, include the action taken, the time required to take the action, whether the complaint was resolved successfully.



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

If you checked Option MCM #4.A in Section E(4)-(5) of the NOI, then you are relying on DEP's statewide QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy all requirements under this MCM #4 and under BMPs #1 through #3 of MCM #5; therefore, all requirements are met for both this MCM #4 and BMPs #1 through #3 of MCM #5.

If you checked Option MCM #4.B in Section E(4)-(5) of the NOI, you are not relying on DEP's QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy this MCM #4 and BMPs #1 through #3 of MCM #5; therefore, you must implement and achieve all of the requirements in this MCM #4 and all of the requirements in MCM #5, including the Best Management Practices (BMPs) and the Measurable Goals.

The following are the requirements for MCM #4 that are included in the Federal Regulations:

- *Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that equals one acre or more (40 CFR Part 122.34(b)(4)(i)).*
- *Develop and implement an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law (40 CFR Part 122.34(b)(4)(ii)(A)).*
- *Require construction site operators to implement appropriate erosion and sediment control best management practices (BMPs) (40 CFR Part 122.34(b)(4)(ii)(B)).*
- *Develop and implement requirements for construction site operators to control waste at the construction site that may cause adverse impacts to water quality. These wastes can include discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste (40 CFR Part 122.34(b)(4)(ii)(C)).*
- *Develop and implement procedures for site plan review which incorporate consideration of potential water quality impacts (40 CFR Part 122.34(b)(4)(ii)(D)).*
- *Develop and implement procedures for receipt and consideration of information submitted by the public (40 CFR Part 122.34(b)(4)(ii)(E)).*
- *Develop and implement procedures for site inspections and enforcement of control measures (40 CFR Part 122.34(b)(4)(ii)(F)).*

Under 25 Pa. Code, Chapter 102 of Department regulations issued under the authority of the Pennsylvania Clean Streams Law, the permittee (a municipality or a county) may not issue a building or other permit or final approval to those proposing or conducting earth disturbance activities requiring a DEP permit until the DEP has issued the permit, or DEP or a delegated county conservation district (CCD) has approved coverage under an NPDES Permit for Stormwater Discharges Associated With Construction Activities.

**BMP #1:** Develop your program consisting of all procedures necessary to comply with the requirements of this MCM. Your program shall provide for construction stormwater permitting, construction inspection, and enforcement of installation and maintenance of the necessary Erosion and Sedimentation (E&S) control measures. Your program shall describe clearly how your program will be coordinated with DEP's NPDES Construction Stormwater Permitting program.

Measurable Goal - 1: For new permittees, the written program for this MCM shall be developed during the first year of permit coverage; nevertheless, you are responsible for implementation of this MCM during entire term of this permit, including the time you are developing your program.

For all permittees, your program shall be reviewed and updated during each year of permit coverage. The purpose of the written program is to establish clear roles and responsibilities for the implementation of the MCM #4 requirements. An agreement between the permittee, the CCD, and any other resources to be used by the permittee that clearly defines roles for each entity is recommended. If an agreement is made, you shall place and keep a written copy in your file, consistent with the Retention of Records requirements in this Permit. Please note that in

accordance with Section A.2.h in Part A of the Authorization to Discharge, as the permittee you are responsible to ensure that implementation of all requirements under this Permit are fulfilled.

Recommendation: Develop a tracking system that summarizes your actions to comply with this BMP (e.g., number of active construction sites, inspections, enforcement actions, etc.) and which can be described in a summary report format.

Measurable Goal - 2: If any portion of your regulated small MS4 is located in, or discharging to, Waters of the Commonwealth, including wetlands, that have an existing or designated use that qualifies as either "High Quality Waters" or "Exceptional Value Waters" under 25 Pa. Code Chapter 93 of DEP's regulations, then your program for this MCM, as written and as implemented, must ensure that stormwater discharges from new development or redevelopment into that portion of your regulated small MS4 will not cause or contribute to degradation of the quality of the receiving waters.

Recommendation: Develop maps, design guidance, application review guidance, inspection procedures, enforcement procedures, and a tracking system to ensure that this requirement is met.

**BMP #2:** The permittee shall enact, implement, and enforce an ordinance to require the implementation of erosion and sediment control BMPs, as well as sanctions to ensure compliance.

Measurable Goal - 1: Within the first year of coverage under the permit, new permittees shall enact and implement an ordinance that meets all applicable requirements of this permit.

