



# **Municipal Separate Storm Sewer Systems (MS4) Post-Construction Requirements**

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- MS4 Permittees
- Post-Construction Requirements
  - Phase I
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- LID/Green Infrastructure
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- UIC Concerns

- Phase I

- *Medium and large* cities or certain counties with populations of 100,000 or more (based on the 1990 census)
- Currently there are 37 permittees in the state (6 permits)
- ALDOT has a NPDES MS4 permit that covers areas throughout the state in MS4 areas (covers Phase I and Phase II areas)
- Individual NPDES Permit required

- Phase II

- Small MS4s (<100,000 population) located in “urbanized areas” as delineated by the latest census
- Currently there are 46 permittees in the state
- General NPDES Permit (ALR040000)



# Overarching Requirement

- Develop and implement a comprehensive SWMP to control the quality of storm water discharged from the MS4. This must meet the maximum extent practicable (**MEP**) standards in Section 402(p)(3)(B) of the CWA.
  - MEP is not defined
  - Numerous Control Measures to be addressed
  - This shall be met by the development and implementation of a SWMP plan (SWMPP)



# Post-Construction Requirements

- Post construction refers to the activities that take place after construction occurs and includes structural and non-structural controls including low impact development practices to obtain permanent stormwater management over the life of the property
- Develop and implement project review and enforcement procedures for qualifying new development and redevelopment projects, to the MEP
  - Qualifying new development and redevelopment projects means any site that results in a total land disturbance of one or more acres and activities that disturb less than one acre but are a part of a larger common plan of development or sale that would disturb one or more acres.



# Phase I Post-Construction Requirements

- The program, at a minimum, shall include the following:
  - Require landowners and developers to, the MEP, implement systems of appropriate structural and/or non-structural BMPs
  - Require landowners and developers to develop and maintain BMPs to ensure, to the MEP, that post construction runoff mimics pre-construction hydrology of the site. (Design Standard)
  - Encourage landowners and developers to incorporate the use of low impact development (LID)/green infrastructure where feasible
  - Adopt an ordinance or other regulatory mechanism to ensure the applicability and enforceability of post-construction BMPs at all new development and redevelopment projects
  - Require the submittal of post construction BMP plan for review.
  - Require the submittal of 'as built' certification



# Phase I Post-Construction Requirements (cont'd.)

- The program, at a minimum, shall include the following (cont'd):
  - Perform and/or require the performance of post construction inspections to ensure that design standards are being met
  - Maintain or require the developer/owner/operator to keep records of post construction inspections and maintenance activities
  - Require and/or perform adequate long-term operation and maintenance of post construction BMPs

- 40 CFR 122.26(d)(2)(iv)(A)(2)

A description of planning procedures including a comprehensive master plan to develop, implement, and enforce controls to reduce the discharge of pollutants from municipal separate storm sewer systems which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants from municipal separate storm sewer systems after construction is completed.





# Phase II Post-Construction Requirements

- The program, at a minimum, shall include the following:
  - Development and implementation of procedures for site plan review and approval for post-construction BMPs. This should include a re-approval process when changes to post-construction controls are required.
  - Development and implementation of procedures to document that post-construction controls were installed per design specifications.
  - Structural and non-structural BMPs should be designed to ensure, to the MEP, that post-construction velocity and volume of post-construction runoff is not significantly exceeded.
  - To the extent allowable under State law, the permittee must develop and institute an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment.



# Phase II Post-Construction Requirements (cont'd.)

- The permittee must review and evaluate policies and ordinances ... with a goal of identifying regulatory and policy impediments to the installation of green infrastructure and low impact development.
- The permittee's program must address:
  - Non-Structural BMPs
  - Structural BMPs
- The permittee is to ensure long-term operation and maintenance of BMPs.
  - Inspections
  - Maintenance Responsibilities

- 40 CFR 122.34(b)(5)

*Post-construction storm water management in new development and redevelopment.* (i) You must develop, implement, and enforce a program to address storm water 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 must ensure that controls are in place that would prevent or minimize water quality impacts.

(ii) You must:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community;

(B) 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; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

(iii) Guidance



# Varying Design Standards

State	Size Threshold	Volume Control Requirement		
		Retention	Treatment	Exception
Alabama	1 acre disturbed area	Narrative Standard		
Florida	4,000 sq ft imperv area	Must meet predevelopment volume in closed basins only	Varies by WMD - from first 1/2 inch runoff to 1.25 times percent imperviousness plus 1/2 inch runoff for online retention systems	
Georgia	1 acre disturbed area		Treat runoff from 85% of storms (1.2" rainfall)	
Kentucky	1 acre disturbed area		Manage 80 <sup>th</sup> percentile precipitation event (0.75") <sup>2</sup>	
Mississippi	1 acre disturbed area	Narrative Standard		
North Carolina	1 acre disturbed area; coastal-non residential: 10,000 sf IC; residential w/in 1/2 mile shellfish waters: 10,000 sf IC		Non-Coastal: 1" rainfall; Coastal: 1.5" rainfall	
South Carolina	1 acre disturbed area	1,000 ft from shellfish waters, retain 1.5" of rainfall	Volume control varies by practice	
Tennessee	1 acre disturbed area	Infiltrate, evapotranspire, harvest, or use first 1" of rainfall		If retention standard cannot be met, 80% TSS removal standard applied to remaining volume

Source: [http://www.epa.gov/npdes/pubs/sw\\_state\\_summary\\_standards.pdf](http://www.epa.gov/npdes/pubs/sw_state_summary_standards.pdf)

- **Green Infrastructure** refers to systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse stormwater or runoff on the site where it is generated.
- **Low Impact Development (LID)** is an approach to land development that works with nature to manage storm water as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat storm water as a resource rather than a waste product.

- LID Handbook for Alabama
- EPA Stormwater Program Website
  - [http://cfpub.epa.gov/npdes/home.cfm?program\\_id=6](http://cfpub.epa.gov/npdes/home.cfm?program_id=6)
- EPA Low Impact Development Website
  - <http://water.epa.gov/polwaste/green/>
- Water Environment Research Foundation
  - <http://www.werf.org/i/a/ka/Stormwater.aspx>
- EPA's Stormwater Calculator
  - <http://www.epa.gov/nrmrl/wswrd/wq/models/swc/>
- Municipalities Throughout the Country

- EPA initiated a national rulemaking that would affect MS4s. The following items were under consideration:
  - Developing performance standards for newly developed and redeveloped sites to address storm water as projects are being built
  - Options for expanding the protections of the municipal separate storm sewer system program (MS4)
  - Options for establishing and implementing a municipal program to reduce discharges from existing development
  - Evaluate establishing a single set of minimum requirements for regulated MS4s
  - Options for establishing specific requirements for transportation facilities





# Rulemaking (cont'd)

- EPA expected to have proposed rule out by June 10, 2013
- EPA is now deferring the rulemaking and will instead:
  - Provide incentives, technical assistance, and other tools to communities
  - Leverage existing requirements to strengthen stormwater permits
  - Promote green infrastructure

- UIC Requirements are found in ADEM Admin. Code r. 335-6-8
  - Applicability
  - Definitions – Well, Injection, Injection Well
  - Class V Well
- June 13, 2008 Memo
  - Clarification on which stormwater infiltration techniques meet Class V well definition

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