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AUGUST 2015 ■ www.psats.org

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SURVIVING AN MS4 INSPECTION

MS4 Townships: Now's the Time to Check Compliance with Stormwater Requirements

For the more than 370 Pennsylvania townships mandated to be part of the MS4 program, compliance means a lot more than knowing where their stormwater goes. That's become increasingly clear as the U.S. Environmental Protection Agency has stepped up inspections and levied fines for noncompliance. Now's the time to ask how your township will fare when inspectors come calling.



BY JENNIFER L. FLORER / ASSISTANT EDITOR

Barry Smith, former manager for Manor Township in Lancaster County, knows all too well that some experiences can leave a lasting impression.

Five years after inspectors from the U.S. Environmental Protection Agency (EPA) visited the township to assess its compliance with stormwater permit requirements, he can still recount just about every detail.

“Those two days have been ingrained in me,” he says. (*Smith points out*

that as a retiree, he is no longer speaking on behalf of the township, just sharing his own recollections.)

He remembers receiving advance notice of the inspection and feeling pretty well-prepared — until the three EPA staff and two consultants who made up the inspection team arrived and started posing questions he never anticipated. And even if he tries, he might never forget the resulting fine, initially about \$175,000 and ultimately reduced to about \$41,000, for various instances of what the inspectors deemed noncompliance.

“It’s not a sneak attack,” Smith says of the EPA inspection. “To their credit, they lay it out and tell you they’re coming. They’ll send a letter and identify 30 to 35 different types of records and information that they’re going to want to see. What we weren’t prepared for was the intensity of the inspection of those records and the questions and queries they had.”

As a sizeable community of more than 19,600 residents, Manor Township had been mandated to comply with municipal separate storm sewer system (MS4) requirements since the early

2000s. MS4s are the systems of drains, ditches, and pipes that transport stormwater away from where it falls and into a body of water.

The requirements address the fact that as rainwater hits the ground, it picks up any pollutants in its path, flows through the MS4s, and is discharged, untreated, into local waterways. MS4 municipalities must obtain a stormwater discharge permit through the National Pollutant Discharge Elimination System (NPDES) program and develop a stormwater management program to keep pollutants out of the mix.

It's a federal mandate but is administered through the state Department of Environmental Protection (DEP). In recent years, some municipalities have found themselves answering to both DEP and the EPA to make sure their stormwater programs are up to snuff.

That trend is likely to continue and expand, and MS4 townships should take notice. Knowing what both agencies expect can help permittees comply with the law, avoid hefty fines, and show residents that their local government is serious about keeping waterways clean.

Compliance can come with a steep learning curve, especially for those new to stormwater permitting. Fortunately, Barry Smith and others are reaching out a helping hand to keep municipalities from stumbling along the way.

A 25-year history

The MS4 program is far from new. Phase I, issued in 1990, requires medium and large cities or counties to obtain NPDES permits for their stormwater discharge. Phase II, issued in 1999, requires small MS4 owners to apply for a permit or waiver if they're in an urbanized area based on the latest decennial census or if DEP determines that their stormwater discharge can adversely affect water quality. Small MS4s can include municipalities but also universities, hospitals, prisons, military bases, and other facilities.

An NPDES permit is more than just a rubber stamp, however. Permittees must do stormwater mapping, adopt a stormwater management ordinance, and agree to put in place a stormwater management program consisting of six



MS4 compliance is about more than mapping inlets and outfalls. MS4 townships must also take a close look at best management practices in their own facilities, including the public works building, and document procedures such as the disposal of used motor oil. Implementing best management practices for construction and post-construction work is also critical to ensure that sediment from work sites does not enter waterways.



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“minimum control measures” — known as “MCMs” in the acronym-laden world of MS4s. They are:

- 1) public education and outreach on stormwater impacts;
- 2) public involvement;
- 3) illicit discharge detection and elimination;
- 4) construction site stormwater runoff control;
- 5) post-construction stormwater management for developers and property owners; and
- 6) pollution prevention and good housekeeping to address stormwater runoff from facilities owned by the permittee.

NPDES permits are good for five years. During that time, permittees must submit annual reports to DEP and be prepared for on-site inspections.

“Our goal is to inspect every MS4 permittee within the five-year time-frame,” says Mike Hickman, water program specialist with DEP’s Bureau of

Point and Non-Point Source Management.

However, that comes with a caveat: “It really depends on our staff availability at a given moment,” he adds.

