NPDES-MS4 Background

The National Perspective…

In 1990, updates to federal Clean Water Act regulations established the National Pollutant Discharge Elimination System (NPDES), requiring large construction sites, certain industrial facilities, and municipalities with populations of 100,000 or more to obtain NPDES (Phase I) permits and develop stormwater management plans.

In 1999, NPDES Phase II was signed into law to build on the initial program. While Phase I applied to construction sites affecting 5 acres or more, Phase II required all individual land development projects that disturb one acre or more to obtain permits. Phase II also required small municipalities to obtain permits for their stormwater discharges. Whether small or large construction site, industrial facility, or municipal separate storm sewer system (MS4), each facility must now obtain a permit and implement and enforce a stormwater management program. Polluted stormwater runoff is commonly transported through Municipal Separate Storm Sewer Systems (MS4s), from which it is often discharged untreated into local waterbodies. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain a NPDES permit and develop a stormwater management program.

- Phase I, issued in 1990, requires *medium* and *large* cities or certain counties with populations of 100,000 or more to obtain NPDES permit coverage for their stormwater discharges.There are approximately 750 Phase I MS4s.

- Phase II, issued in 1999, requires regulated small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges. There are approximately 6,700 Phase II MS4s.

Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit. Each regulated MS4 is required to develop and implement a stormwater management program (SWMP) to reduce the contamination of stormwater runoff and prohibit illicit discharges.

WHAT IS AN MS4?

An MS4 is a conveyance or system of conveyances that is:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.;
- Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
- Not a combined sewer; and
- Not part of a Publicly Owned Treatment Works (sewage treatment plant).

…And How it's Applied in PA

Though the federal Environmental Protection Agency (EPA) manages the permitting process in some states, in Pennsylvania, the PA DEP administers the program and establishes permits for MS4s, industrial sites, and any construction activities which disturb more than one acre of land. This might sound straightforward enough, but there are additional layers, new programs, and evolving permit requirements to consider—all of which can make coordination and management of stormwater programs pretty complex.

Adding to the mix is Pennsylvania's unique system of "power sharing" amongst different levels of government, as laid out in the Pennsylvania Storm Water Management Act of 1978 (more commonly known as Act 167). The Act requires counties to create watershed-level stormwater management plans, and individual municipalities to adopt ordinances to implement the plans.

Key "moving targets" to keep an eye on include:

- EPA’s **National Rulemaking** process;

- **TMDLs**, or "total daily maximum load" (especially important is the “pollution diet” for the Chesapeake Bay and PA’s Watershed Implementation Plan (WIP), which is DEP’s proposal for our role in bringing the Bay back to health); and
- Changes to PA's **Chapter 102** requirements and **MS4 Permits**.

The federal Clean Water Act (CWA) prohibits the discharge of pollutants into waterways without the appropriate permits. Pennsylvania’s Stormwater Management Act (better known as Act 167), MS4 Program, Chapter 102 (Erosion and Sediment Control Requirements), and NPDES Permit Program for Stormwater Discharges Associated with Construction Activities are amongst the Commonwealth’s methods for meeting the runoff-related requirements of the Clean Water Act.

For all practical purposes, though, implementation of stormwater management efforts in Pennsylvania occurs at the community level because individual municipalities are ultimately responsible for adopting zoning ordinances, subdivision and land development regulations, and other programs that keep their locality’s runoff under control.

The stormwater requirements of the federal Clean Water Act are administered under the **Pennslyvania Department of Environmental Protection**’s Municipal Separate Storm Sewer (MS4) Program. In December 2002, DEP issued a General Permit (“PAG-13”) for use by MS4s that fall under the National Pollutant Discharge Elimination System (NPDES) Phase II program, requiring the implementation of a stormwater management program for minimizing the impacts from runoff. Several extensions have occurred since the expiry of the initial 5 year permit period.

Under the MS4 Program, permittees are required to incorporate the following six elements (known as minimum control measures, or MCMs) into their stormwater management programs:

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction stormwater management in new development and redevelopment

- Pollution prevention and good housekeeping for municipal operations and maintenance

Each MCM has a series of suggested best management practices (BMPs) associated with it to guide permit holders in program development, tracking, and reporting.

Pennsylvania has close to 1,000 jurisdictions that are considered small municipal seperate stormwater systems (MS4s) and therefore require Phase II permits.

The Audit Process – What to Expect

What is an MS4 Audit?

A municipal separate stormwater sewer system (MS4) audit is an evaluation of an MS4 program to assess compliance with NPDES permit(s) and the level of implementation of the stormwater management program. The audit may be comprehensive in scope or focused on particular components of the MS4 program.

