



915 Harger Road, Suite 330
Oak Brook, IL 60523
Phone (630) 684-9100
Fax (630) 684-9120
Website: <http://huffinhuff.com>

MEMORANDUM

Date: February 25, 2016

To: Small Municipal Separate Storm Sewer Systems (MS4) in Illinois

From: Dr. Lindsay Birt and James E. Huff, P.E.

Memo: **Updated General NPDES MS4 Permit (ILR40)**

1. Introduction

The Illinois Environmental Protection Agency (IEPA) issued the new National Pollution Discharge Elimination System permit (NPDES, ILR 40) for discharges of Small Municipal Separate Storm Sewer Systems (MS4) on February 10, 2016. In Illinois, 651 MS4s listed on the 2000 Bureau of Census List will be impacted by the updated NPDES MS4 permit. This memorandum highlights the significant changes to the proposed permit, how ongoing monitoring and implementation by watershed groups will address some of these requirements, and recommendations for MS4 communities to achieve updated NPDES requirements.

2. Background

In 2003, IEPA began to require small MS4s in urbanized areas to obtain NPDES permits (ILR 40) and implement six (6) minimum control measures. In 2009, the ILR 40 permit was reissued and expired in 2014. The IEPA issued the new NPDES permit on February 10, 2016. As part of the new NPDES permit, the permittee will be required to continue to implement an MS4 stormwater management program with six minimum control measures to be included in the program. Additionally, the updated MS4 NPDES permit requires permittees to document and report calculations of how waste load allocations (or other performance requirements identified in an approved TMDL report and/or watershed management plan) were met through implementation of storm water control measures. Permittees will be required to also document and report on the development and implementation of storm water BMPs, provide annual training of storm water BMP maintenance, insure adequate long term operation and maintenance of BMPs, and monitor storm water volume and pollutant load reduction of post-construction BMPs measures and progress.

3. Chloride Management

The new MS4 permit requires permittees to adhere to proper management of chlorides. Permittees will be required to participate in a watershed group(s) organized to implement control measures which will reduce chlorides. Deicing material storage housekeeping is also required on streams with winter chloride violation, including enclosed storage structures, which must be in place within two (2) years of the effective date of permit

4. Proposed Stormwater Management Requirements

Many watershed groups are actively implementing their watershed management plans; including public education and outreach, public involvement, collaborative watershed-scale monitoring, structural and non-structural BMPs to reduce stormwater runoff and pollutant loading, and provide storm water pollution prevention training materials. A MS4 community, who is an active member of watershed group(s), can document the watershed group(s)'s activities in order to comply with several of the new NPDES permit requirements. For instance, the instream water quality monitoring collected by watershed groups could be utilized to satisfy these individual NPDES MS4 permit requirements to determine whether storm water controls are adequate to meet waste load allocations or other performance requirements specifically from storm water discharges from the MS4 area. In addition, BMP implementation conducted by a watershed group could be documented to adhere to MS4 permit requirements. Table 2 lists updates to the draft MS4 permit and future watershed-based management strategies that will achieve NPDES permit requirements to MS4s.

Table 1: Draft NPDES MS4 Permit Requirements

Draft NPDES MS4 Permit Updated Requirements	Watershed-based strategies to achieve NPDES Requirements for Stormwater Management
<i>PART III. Special Conditions</i>	
<i>D. Chloride Management</i>	
(a) Any deicing activities that can cause or contribute to a violation of chloride water quality standard, permittee must participate in a watershed group organized to implement control measures to reduce chloride concentrations.	Permittee (s) who are <u>not</u> active members of a watershed group, will need to participate in the watershed group in order to meet the regulation requirement.
<i>PART IV. Storm Water Management Program</i>	
<i>B. Minimum Control Measures</i>	
<i>1. Public Education and Outreach on Storm Water Impacts</i>	
a. Distribute educational materials to community or conduct outreach activities. Educational materials shall include at a minimum information on effective pollution prevention measures, green infrastructure strategies, benefits and costs of such strategies.	These can be developed on a watershed basis.