Andy Dinsmore, stormwater team leader in EPA’s Region 3, which includes Pennsylvania, says the agency stepped up its regional MS4 inspections in late 2008. In 2010, the EPA issued a national water strategy that required inspections of all Phase I permittees by September 2016.

“The strategy highly recommends inspection and compliance activities with Phase II’s also but did not require it,” Dinsmore adds. “However, we felt it was an important aspect of the program as well.”

That explains why the EPA has inspected not only the 26 Phase I MS4s in Region 3 but also quite a few Phase II permittees.

Ultimately, the agency is looking for action that leads to compliance.

“We saw a relatively low level of activity from the state and wanted to make sure we addressed that trend and turned that trend around,” Dinsmore says.

David McGuigan, EPA Region 3 associate director for NPDES permits and enforcement, gets even more specific.

“If we take a look at the different

MS4 permits come with a six-pronged focus

MS4 permittees must follow and document best management practices in the following six areas:

- 1) **Public education** — to inform individuals and households about ways to reduce stormwater pollution.
- 2) **Public involvement** — to involve the public in the development, implementation, and review of an MS4’s stormwater management program.
- 3) **Illicit discharge detection and elimination** — to identify and eliminate illicit discharges and spills to storm drain systems.
- 4) **Construction** — to address stormwater runoff from active construction sites.
- 5) **Post-construction** — to address stormwater runoff after construction activities are complete.
- 6) **Pollution prevention/good housekeeping** — to address stormwater runoff from facilities owned by and activities performed by the permittee.



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sectors, industrial sites have made progress," he says. "The two we're having problems with... are agriculture and urban stormwater. If these streams are going to be restored or protected from further deterioration, we're going to have to tackle this problem. It's not only the regulatory agencies but the municipalities.

"That's why we're doing this. If it was unimportant, we wouldn't be doing it."

DEP's Hickman stresses that compliance now could help to head off more stringent regulations down the road.

"We want to be proactive and focus on local impairment issues to keep more long-term requirements from having to be developed in terms of TMDLs," he says, referring to total maximum daily loads of sediment and nutrients that enter a waterway. This is a critical issue for stormwater in the Chesapeake Bay watershed.

Hickman is also quite clear about DEP's philosophy on MS4 inspections: "The intent of our inspection process is not in any way, shape, or form to beat anyone over the head, so to speak," he

"What we weren't prepared for was the **intensity** of the **inspection** of those records and the questions and **queries** that they had."

says. "We are seeking to give very accurate feedback to help strengthen their program, get everyone up to speed, and move forward for the future."

Work with those in the know

A good way for township officials to know just what NPDES compliance means is to learn from those who have been through the process. Barry Smith is using what he learned in Manor Township to do consulting work with other municipalities, walking them through a mock inspection.

Some consulting and engineering firms are also keeping tabs on MS4 requirements.

"It really is about staying out in front and having your ear to the ground," says Mark Harman, assistant vice president for ARRO Consulting, Inc., and a member of the Manor Township Planning Commission.

"If the EPA is out in Chester County, for example, and looking at something in particular, I need to know that and then assess where my clients are with that. As consultants, we learn what they're looking for. We use that information to learn what their goal is and work backward from there in terms of what the municipality needs to be doing."

Township officials should also turn

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to training courses offered by those in the know. PSATS regularly holds MS4 workshops at its Annual Conference, for example, and DEP recently offered two series of training classes, one on general MS4 topics and another more technical in nature.

When it comes to training, though, EPA's David Hickman points out that it's only part of the process.

"Training provides the knowledge," he says, "but you need the will and commitment to do what's necessary."

Knowledge, will, and commitment are all words that could apply to Brian Dehart, the manager for Brighton Township in Beaver County. He attended the PSATS MS4 workshop in April and said it was a good verification

Mapping MS4 components is a basic requirement of the NPDES stormwater discharge permit. Working with a consultant that uses GIS technology can ensure that the mapping is accurate and complete. GIS can also provide the township with additional information that's not required but, as Brighton Township (Beaver County) manager Brian Dehart says, is "good information to have going forward." (Photo courtesy of Maser Consulting P.A.)



of what he had been hearing and reading about MS4 inspections.

He walked away with two thoughts in particular: "Our mapping was insufficient based on what their expectations are now, and they've broadened what an MS4 discharge is," he says.

Mapping the MS4

In fact, Brighton Township is updating its stormwater mapping right now. That's a requirement of the NPDES permit: submit a map showing the location of regulated small MS4 outfalls, or stormwater discharge areas, and the bodies of water that receive that discharge.