Measurable Goal - 2: Permittees shall submit a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to their first periodic report certifying the enactment and implementation of a stormwater management ordinance that meets all requirements of this permit

**BMP #3:** Develop and implement requirements for construction site operators to control waste at the construction site that may cause adverse impacts to water quality. While sediment is the most common pollutant of concern for MCM #4, there are other types of pollutants that also can be a concern and the intent of this BMP is to address these other types of pollutants, such as, but not limited to, discarded building materials, washout from concrete trucks, chemicals, litter, and sanitary waste.

Measurable Goal: New permittees shall establish requirements to address this BMP by the end of the first year of permit coverage. Renewal permittees shall continue to implement existing requirements and update as necessary. This could be implemented by written municipal ordinance/code provisions, by standard notes on the site plans, by any other written format that accomplishes the objectives of this BMP, or by any combination of these measures. The goal of this BMP shall be communicated to construction site operators during pre-construction meetings. This BMP shall be implemented during each year of the MS4 permit. Permittees must prepare and maintain records of site inspections, including dates and results and you must maintain these records in accordance with the Retention of Records requirements in this Permit.

Recommendation: Verification of proper waste handling procedures can be determined at the same time that site E&S control inspections are conducted under BMP #1, described above.

**BMP #4:** Develop and implement procedures for the receipt and consideration of public inquiries, concerns, and information submitted by the public (to the permittee) regarding local construction activities. The permittee shall demonstrate acknowledgement and consideration of the information submitted, whether submitted verbally or in writing.

Measurable Goal: Permittees shall establish and implement a tracking system to keep a record of any submitted public information as well as your response, actions, and results. This BMP shall be implemented during each year of coverage under this permit and information should be submitted with the each periodic report.

Recommendation: Develop a tracking system that can keep a record of information submitted by the public as well as your responses to such public inquiries. The tracking system should be capable of producing periodic summary reports.

## **MCM #5: Post-Construction Stormwater Management (PCSM) in New and Re-Development Activities**

If you checked Option MCM #4.A in Section E(4)-(5) of the NOI, then you are relying on DEP's statewide QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy all requirements under BMPs #1 through #3 of this MCM #5; therefore, all requirements are met for BMPs #1 through #3 of this MCM #5 and for all requirements under MCM #4.

If you checked Option MCM #4.B in Section E(4)-(5) of the NOI, you are not relying on DEP's QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy the requirements in BMPs #1 through #3 of this MCM #5; therefore, you must implement and achieve all of the requirements in this MCM #5 and all of the requirements in MCM #4, including the Best Management Practices (BMPs) and the Measurable Goals.

The following are the requirements for MCM #5 that are included in the Federal Regulations:

- *Develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program shall ensure that controls are in place that would prevent or minimize water quality impacts (40 CFR Part 122.34(b)(5)(i)).*
- *Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community (40 CFR Part 122.34(b)(5)(ii)(A)).*
- *Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law (40 CFR Part 122.34(b)(5)(ii)(B)).*
- *Ensure adequate long-term operation and maintenance of BMPs (40 CFR Part 122.34(b)(5)(ii)(C)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

Note: Please refer to the definitions section of this permit for clarification of terms used in this MCM. In the following language, the term "**BMPs**" refers to **post-construction stormwater management controls and Best Management Practices**.

**BMP #1:** Develop a written procedure that describes how the permittee shall address all required components of this MCM. Guidance can be found in the Pennsylvania Stormwater Best Management Practices Manual. This plan shall include the following components:

- a. Minimum requirements for use of structural and/or non-structural BMPs in plans for development and redevelopment;
- b. Criteria for selecting and standards for sizing stormwater BMPs;
- c. Implementation of an inspection program to ensure that BMPs are properly installed;

Measurable Goal: The written procedure shall be developed by the end of the first year of permit coverage and be reviewed and updated every permit year thereafter, as needed. The intent of BMP #1 is for the permittee to describe how the listed tasks will be accomplished.

**BMP #2:** Require the implementation of a combination of structural and/or non-structural BMPs that are appropriate to the local community, that minimize water quality impacts, and that are designed to maintain pre-development runoff conditions. This requirement can be met by ensuring that the selected BMPs comply with the municipal Stormwater Management Ordinance that meets the requirements of this permit.

Measurable Goal: All qualifying development or redevelopment projects shall be reviewed to ensure that their post-construction stormwater management plans and selected BMPs conform to the applicable requirements. A tracking system (e.g., database, spreadsheet, or written list) shall be maintained to record qualifying projects and their associated BMPs. In your records, you shall note if there are no qualifying projects in a calendar year.