Draft NPDES MS4 Permit Updated Requirements	Watershed-based strategies to achieve NPDES Requirements for Stormwater Management
b. Define appropriate BMPs for minimum control measures and measurable goals for each BMP.	As a watershed management plan is revised, permittee(s) will need to reflect changes, relative to NPDES permit requirements, in the annual evaluation.
c. Annual evaluation	Annual evaluation can be developed on a watershed basis.
<i>2. Public Involvement /Participation</i>	
a. Provide a minimum of one public meeting annually.	Can be done on a watershed basis.
b. Identify environmental justice (EJ) areas within its jurisdiction and include appropriate public involvement. Participation. Requirement may be met in conjunction with or as part of a regular council or board meeting.	An EJ analysis and strategies for engagement memorandum can be developed on a watershed basis to meet updated NPDES permit regulations.
c. Annual evaluation	Can be done on a watershed basis.
<i>3. Illicit Discharge Detection and Elimination</i>	
b. Develop, if not already completed, a sewer system map, showing the location of all the outfalls and names of receiving waters. Renewing permittees shall update their sewer system map	Permittee(s) will need to update sewer system map
i. Annual evaluation	Permittee(s) will need to conduct dry weather inspections of stormwater outlets
<i>4. Construction Site Storm Water Runoff Control</i>	
a. Develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in land disturbance greater than or equal to one acre or less than one acre disturbance that is part of a larger common plan of development or sale that would disturb one acre or more or has been designated by the permitting authority.	Permittee(s) shall implement a program which require all regulated construction sites to meet the requirements in the NPDES Permit No. ILR10, including management practices and/or controls contained in a watershed management plan, the Illinois Urban Manual (2014), as well as other local, state, and federal stormwater ordinances.
b. Define appropriate BMPs and measurable goals.	Permittee(s) shall adhere to requirements for management practices and/or controls contained in a watershed management plan, the Illinois Urban Manual (2014), as well as other local, state, and federal stormwater ordinances.
c. Annual evaluation	Permittee shall submit annual evaluation of construction BMPs and the measurable goals met
<i>5. Post-construction storm water management in new development and redevelopment</i>	
a. Develop, implement, and enforce a program to address and minimize the volume and pollutant load of storm water runoff from projects.	Permittee(s) shall adhere to requirements for management practices and/or controls contained in a watershed management plan, the Illinois Urban Manual (2014), as well as other local, state, and federal stormwater ordinances.

Draft NPDES MS4 Permit Updated Requirements	Watershed-based strategies to achieve NPDES Requirements for Stormwater Management
e. Develop and implement a program to minimize the volume of storm water runoff and pollutants from existing privately owned developed property.	Permittee(s) can utilize the approved watershed plan to plan a program to minimize stormwater volume.
<p>i. Implement BMPs to accomplish the following:</p> <ul style="list-style-type: none"> -Education of green infrastructure BMPs -<u>Evaluation of existing flood control techniques for feasibility and effects on climate change</u> -Implementation of additional control measures for special events -Implement appropriate maintenance programs -Management of pesticides and fertilizers -Street cleaning in targeted areas 	Active watershed groups may be currently providing BMP support. Additional efforts to evaluate existing flood control techniques to determine feasibility and effects due to climate change will be required. Training of appropriate maintenance programs, management of pesticides/fertilizers, and street cleaning prioritization training.
f. Infiltration practices should not be implemented in six (6) restricted areas.	Case-by-case analysis required
g. Develop and implement ordinance or other regulatory mechanism to address post-construction runoff.	Permittee(s) could utilize an approved watershed management plan as a guidance to develop and implement ordinance or other regulatory requirements.
h. Within 3 years of permit issue, the permittee must develop and implement a process to assess the water quality impacts in the design of all new and existing flood management projects that are associated with the permittee or that discharge into the MS4.	Case-by-case analysis required.
i. Insure adequate long-term operation and maintenance of BMPs	O&M plans can be developed on a watershed basis, to serve a templates for permittee(s).
j. Provide annual evaluation	Post-construction runoff activities shall be included in the watershed group's annual report; which will require local information.
<i>6. Pollution prevention/good housekeeping for municipal operations</i>	
<p>b. Design and maintain pollution prevention measures; including but not limited to the following:</p> <ul style="list-style-type: none"> -minimizing discharge of pollutants from equipment and vehicle washing -minimize exposure from building materials/landscape materials/<u>deicing material storage facilities and temporary stockpiles</u>, etc. -minimize discharge from pollutants from spills -municipal storm water BMPs shall be inspected annually 	It is recommended to develop a guidance document for management of for these items, on a watershed level.