By the fourth year of the permit, new permittees must also map the entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, and municipal and watershed boundaries. Renewing permittees must update this map as needed.

"The intent of the map is to identify everything, but it also provides the basis of the field work for the inspection," ARRO's Mark Harman says. "Every [MS4] municipality has to get its map up to speed."

That's what Brighton Township is striving to do, and then some.

"Our engineer is physically locating with a GPS all the inlets [areas where stormwater enters the MS4] and every culvert, pipe crossing, etc. That data will then come up with location, size, and type — information not necessarily needed for the mapping but good information to have going forward."

Maser Consulting P.A. has worked with municipal stormwater clients in New Jersey and New York and has surveyed municipalities in Pennsylvania about the issue.

"What we've found from our sur-

MS4 HELP IS AVAILABLE!

Turn to DEP, EPA for answers to MS4 questions

For anyone new to stormwater issues, the MS4 permitting process can be a confusing hodge-podge of acronyms stacked in a long list of compliance requirements.

Help is available, though, from both the state Department of Environmental Protection and the U.S. Environmental Protection Agency.

- **DEP** — Call or email your regional DEP office with specific questions or go to www.dep.state.pa.us for an MS4 program overview and tools. On the home page, go to "DEP Programs" and click "Stormwater Management" and "Municipal Stormwater."

You'll find a program description and links to maps, reporting templates, frequently asked questions, training presentations, including "Being Prepared for DEP Inspections of Your MS4," and much more.

Be sure to click the link for "MS4 Resources," which brings up even more information, including downloadable public outreach documents and other files that can help your township comply with the six minimum control measures.

- **EPA** — Go to www.epa.gov and search for "MS4." Click the link for "Municipal Separate Storm Sewer System (MS4) Main Page."

Scroll down the page for information on all aspects of the permitting program. Under each minimum control measure, you'll find links to additional information, including examples of how some communities are meeting those requirements.

vey... is that everybody responded that they are compliant on one hand and they think they've covered everything. On the other hand, they know their mapping needs to be improved and full GIS needs to be implemented," says Sue Zitzman, GISP, director of GIS Asset Management Services with the firm.

"That's really where we're finding DEP and EPA are catching the municipalities flatfooted on their audits," she adds. "It's not that they haven't been doing things but that they haven't been documenting enough, can't use GIS to explain where all their outfalls are, and haven't been monitoring them. Many of the municipalities would admit that they've done the bare minimum when it comes to mapping."

That won't be the case with Brighton Township, which Dehart says is on its second five-year NPDES permit. He knows that keeping pace with the requirements is critical to ongoing compliance.

Putting it in writing

Another big compliance issue that Zitzman mentioned — documentation — falls across several of the six minimum control measures.

DEP's Mike Hickman says that written procedures are a fundamental part of the best management practices associated with most of the minimum control measures.

"We've seen that those written plans are not as fully developed as what the permit requires," he says. "They often require much more detail."

Documentation comes into play in other ways, too. For instance, proving that the public education component has been met can mean producing minutes from a public meeting where stormwater was discussed or showing the issue of the newsletter that offered stormwater tips. ARRO's Mark Harman says that an inspector might want verification of how the stormwater ordinance was advertised.

When it comes to policies, procedures, and documentation, though, Harman offers some very pointed advice: "I tell municipalities to start with public works," he says. "Public works is the first place the inspectors are going

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to go, and remember that this includes both inside and outside the facility.”

Public works falls under the last of the minimum control measures: pollution prevention and good housekeeping to address stormwater runoff from facilities owned by the permittee.

It’s an area, Hickman says, that could be home to piles of debris or sediment, or even a compost pile. When these get wet, they could leach out nutrients that would flow into the MS4.

At inspection time, however, possible contaminants that are clearly visible could be just the tip of the iceberg.

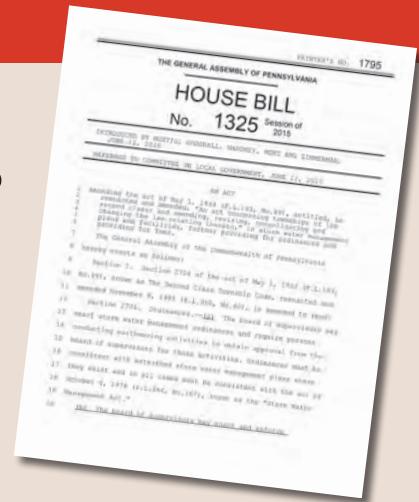
Barry Smith recounts how, during the township’s EPA inspection, he was in the public works building when an inspector asked for proof that the drain fed into the public sewer system. It’s

Support legislation to allow stormwater fees

Rep. Mark Mustio has introduced a bill that would allow townships to implement a stormwater fee without first creating a stormwater authority.

