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Challenges in Municipal Separate Storm Sewer Systems ("MS4") Permitting

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Introduction

Polluted stormwater is often conveyed to municipal separate storm sewer systems ("MS4s") and discharged untreated to adjacent streams, rivers, bays and other water bodies. The United States Environmental Protection Agency ("EPA") regulations defines in relevant part an MS4 as

A conveyance system 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 collected 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).

See 40 C.F.R. Part 122.26(b)(8); United States EPA "Municipal Separate Storm Sewer System (MS4) Home Page"; http://water.epa.gov/polwaste/npdes/stormwater/Municipal-Separate-Storm-Sewer-System-MS4-Main-Page.

For the last 20 years, MS4s have been required to obtain permits under the Clean Water Act ("CWA") National Pollutant Discharge Elimination System ("NPDES") permit program. EPA's Phase 1 MS4 permit program applied to large and medium jurisdictions with populations of 100,000 or more, requiring them to obtain coverage beginning in 1990. Phase 2 of EPA's MS4 permit program applied to jurisdictions with less than 100,000 population and took effect in 1999. According to EPA, there are approximately 855 Phase 1 MS4s covered by 250 individual permits and 6,689 Phase 2 MS4s covered by 54 general permits and 100 individual permits. *See* "Post Construction Performance Standards and Water Quality Based Requirements, A Compendium of Permitting Approaches", EPA 833-R-14-003, June 2014.

Generally, MS4 permits, whether an individual or general permit, require the system operator to develop and implement a Storm Water Management Program ("SWMP") to reduce contaminated runoff and eliminate illicit discharges entering the system. The specific contents of the SWMPs have evolved over time as control technologies and pollutant removal efficiencies have improved. In keeping with the

CWA mandate to control municipal stormwater runoff to the "maximum extent practicable", the MS4 permitting regime contemplates an iterative process based upon continual evaluation and improvement of various pollutant reduction best management practices.

Recent renewals of MS4 permits have been challenged by environmental groups claiming that the permits are not achieving the stated goal of the CWA to reduce pollutants in municipal stormwater to the extent required. The challengers have argued for stricter, and therefore costlier, controls in MS4 permits. The cost implications for municipalities and other jurisdictions are enormous as system upgrades and other programmatic changes will tax already strained capital and operating budgets. The discussion below highlights some of the more common points of challenge to MS4 permits and issues that warrant further attention on behalf of the regulated community.

I. Clean Water Act

In 1972, Congress passed the Federal Water Pollution Control Act Amendment (the "Clean Water Act" or CWA") to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1521(a). The CWA regulates the discharge of pollutants from "point sources" to "navigable waters" of the United States. The terms "pollutant", "point source" and "navigable waters" are defined at 33 U.S.C. § 1362(6), (7) and (14). The terms have generally been broadly construed by the courts in order to achieve the environmental aims of the Clean Water Act.

The Clean Water Act generally prohibits the discharge of pollutants unless the discharge is in compliance with various provisions of the CWA, including 33 U.S.C. § 1342, which establishes the National Pollutant Discharge Elimination System permit program and the requirements of 33 U.S.C. §§ 1311 and 1312 that address water quality standards. The CWA provides for two types of water quality measures: "effluent limitations" and "water quality standards." *Arkansas v. Oklahoma*, 503 U.S. 91, 101, 112 S.Ct. 1046 (1993). Effluent limitations are promulgated by the EPA and "restrict the quantities, rates and concentrations of specified substances which are discharged from point sources." *Id*. The states, in turn, are required to promulgate water quality standards for water bodies within their borders. The water quality standards consist of designated uses of particular water bodies and water quality criteria designed to protect those uses. *See* 40 C.F.R. §§ 131.10(a), 131.11.