Draft NPDES MS4 Permit Updated Requirements	Watershed-based strategies to achieve NPDES Requirements for Stormwater Management
c. Deicing material must be stored in a permanent or temporary storage structure or seasonal tarping must be utilized. Storage must be in place within 2 years of permit application.	Permittee must comply with regulations.
d. Annual employee training to prevent stormwater pollution from activities such as the following: -Park and open space maintenance -Fleet and building maintenance -Operation of storage yards -Snow disposal <u>-Deicing material storage handling and use on roadways</u> -New construction and land disturbances -Storm water systems maintenance procedures for proper disposal of street cleaning debris and catch basin material -Flood management projects impact water quality, non-point source pollution control, green infrastructure, and aquatic habitat	Expand annual training by watershed groups to cover other topics.
1. Annual evaluation	Annual report to include summary of pollution prevention/housekeeping activities on a watershed basis.
<i>PART V. Monitoring, Record Keeping, and Reporting</i>	
A. Develop and implement a monitoring and assessment program to evaluate effectiveness of BMPs being implemented within <u>180</u> days of the effective date of this permit. Justification of the monitoring assessment program shall be provided in annual report.	Plan to be updated annually.
1. An evaluation of BMPs based on estimated effectiveness from published research accompanied by an inventory of the number and location of BMPs implemented and estimated pollutant load reductions.	Expand database to include all BMPS in the watershed.
2. Monitoring effectiveness based on the following: -Visual observation (MS4 serving population of 25,000 or less) -Instream monitoring -Measuring pollutant concentrations over time -Sediment monitoring -Short-term extensive monitoring -Site specific monitoring -Assessment of physical/habitat characteristics -Outfall/discharge monitoring -Sewershed-focused monitoring -BMP performance monitoring -Collaborative watershed scale monitoring	Permittee (s) who are participating in watershed based monitoring, could expand their monitoring program to monitor effectiveness. As BMPs are implemented, additional performance monitoring should be warranted. BMP performance monitoring and outfall/discharge monitoring should be performed by the permittee(s).

Draft NPDES MS4 Permit Updated Requirements	Watershed-based strategies to achieve NPDES Requirements for Stormwater Management
<p>3. Monitoring of storm water discharges and ambient monitoring intended to gage storm water impacts shall be performed within 48 hours of precipitation greater than equal to one quarter inch in a 24-hour period. At a minimum the following parameters should be analyzed:</p> <ul style="list-style-type: none"> -Total suspended solids -Total nitrogen -Total phosphorus -Fecal coliform -Chlorides -Oil and grease 	<p>Additional monitoring after precipitation of > or = to 1 inch will be required by permittees on storm water outfalls.</p>

4. Future Direction

The permit will have significant impacts to the MS4 permittees. The proactive efforts currently made by watershed groups will benefit MS4 permittees renewing MS4 permits. Activities such as in stream volunteer monitoring program, stormwater BMP and green infrastructure planning and implementation, and public outreach and education are all elements of storm water management. Continued partnership with watershed groups offers the MS4 permittee to meet new permit requirements toward chloride management and monitoring effectiveness of BMPs within the watershed.

Further efforts will be required to adhere to new MS4 permit regulations in the way of public involvement in environmental justice areas and training on long-term operation and maintenance of BMPs. MS4 permittees not yet involved in an active watershed group will be at a disadvantage when the new permit is in place; which will involve the MS4 permittee to design and implement more elements to their individual stormwater management program and incur more costs for the MS4 permittee.

The effective date of the NPDES MS4 permit is March 01, 2016. Any MS4 that has coverage under the previous MS4 permit is required to renew their permit and must submit a new Notice of Intent (NOI) within 90 days of the effective date and have 180 days to comply with the new MS4 permit changes. For more information, contact Dr. Lindsay Birt at Lindsay.Birt@gza.com.