The bill authorizes townships to assess “reasonable and uniform fees based in whole or in part on the characteristics of the subject property, which may include installation or maintenance of stormwater facilities that meet best management practices and are approved or inspected by the township.”

PSATS supports this measure.



what he calls a “state-of-the-art” building, and he knew it was connected to the public sewer.

But that wasn’t enough.

“I didn’t know where the schematics were,” Smith says, and that was a problem.

Documentation is a requirement with just about every aspect of the MS4 program. These days, Harman says, it’s not good enough for employees to know and be able to recite a particular best management policy. It has to be documented. ➤

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“If it’s not written down, it’s not a policy,” he says.

Harman recommends creating a binder to hold all MS4-related information. He offers a few specific items to consider, which should get townships thinking in detail about their own operations:

- If your township changes motor oil on the property, document where it goes. Have employees sign off on a written procedure for how the oil is changed and taken to a DEP-regulated facility, and get a written receipt for the drop-off.
- If the township does street sweeping, document where the collected ma-

terial is stored and disposed of and have a receipt for the disposal.

• In the case of a car accident, document how leakage into an MS4 inlet would be handled. “It’s not enough to say that fire and rescue handles that,” Harman notes. “Procedures may come from emergency management, but you should copy those over and put them in your MS4 file.”

Communication is another key to compliance, and Smith advises regular communication among public works employees — and documentation that it happened.

“MS4 is a ton of paperwork and a lot of education,” he says. “I recommend at least once a month having ‘tailgate talks’ where the road foreman or responsible person meets with the crew and for 15 or 20 minutes reviews one of the components of the minimum control measures.”

Have a sign-in sheet where signa-

tures will verify attendance, he adds, and document what was discussed.

In a sense, the MS4 program asks permittees to consider a lot of what they do from a somewhat different perspective.

“You need to put the MS4 goggles on and ask, ‘Can we answer that in terms of the MS4?’” Harman says. “It comes down to making sure that you are complying with the larger operations and the smaller components. The inspectors are looking at everything cradle to grave.”

Be prepared

Townships need to do the same, and performing their own internal MS4 inspections, or having a consultant do so, can help bring problem areas to light.

“Try to be proactive,” Harman says. “Municipalities really need to reach out to their engineer and do an internal audit.”

Planning is key, he adds: “This is not a discussion you want to have when you’re about to have an audit.”

Completion of the annual report for the MS4 program can also be a time to identify issues.

“Those annual reports are, in essence, self-audits,” EPA’s David McGuigan says.

The person who signs off on that document, he adds, should have a full understanding of how the township is meeting its compliance requirements.

“It’s really up to the jurisdiction to make sure they’re doing what they’re supposed to be doing,” McGuigan says.

To get started, townships should take advantage of the information on the DEP and EPA websites to learn all they can about the MS4 program and its requirements. These sites also offer plenty of information to download and share with residents. (See the box on Page 32 for where to find these resources.)

DEP staff should also be a first point of contact when questions arise.

“We have six regional offices across the state,” DEP Information Specialist Amanda Witman says. “I can’t emphasize enough how important it is to lean on those regional offices. Don’t be afraid to call; don’t be afraid to ask for help. We’re glad to do it.” ♦

Revised MS4 general permit in the works for 2018

Small MS4s up for permit renewal in 2018 will notice some changes.

The state Department of Environmental Protection has issued a draft of the “PAG-13 NPDES General Permit for Discharges from Small MS4s” and accepted comments through the end of July.

DEP is proposing to expand the scope of discharges that will require an individual permit instead of a general permit. For instance, the revisions call for MS4s that discharge to certain impaired surface waters, including the Chesapeake Bay watershed, to implement specific best management practices or develop total maximum daily load plans or pollutant reduction plans.

“Any and all alterations that are made to the program are to improve the effectiveness of the program and the interaction we have with permittees,” DEP Information Specialist Amanda Witman says.

“We will definitely be going around and speaking about what’s in the new permit, giving any guidance that we have on how to meet those requirements,” adds Mike Hickman, water program specialist in the DEP Bureau of Point and Non-point Source Management.

See the article on Page 38 for more information on the proposed permit changes.

Changes to the NPDES general permit for small MS4s are still in the draft stage. Once they’re approved, DEP will alert affected municipalities to the updates, which will take effect with the 2018 permit cycle.