The states are also required under the CWA to identify waters within their borders that do not meet water quality standards. 33 U.S.C. § 1313(d)(1)(A). For each "impaired waterway", the state must establish a "total maximum daily load" or "TMDL" to be approved by EPA for every pollutant that is preventing the waterway from achieving water quality standards. *Id*. at 1313(d)(1)(C). A TMDL is essentially a "pollution diet" and is technically a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. *See* EPA website "Impaired Waters and Total Maximum Daily Loads." http://water.epa.gov/lawsregs/lawsguidance/CWA/TMDL/

The NPDES permit program is the primary means of enforcing the Clean Water Act's effluent limitations. EPA is the federal agency with the authority to issue NPDES permits but delegates that authority to states that meet certain program requirements. 33 U.S.C. § 1342(b). Even in those states where delegation has been granted, EPA retains the authority to review and approve permits issued by the states. 33 U.S.C. § 1342(d)(1) and (2); 40 C.F.R. § 123.44. Forty-six of the 50 states and the District of Columbia have been delegated authority to issue NPDES permits. The jurisdictions who have not been delegated such authority, and therefore states in which EPA still issues NPDES permits are Idaho, Massachusetts, New Hampshire, New Mexico and Washington, D.C.

II. Regulation of Municipal Stormwater Discharges under the Clean Water Act

In 1973, the EPA Administrator issued regulations that exempted certain categories of "point sources" of pollution from the CWA NPDES permit program. The 1973 regulations exempted discharges from a number of classes of point sources, including separate storm sewers containing only storm runoff that was uncontaminated by any industrial or commercial activity. *See* 40 C.F.R. § 125.4 (1975).

Following adoption of the regulations, the Natural Resources Defense Council, Inc. ("NRDC") sought a declaratory judgment that the regulations were unlawful under the CWA. The NRDC argued that the EPA Administrator did not have the authority to exempt any class of point sources from the NPDES permit requirements. The municipal stormwater and other exemptions were ultimately overturned in *Natural Resources Defense Council v. Costle*, 568 F.2d 1269, 1372 (D.C. Cir. 1977). The D.C. Circuit noted that the NPDES permit is the only means by which a point source polluter can avoid the ban on discharges found in Section 301 of the CWA. Furthermore, the Court held that the EPA Administrator did not have the authority to exempt broad categories of point sources from the permit requirements of the CWA.

The D.C. Circuit, however, noted that it was not necessary in all cases to define a numerical limit for an effluent standard. The Court held that Section 402 of the CWA gives EPA considerable flexibility "in framing the permit to achieve a desired reduction in pollutant discharges. The permit may proscribe industry practices that aggravate the problem of point source pollution." *Id*. at 1380. The D.C. Circuit clearly understood the unique nature and variability of municipal "runoff" or stormwater pollution.

> We only indicate here that when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels. This may well mean opting for a gross reduction in pollutant discharge rather than the fine tuning suggested by numeric limitations.

Id.

In the wake of the NRDC ruling, EPA attempted numerous unsuccessful rule makings to reconcile the statutory requirements of point source regulation with the

practical problems inherent to regulating stormwater discharges. *See Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1163 (9th Cir. 1999). Ultimately, Congress amended the CWA in 1987 to specifically address stormwater by passing the Water Quality Act of 1987 ("WQA"). In the WQA, Congress distinguished between industrial and municipal stormwater discharges. The WQA provided that NPDES permits for industrial stormwater discharges "shall meet all applicable provisions of [Section 1342] and Section 1311 [requiring the establishment of effluent limitations under specific timetables]. . ." 33 U.S.C. § 1342(p)(3)(A). For municipal stormwater discharges, however, Congress provided a more lenient standard. Discharge permits for municipal stormwater "shall require controls to reduce the discharge of pollutants to the 'maximum extent practicable'" as [EPA] or the State determines "appropriate for the control of such pollutants." 33 U.S.C. § 1342(p)(3)(B)(iii). The control of a contaminated stormwater in MS4s would be achieved through "management practices, control techniques and system, design and engineering methods" and other provisions required by EPA or the states. *Id*.