**BMP #3:** Ensure that controls are installed that shall prevent or minimize water quality impacts.

Measurable Goal: All qualifying development or redevelopment projects shall be inspected during the construction phase to ensure proper installation of the approved structural PCSM BMPs. A tracking system (e.g., database, spreadsheet, or written list) shall be implemented to track the inspections conducted and to track the results of the inspections (e.g., BMPs were, or were not, installed properly). Permittees not relying on DEP's statewide QLP to satisfy requirements under this BMP shall summarize construction inspections and results in periodic reports. See BMP #6 for requirements related to post-construction inspection and tracking of PCSM BMPs to ensure that the operation and maintenance plan is being implemented.

**BMP #4:** The permittee shall enact, implement, and enforce an ordinance or other regulatory mechanism to address post-construction stormwater runoff from new development and redevelopment projects, as well as sanctions and penalties associated with non-compliance, to the extent allowable under State or local law.

Measurable Goal - 1: Within the first year of coverage under this permit, new permittees shall enact and implement a stormwater management ordinance that meets the requirements of this permit.

Measurable Goal - 2: All permittees shall submit a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to their first periodic report certifying the enactment of a stormwater management ordinance that meets the requirements of this permit.

**BMP #5:** Develop and implement measures to encourage and expand the use of Low Impact Development (LID) in new and redevelopment. Measures also should be included to encourage retrofitting LID into existing development. DEP's Pennsylvania Stormwater Best Management Practices Manual provides guidance on implementing LID practices.

Measurable Goal - 1: In your inventory of development and redevelopment projects authorized for construction since March 10, 2003, that discharge stormwater to your regulated small MS4s, indicate which projects incorporated LID practices and for each project list and track the BMPs that were used.

Measurable Goal - 2: Enact ordinances consistent with LID practices and repeal sections of ordinances that conflict with LID practices. Progress with enacting and updating your ordinances to enable the use of LID practices shall be summarized in the periodic reports.

Recommendations: The EPA website provides publications on LID, including Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices Publication Number EPA 841-F-07-006, December 2007 at <http://www.epa.gov/owow/nps/lid/costs07/>. The Pennsylvania Standards for Residential Site Development, Pennsylvania Housing Research/Resource Center, The Pennsylvania State University, April 2007 at <http://www.engr.psu.edu/phrc/>.

**BMP #6:** Ensure adequate Operation and Maintenance (O&M) of all post-construction stormwater management BMPs installed at all qualifying development or redevelopment projects (including those owned or operated by the permittee).

Measurable Goal - 1: Within the first year of coverage under this permit, new permittees shall develop and implement a written inspection program to ensure that stormwater BMPs are properly operated and maintained. The program shall include sanctions and penalties for non-compliance. All permittees shall review and update the inspection program annually and shall continue to implement this BMP.

Measurable Goal - 2: An inventory of PCSM BMPs shall be developed by permittees and shall be continually updated during the term of coverage under the permit as development projects are reviewed, approved, and constructed. This inventory shall include all PCSM BMPs installed since March 10, 2003 that discharge directly or indirectly to your regulated small MS4s. The inventory also should include PCSM BMPs discharging to the regulated small MS4 system that may cause or contribute to violation of water quality standard. The inventory shall include:

- a. All PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges Associated with Construction Activities approved since March 10, 2003.

- b. The exact location of the PCSM BMP (e.g., street address);
- c. Information (e.g., name, address, phone number(s)) for BMP owner and entity responsible for BMP Operation and Maintenance (O&M), if different from BMP owner;
- d. The type of BMP and the year it was installed;
- e. Maintenance required for the BMP type according to the Pennsylvania Stormwater BMP Manual or other manuals and resources;
- f. The actual inspection/maintenance activities for each BMP;
- g. An assessment by the permittee if proper occurred during the year and if not, what actions the permittee has taken, or shall take, to address compliance with O&M requirements

Recommendation: Develop a single system that supports recording and tracking the information specified in BMPs #3, #4 and #5.

Measurable Goal - 3: If any portion of your regulated small MS4 is located in, or discharging to, Waters of the Commonwealth, including wetlands, that have an existing or designated use that qualifies as either "High Quality Waters" or "Exceptional Value Waters" under 25 Pa. Code Chapter 93 of DEP's regulations, then your inspection program for this MCM, as written and as implemented, must ensure that stormwater discharges from new development or redevelopment into that portion of your regulated small MS4 will not cause or contribute to degradation of the quality of the receiving waters.

Recommendation: Develop maps, inspection procedures, enforcement procedures, and a tracking system to ensure that this requirement is met.