Audit Process Elements

The municipality should assume the audit would encompass all elements of the stormwater program as required in the NPDES Permit. The auditors use the Permit as the audit guide, ensuring that permit elements have been implemented, and that sufficient documentation exists to substantiate compliance.

Municipalities report specific emphasis on their maintenance program, both fixed facilities, such as maintenance yards, and field maintenance activities. Construction sites are also a focus of the audit, particularly depending on the number of jobsites that are active at the time of the audit. Only one municipality of those surveyed reported that construction was not emphasized, due mainly to the fact that the municipality had little construction activity.

The most common program elements audited are:

- Management and organization ☐
- Construction program ☐
- Maintenance program ☐
- Non-stormwater identification and elimination (e.g., illicit discharge detection and elimination) ☐
- Training ☐
- Program evaluation ☐
- Reporting

- Other audited elements can include best management practice (BMP) development and implementation.

In general, your Permit and Stormwater Management Plan (SWMP) or Stormwater Pollution Prevention Program (SWPPP) should be your guide to compliance parameters and implementation requirements. Each of these is an enforceable document, and its requirements should be reflected in program implementation and documentation.

Document Request

If you do receive advance notice, you will likely receive a request for documents. Requests received in the past are listed below. The document request will nearly always include an organizational chart, a copy of the current NPDES permit, and a copy of the current SWMP. The information commonly requested is shown below:

- NPDES Permit ☐
- Map of the permit's geographic coverage area(s) and receiving waters, including and TMDLs and 303(d) listed waters ☐
- SWMP ☐
- Any formal agreements with other entities or local governments for implementation of your MS4 programs ☐
- Organizational chart showing roles and responsibilities ☐
- Inspection and enforcement procedures/protocol ☐
- BMP maintenance manual ☐
- Inventory of operational post-construction BMPs ☐
- Inventory of facilities (non-highway) ☐
- Program for prohibiting illicit non-stormwater ☐
- Records of illicit discharge/illegal connections (IC/IDs) and/or illicit discharge detection and elimination (IDDE) and resolution ☐
- Example cases/files of IC/ID or IDDE incidents and enforcement ☐
- Records of major outfall inspections, dry weather screening ☐

- Characterization and monitoring plan ☐
- Signed/approved stormwater pollution prevention plan (SWPPP) (Construction) ☐ Contract specifications including SWPPP approval process, incorporation of permit requirements ☐
- Construction and maintenance staff training records ☐
- Contractor inspection form from SWPPP ☐
- Examples of Resident/Project Engineer letters to contractor for non-compliance ☐ Enforcement escalation process ☐
- Annual report ☐
- Snow removal operations plan ☐
- Facilities SWPPP/facility pollution prevention plan (FPPP) and checklist ☐
- Drain cleaning form ☐
- Sweeper form

How to Prepare for an Audit

You may prepare for an audit in a variety of ways. One of the most important preparation elements will be continuous and consistent communication. Everyone must understand the process, consequences, objectives and the desired outcome. Some of the activities municipalities have completed before the audit include:

- Prepare staff – hold meetings and orientations to describe the process and expectations. ☐
- Organize backup information that supports program implementation and be prepared to provide it during the audit. ☐
- Prepare an overview presentation for auditors. ☐
- Preselect field inspection locations to suggest to auditors. ☐
- Inform management personnel of the audit, its importance, and what to expect. Ask top managers to attend the initial and closeout meetings with the USEPA. ☐
- Use audit checklists.

Self-Audit Checklist

When an inspector comes to your facility, there are certain things he or she checks to see if you are in compliance with environmental regulations. It makes good sense for you to perform a "self-audit" and catch and correct problems before they result in penalties. Also, there are some compliance incentives associated with self-audits.

Use the following list to audit your stormwater permit.

1. **Is your facility covered under a general permit or does your facility have an individual stormwater permit?** Verify that your facility is either covered under the general permit (PAG-3) or has an individual stormwater permit issued by PDEP.
2. **Has your facility developed and implemented a Preparedness, Prevention, and Contingency (PPC) plan?** Verify that a PPC plan has been prepared and implemented and is available onsite for inspection. Review the plan and verify that BMPs have been implemented. Update the plan when operational changes occur that impact stormwater.
3. **Has your facility conducted visual inspections?** Review your records to verify that annual inspections have been performed. Proof of these activities must be incorporated into your PPC plan.
4. **Has your facility maintained monitoring results and records?** Verify that all inspection records are maintained for at least one year after termination of the permit.