The WQA created a phased approach to municipal stormwater permitting depending on the size of the municipality involved. 33 U.S.C. § 1342(p)(2)(C) and (B). When EPA ultimately promulgated regulations for large and medium municipal stormwater system permits in 1990 (the "Phase One" Regulations), it stated that:

> When enacting, [the WQA] Congress was aware of the difficulties in regulating discharges from municipal separate storm sewers solely through traditional end of pipe treatment and intended for EPA and NPDES states to develop permit requirements that were much broader in nature than requirements which are traditionally found in NPDES permits for industrial process discharges or [wastewater treatment plants]. The legislative history indicates municipal storm sewer system permits will not necessarily be like industrial discharge permits. Often, an end of the pipe treatment technology is not appropriate for this type of discharge.

*See "*National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges", 55 Fed. Reg. 47,990, 48,037-38 (November 16, 1990).

The unique nature of municipal stormwater discharges with multiple, often hundreds of outfalls has long been recognized by EPA. The MS4 permit program has accordingly focused on the development by the affected jurisdictions of comprehensive stormwater quality management programs as a means of reducing the discharge of pollutants from MS4s. This is in contrast to other types of NPDES permits that proscribe end of pipe limits. The different approach afforded MS4 permits is due to the highly intermittent and unpredictable nature of discharges from MS4s which are characterized by very high flows that occur over a regularly short period of time. MS4s have no control over the amount and type of pollutants entering the system. As importantly, the nature and extent of pollutants and discharges from MS4s depend on activities that occur on the lands that discharge to the system. "Given the material management problems associated with end of pipe controls, management programs

that are directed at pollutant sources are often more practical than relying solely on end of pipe controls." *Id*. at 48,038.

The EPA MS4 permit program acknowledges that many of the jurisdictions subject to the MS4 permit requirements were often heavily developed for decades, if not hundreds of years prior to the introduction of stormwater and erosion sediment controls, and that large areas in the MS4 jurisdictions were not subject to any form of stormwater control until recently. Accordingly, EPA anticipated that the MS4 permits would evolve over time and successive permits would reflect changing conditions resulting from program development as well as improvement in best management practices. The focus of the MS4 permit program has, and continues to be, on the physical environment of urban areas and the behavior of urban dwellers, a far more complex undertaking than the obligations imposed on industrial discharges who have a limited number of outfalls to control.

EPA deliberately chose not to define the term "maximum extent practicable" ("MEP") in the MS4 regulations "in order to allow the permitting authority and regulated MS4s maximum flexibility in their interpretation of it as appropriate." *See* EPA Stormwater Phase II Compliance Assistant Guide, EPA 833-R-00-002, March 2000 at 4-17.

> . . . EPA envisioned that this evaluative process will consider such factors as conditions of receiving waters, specific local concerns, and other aspects included in a comprehensive watershed plan. Other factors may include MS4 size, climate, implementation schedules, current ability to finance the program, beneficial uses of receiving water, hydrology, geology, and capacity to perform operation and maintenance.
>
> The pollutant reductions that represent MEP may be different for each [MS4 permittee] given the unique local hydrological and geological concerns that may exist and the differing possible pollutant control strategies. Therefore, each permittee shall determine appropriate BMPs. . . through an evaluative process.

See 64 Fed. Reg. 68,722, 68, 754 (December 8, 1999) (preamble to Phase II Stormwater Regulations).

> MS4 programs are free to choose from the EPA's menu of [stormwater control measures], with MEP being left to the discretionary judgment of the implementing municipality.

"Urban Stormwater Management in the United States", National Research Council of the National Academies, at p. 101 (2008). Therefore, jurisdictions have significant discretion in defining the unique characteristics of their system that influence what constitutes MEP. Factors such as amount of impervious area, geographic location, land use and climate are but some of the factors that can define MEP in a particular circumstance. *Id.*

III. Legal Issues for MS4 Permitting

The unique nature of MS4 permits and the undefined, adaptive and evolving MEP standard invites legal challenges to define the parameters of MS4 permitting since the statute and implementing regulations have failed to do so. This lack of precision in defining MEP is necessary in light of what is supposed to be an iterative and ever developing permit process. However, the ambiguity in both the statute and regulatory scheme has made MS4 permits subject to legal challenge on a number of grounds. Some of the more notable areas of challenge are discussed below. Before doing so, however, a discussion of the seminal case of *Defenders of Wildlife, et al. v. Browner, et al.* is necessary. This case emphasized the unique nature of MS4 permitting, particularly when compared to other NPDES permits issued pursuant to the CWA.