## **MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations**

The following are the requirements for MCM #6 that are included in the Federal Regulations:

- *Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations (40 CFR Part 122.34(b)(6)(i)).*
- *Provide employee training to prevent and reduce stormwater pollution from activities such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance (40 CFR Part 122.34(b)(6)(i)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

**BMP #1:** Identify and document all facilities and activities that are owned or operated by the permittee and have the potential for generating stormwater runoff to the regulated small MS4. This includes activities conducted by contractors for the permittee. Activities may include the following: street sweeping; snow removal/deicing; inlet/outfall cleaning; lawn/grounds care; general storm sewer system inspections and maintenance/repairs; park and open space maintenance; municipal building maintenance; new construction and land disturbances; right-of-way maintenance; vehicle operation, fueling, washing and maintenance; and material transfer operations, including leaf/yard debris pickup and disposal procedures. Facilities can include streets; roads; highways; parking lots and other large paved surfaces; maintenance and storage yards; waste transfer stations; parks; fleet or maintenance shops; wastewater treatment plants; stormwater conveyances (open and closed pipe); riparian buffers; and stormwater storage or treatment units (e.g., basins, infiltration/filtering structures, constructed wetlands, etc.).

**Measurable Goal:** By the end of the first year of permit coverage, new permittees shall identify and document all types of municipal operations, facilities and activities and land uses that may contribute to stormwater runoff within areas of municipal operations that discharge to the regulated small MS4. Renewal permittees should have completed this list during the previous permit term. For all permittees, this information shall be reviewed and updated each year of permit coverage, as needed. Part of this effort shall include maintaining a basic inventory of various municipal operations and facilities.

**BMP #2:** Develop, implement and maintain a written operation and maintenance (O&M) program for all municipal operations and facilities that could contribute to the discharge of pollutants from the regulated small MS4s, as identified under BMP #1. This program (or programs) shall address municipally owned stormwater collection or conveyance systems, but could include other areas (as identified under BMP #1). The O&M program(s) should stress pollution prevention and good housekeeping measures, contain site-specific information, and address the following areas:

- a. Management practices, policies, procedures, etc. shall be developed and implemented to reduce or prevent the discharge of pollutants to your regulated small MS4s. You should consider eliminating maintenance-area discharges from floor drains and other drains if they have the potential to discharge to storm sewers.
- b. Maintenance activities, maintenance schedules, and inspection procedures to reduce the potential for pollutants to reach your regulated small MS4s. You also should review your procedures for maintaining your stormwater BMPs.
- c. Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt / sand (anti-skid) storage locations and snow disposal areas.
- d. Procedures for the proper disposal of waste removed from your regulated small MS4s and your municipal operations, including dredge spoil, accumulated sediments, trash, household hazardous waste, used motor oil, and other debris.

**Measurable Goal:** During the first year of permit coverage, new permittees shall develop and implement a written O&M program that complies with BMPs #1 and #2. Renewal permittees shall continue to implement their existing program. All permittees shall review the O&M program annually, edit as necessary, and continue to implement during every year of permit coverage.

Guidance: Permittees may develop a single all encompassing written O&M program or they may develop separate programs for their stormwater system and for their vehicles.

**BMP #3:** Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from municipal operations to your regulated small MS4s. The program may be developed and implemented using guidance and training materials that are available from federal, state or local agencies, or other organizations. Any municipal employee or contractor shall receive training. This could include public works staff, building / zoning / code enforcement staff, engineering staff (on-site and contracted), administrative staff, elected officials, police and fire responders, volunteers, and contracted personnel. Training topics should include operation, inspection, maintenance and repair activities associated with any of the municipal operations / facilities identified under BMP #1. Training should cover all relevant parts of the permittee's overall stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

Measurable Goal - 1: During the first year of permit coverage, new permittees shall develop and implement a training program that identifies the training topics that will be covered, and what training methods and materials will be used. Renewal permittees shall continue to operate under their existing program. All permittees shall review the training program annually, edit it as necessary, and continue to implement it during every year of permit coverage.

Measurable Goal - 2: Your employee training shall occur at least annually (i.e., during each permit coverage year) and shall be fully documented in writing and reported in your periodic reports. Documentation shall include the date(s) of the training, the names of attendees, the topics covered, and the training presenter(s).

Guidance: The training requirements of this BMP can be met in various ways. Training can be:

- a. formal or informal;
- b. conducted on-site or off-site;
- c. conducted on-the-job or during dedicated training periods;
- d. conducted one-on-one or in a group setting (including with staff from other MS4s);
- e. conducted by municipal staff or consultants/volunteers;
- f. conducted via oral presentations/instructions and/or via written materials (e.g., SOP's, guidance manuals, tests).

Recommendation: For efficiency and cost savings, you may wish to arrange and schedule joint training events with other nearby operators of regulated small MS4s.

## OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

### Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

### Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____  In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully  With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

### Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
<input type="checkbox"/> Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip



## 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"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

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