A. *Defenders of Wildlife, et al. v. Browner, et al.*

A threshold and continuing question has been whether MS4 permits are subject to strict compliance with water quality standards and therefore require numeric limits on stormwater discharges that are commonly included in other NPDES permits. The Ninth Circuit opinion in *Defenders of Wildlife, et al. v. Browner, et al.*, 191 F.3d 1159 (9th Cir. 1999) ("*Defenders of Wildlife*"), addressed this issue head on.

Defenders of Wildlife involved the MS4 permits issued for the cities of Tempe, Tucson, Mesa and Phoenix, Arizona and Pima County, Arizona. Due to the fact that Arizona was a non-delegated state, EPA was responsible for issuing the MS4 permits to the five jurisdictions. EPA prepared a draft permit for public comment, which did not impose numeric limits to ensure compliance with Arizona's water quality standards. The Petitioners, Defenders of Wildlife (and the Sierra Club), objected to the permit, arguing that the MS4 permits must contain numeric limitations to assure strict compliance with the state water quality standards. The State of Arizona likewise filed comments, taking the same position.

Following the public comment period on the draft permits, EPA added a new requirement to the permits, obligating the jurisdictions to implement a stormwater management plan ("SWMP") that would include a number of structural environmental controls such as stormwater detention ponds, retention basins and infiltration ponds and a requirement to remove illegal non-stormwater discharges that were entering the stormwater system. The SWMP also identified certain best management practices that EPA determined were required to ensure compliance with the state water quality standards, but did not adopt a specific numeric limit as requested by the Petitioners and the State of Arizona.

Following issuance of the permit, the Petitioners appealed to the EPA Regional Administrator, raising only the legal issue of whether the Clean Water Act required numeric limits to ensure strict compliance with state water quality standards. They did not challenge the factual question of whether the management practices required by EPA would, in fact, ensure compliance with the state water quality standards. The Regional Administrator denied the Petitioners' request, who then filed a petition for

review with the Environmental Appeal Board ("EAB"). The EAB likewise denied the petition, prompting Petitioners to seek judicial review.

The Ninth Circuit noted that *Chevron USA, Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 104 S. Ct. 2778 (1984), guided their analysis of the statutory interpretation of the Water Quality Act of 1987 ("WQA"). In *Chevron*, the Supreme Court devised a two-step process for reviewing an administrative agency's interpretation of a statute that it administers. Step 1 requires a determination of whether Congress has expressed its intent unambiguously on the question before the court. If the intent of Congress is clear, "that is the end of the matter." If the statute is ambiguous, Step 2 requires the court to uphold the administrative interpretation of the statute unless it is "arbitrary, capricious, or manifestly contrary to the statute." *Id*. at 844, 104 S. Ct. 2778.

The EPA and Petitioners argued that the WQA was ambiguous regarding whether Congress intended for municipalities to strictly comply with state water quality standards. They took differing views under Step 2 of the *Chevron* analysis on whether EPA's interpretation of the statute was arbitrary and/or capricious. The permittees, on the other hand, argued that the WQA was unambiguous regarding Congress's intent. The Court agreed, concluding that the WQA "unambiguously demonstrates that Congress did not require municipal storm sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C)."

The Court held that Congress specifically required industrial stormwater discharges to comply with the requirements of 33 U.S.C. § 1311. By contrast, the Court noted, Congress chose not to include a similar provision for municipal stormwater discharges.

> Instead, Congress required municipal storm-sewer discharges "to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator … determines appropriate for the control of such pollutants." 33 U.S.C. § 1342(p)(3)(B)(iii).

119 F.3d 1159 at 1165.

The Court noted that the statute was not ambiguous as it clearly established a different standard for municipal discharges. Perhaps more importantly, the Court held that this was the unambiguous intent of Congress in passing the WQA.

> The Water Quality Act contains other provisions that undeniably exempt certain discharges from the permit requirement altogether (and therefore from § 1311 … read in the light of those provisions, Congress' choice to exempt municipal storm - sewer discharges from strict compliance with § 1311 is not so unusual that we should hesitate to give effect to the statutory text, as written.

Id. at 1166.

The Court noted, however, that the statute gives EPA, and by extension the states, discretion to determine what pollution controls are appropriate and that EPA has the authority to determine that "ensuring strict compliance with state water quality standards is necessary to control pollutants." *Id*. at 1166. The Court noted that EPA also has the authority to require "less than strict compliance with state water quality standards." The Court therefore held that EPA had the authority to require strict compliance and could impose numeric limits to assure that the municipal storm water system was meeting water quality standards, but was not mandated to do so by the WQA.

B. Numeric Limits in MS4 Permits

Defenders of Wildlife is often cited for the proposition that numeric limits of stormwater outfalls are not required under the Clean Water Act. Equally important, however, is that the Court held that EPA and the states may impose such limits under certain circumstances.

In the November 22, 2002 memorandum, "Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Stormwater Sources and NPDES Permit Requirements Based on Those WLAs" (the "2002 EPA Memorandum"), EPA attempted to clarify the regulatory requirement for establishing waste load allocations for stormwater discharges in TMDLs approved or established by EPA. A waste load allocation is a defined pollutant allocation for a particular existing or future point source. *See* 40 C.F.R. § 1302.2(b). EPA noted that where a TMDL has been established, NPDES permits must contain effluent limits consistent with the assumptions of the waste load allocations in the TMDL.

> Effluent limitations to control the discharge of pollutants generally are expressed in numerical form. However, in light of 33 U.S.C. § 1342(p)(3)(B)(iii) [the MEP standard], EPA recommends that for NPDES-regulated municipal and small construction stormwater discharges effluent limits should be expressed as best management practices (BMPs) or other similar requirements, rather than as numeric effluent limits.

See 2002 EPA Memorandum at p. 4. In the 2002 EPA Memorandum, the agency reinforced the "iterative approach to control pollutants and stormwater discharges", acknowledging that the suite of BMPs deployed in MS4 permits will be "tailored in subsequent rounds". *Id.* EPA further acknowledged that only in rare occasions will it be feasible or appropriate to establish numeric limits for municipal stormwater discharges, due to the difficulty in measuring projected loadings for MS4 discharges.

Recognizing the evolving nature of MS4 permitting, EPA issued a November 12, 2010 revision to the 2002 Memorandum (the "2010 EPA Revision"). In the 2010 EPA Revision, EPA noted

> Where the NPDES authority determines that MS4 discharges have the reasonable potential to cause or contribute a water quality standard excursion, EPA recommends that, where feasible, the NPDES permitting authority exercise its discretion to include numeric effluent limitations as necessary to meet water quality standards.
>
> The 2002 Memorandum stated "EPA expects that most [water quality based effluent limitations] for NPDES-regulated municipal and small construction stormwater discharges will be in the form of BMPs and that numeric limitations will be used only in rare instances." Those expectations have changed as the stormwater permit program has matured. EPA now recognizes that where the NPDES authority determines that MS4 discharges and/or small construction stormwater discharges have the reasonable potential to cause or contribute to water quality excursions, permits for MS4s and/or small construction stormwater discharges should contain numeric effluent limitations where feasible to do so. EPA recommended that NPDES permitting authorities use numeric effluent limitations where feasible as these types of effluent limitations create objective and accountable means for controlling stormwater discharges.

See 2010 EPA Revision at pp. 2-3.

The 2010 EPA Revision caused significant controversy in the regulated community, forcing EPA to solicit "stakeholder input" on the 2010 EPA Revision. EPA subsequently issued a call for formal public comments in March of 2011 and the agency indicated that they would revise and/or revoke the 2010 EPA Revision in response to the public comments received.

The final version of the 2010 EPA Revision has never been released by the agency. However, it is clear that EPA contemplates the increased use of numeric limits in MS4 permits in keeping with the evolving nature of MS4 permitting. The cost implications to such a change could be enormous, both in terms of infrastructure improvements, technology improvements to conveyance systems and added sampling and monitoring costs. Local jurisdictions should closely monitor developments on this topic and be mindful that according to the *Defenders of Wildlife* holding, EPA, and the delegated states, arguably have this authority, but are not required to do so under the CWA. The push for a numeric limitation in MS4 permitting continues as evidenced by recent challenges to numerous MS4 permits in Maryland.

C. Public Participation

In lieu of numeric limitations, MS4 permits have relied upon best management practices ("BMPs") as a means of controlling the discharge of pollutants into stormwater discharges. These BMPs often take the form of programmatic changes to the way municipalities and/or other jurisdictions conduct basic governmental services. The BMPs contained in MS4 permits have included requirements for the jurisdiction to adopt

a comprehensive stormwater management program, including erosion and sediment control programs, enhanced street sweeping practices, establishment of illicit discharge detection and elimination programs, focusing on non-stormwater discharges to the MS4, enhanced maintenance practices for municipally owned properties and public education programs focusing on public behaviors that reduce pollutant loading to the MS4. A typical MS4 permit requires a jurisdiction to develop and/or enhance stormwater programs in place and may include requirements to restore areas that were developed prior to the advent of stormwater management programs in the affected jurisdiction.

The focus on programmatic improvements has prompted challenges to the extent and degree of public participation required in implementing these BMPs throughout the permit term. In Maryland, the recent fourth generation of MS4 permits have all been challenged by environmental groups arguing that the Clean Water Act mandates public participation and the right to challenge the restoration plans that are developed by the regulated entity in order to meet a permit condition to restore 20% of the jurisdiction's impervious surface area within the 5 year permit term. The purpose of this restoration requirement is to impose stormwater controls in areas that were developed prior to the adoption of stormwater and erosion or sediment controls. The challengers assert that the restoration plans are effluent limitations, which afford extensive public participation, including the right to challenge the restoration plans in court. These challenges will define the extent of public participation required in MS4 permitting with respect to the BMPs implemented throughout the permit term.

The Clean Water Act requires "public participation in the development, revision and enforcement of any regulation, standard, effluent limitation, plan, or program established" by the EPA or any state under the Clean Water Act. 33 U.S.C. § 1251(e). The CWA specifically provides "an opportunity for public hearing" before any NPDES permit is issued, 33 U.S.C. § 1342(a)(1), and that "a copy of each permit application and each permit issued shall be available to the public." 33 U.S.C. § 1342(j). Federal regulations contain a variety of public participation requirements that permitting authorities must follow in issuing different types of NPDES permits. *See e.g.* 40 C.F.R. § 122.34(b)(2) (discussing public participation recommendations for small MS4s).

The CWA encourages public participation in the permitting process, but it does not dictate what form the participation must take in each and every instance. *See Texas Independent Producers and Royalty Owners Association v. EPA*, 410 F.3d 964, 978 (7th Cir. 2005) (holding that the CWA does not require EPA to hold public hearings on "notices of intent" or stormwater pollution prevention plans submitted for general permit coverage); *New York State Department of Environmental Conservation*, 111 A.3d at 748-9 (affirming that the CWA does not mandate that a permitting agency hold public hearings on the submission of stormwater management plans and watershed implementation strategies). "Congress did not specifically address the nature or extent of the public participation that is required for the establishment of any effluent limitations that EPA or the States, in the exercise of their discretion, seek to promulgate." *Id.*

The full extent and type of public participation required in the development of BMPs developed and implemented in the context of an MS4 permit has yet to be

determined. The recent MS4 permit challenges in Maryland have attempted to characterize the restoration plans as "effluent limitations", therefore necessitating a formal permit modification process. This would require publication of a draft modified permit, a public comments period and opportunity to challenge the modification once finalized.

MS4 permits often include a robust public participation process in the development of programmatic BMPs to assure that public input is considered in the development and deployment of BMPs. However, it is important to note that public participation does not require the opportunity to appeal any and all programmatic changes that are implemented during the course of an MS4 permit. In fact, such an approach would be unworkable and frustrate the jurisdiction's ability to implement programmatic changes required by the MS4 permit.

MS4 permits are typically issued for a term of five years and require upgrades and refinements to a jurisdiction's SWMPs. Although public participation in the evolution of these plans is advisable and often included in MS4 permits, MS4 owners should be sure that not every programmatic change gives rise to an opportunity to a legal challenge. The more opportunities for a legal challenge, the less likely an MS4 owner/operator can ultimately comply with the terms of the MS4 permit. Care should be taken to assure that the public participation provisions in the MS4 permit does not cripple the jurisdiction's ability to meet the permit requirements within the prescribed term.

D. Monitoring

Challenges to MS4 permits have additionally focused on the amount and extent of monitoring required in MS4 permits. The MS4 regulations do not include any minimum criteria or performance standards and do not require the reduction of pollutants by specific amounts. MS4 permit applicants are required to submit as part of their permit application a description of a proposed monitoring program. The regulations, however, impose no obligation on permitting authorities for a specific amount and/or locations of permit monitoring to be included in an MS4 permit.

CWA § 131(a) provides in relevant part

> Whenever required to carry out the objective of this chapter, including ...
>
> (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard ...
>
> (A) the Administrator shall require the owner or operator of any point source to ...
>
> (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Administrator shall prescribe ...

This provision leaves to the discretion of the permitting authorities the type and amount of monitoring necessary to demonstrate compliance with an NPDES permit. As noted above, numeric limits are rarely used in an MS4 permit. Therefore, the purpose of monitoring, to demonstrate compliance with effluent limitations, is generally inapplicable to MS4 permits where BMPs are the prescribed permit condition.

The federal regulations that are applicable to State NPDES programs at 40 C.F.R. § 122.48 require that NPDES permits specify

> Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring

40 C.F.R. Part 122.48(b). This provision does not mandate the type or extent of monitoring required in an MS4 permit. Rather, the provision simply directs that type and intervals as well as frequency of monitoring **where appropriate** should be included in the permit. In most cases, monitoring is not needed and is not appropriate to determine whether the MS4 permit terms are being met.

Instream and/or outfall monitoring is not an appropriate way to determine the effectiveness of BMPs required under an MS4 permit. The BMPs employed are unlikely to result in immediate impact on pollutant reduction which negates the justification for an extensive monitoring program. The efficacy of BMPs is often measured through modeling, which demonstrates the expected pollutant reductions anticipated when certain BMPs are utilized.

MS4 system operators often conduct monitoring water quality assessments in other contexts which again obviates the need for extensive monitoring requirements in an MS4 permit. Challengers argue that the MS4 permits include requirements to monitor and sample “representative” discharges which begs the question of what constitutes a representative discharge. Considering the vast areas and types of stormwater discharges imaginable, such a requirement could place a considerable cost burden on MS4 systems.

Conclusion

MS4 permitting has now been in existence for more than 20 years. With each iteration of a system permit the requirements for MS4 jurisdictions have gotten stricter in keeping with the iterative, adaptive management approach contemplated by the MEP standard. These requirements will get more burdensome as more TMDLs are adopted and compliance with waste load allocations in those TMDLs are established. Affected jurisdictions should be aware of and defend the MEP standard to their advantage. The full extent of MEP has yet to be defined in reported case law, which gives jurisdictions the opportunity to define MEP based on the particular factors that are unique to the entity. Considering the focused nature of challengers to such permits, it is likely to change in the near future.