

Update on EPA's Stormwater Rulemaking

EPA's Stormwater Rule

- Primary focus is to protect water bodies from post construction discharges from developed sites
- Rule may establish a volume retention standard; permitting authorities may impose additional requirements on dischargers, if needed, to meet wasteload allocations in a TMDL
- Other actions are being developed to protect water bodies from discharges during the active construction phase
 - Construction and Development Effluent Guidelines
 - Construction General Permit

Stormwater is a leading cause of water quality impairment and growing

- Urban stormwater is a leading source of impairment (2004 WQ Report):
 - 22,559 miles of impaired rivers and streams
 - 701,024 acres of impaired lakes
 - 867 square miles of impaired estuaries
- Fast growing water quality concern
 - 800,000 acres being developed every year, growing to ~2.1 million acres by 2039
 - Rate of development is > 2x rate of pop. growth
- Development increases the amount of impervious cover in the landscape
 - Currently 100 million acres developed; **25%** is impervious
 - Discharge from 1 acre of impervious cover is **16x** the discharge from a 1 acre of undeveloped land
- Small increase in impervious cover leads to big impacts in receiving waters
 - Watersheds with <1-2% of impervious land area = biological impacts to surface waters
 - Watersheds with >5-15% of impervious land area = surface water declines rapidly to degraded levels, loss of function; Loss in base flow in streams and groundwater recharge



Stormwater Impacts

- Stormwater Pollutants
 - Cause beach closures and swimming illnesses through bacterial contamination
 - Impact fisheries and shellfish harvesting through excess:
 - Sedimentation (smothers fish eggs)
 - Nutrients (reduces available dissolved oxygen)
 - Metals (poses a health risk to people who eat the fish)
 - Temperature (affects cold-water fish and other biota)
 - Increase the costs of treating drinking water supplies
- Hydrologic Impacts – Increased Stormwater Volume
 - Causes flooding, scouring and sewer overflows
 - Reduces groundwater recharge causing stream baseflows to become extremely low



Smarter Stormwater Management

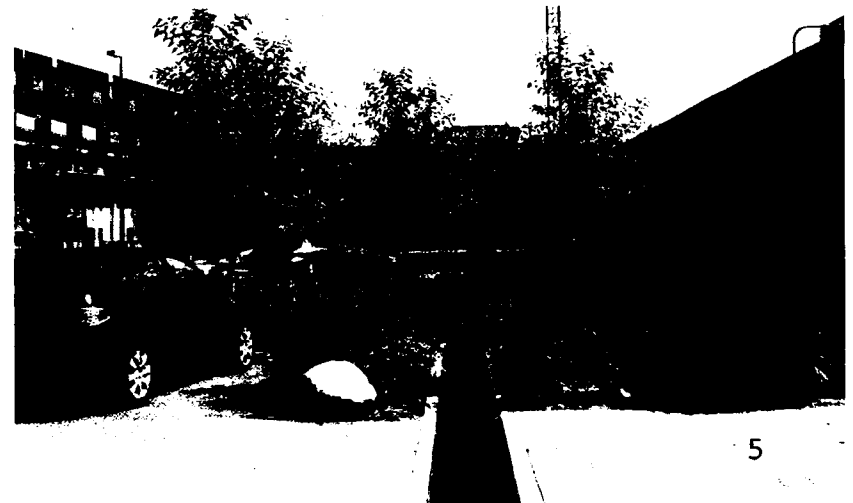
Traditional approach

- Convey stormwater quickly from site to waterbody or detention ponds
- Manage peak flows for flood control, drainage and large scale downstream erosion.



New approach

- View stormwater as a resource
- Slow down the flow, allow to infiltrate
- Reduces pollutant loads to waterbodies
- Obtain multiple community benefits



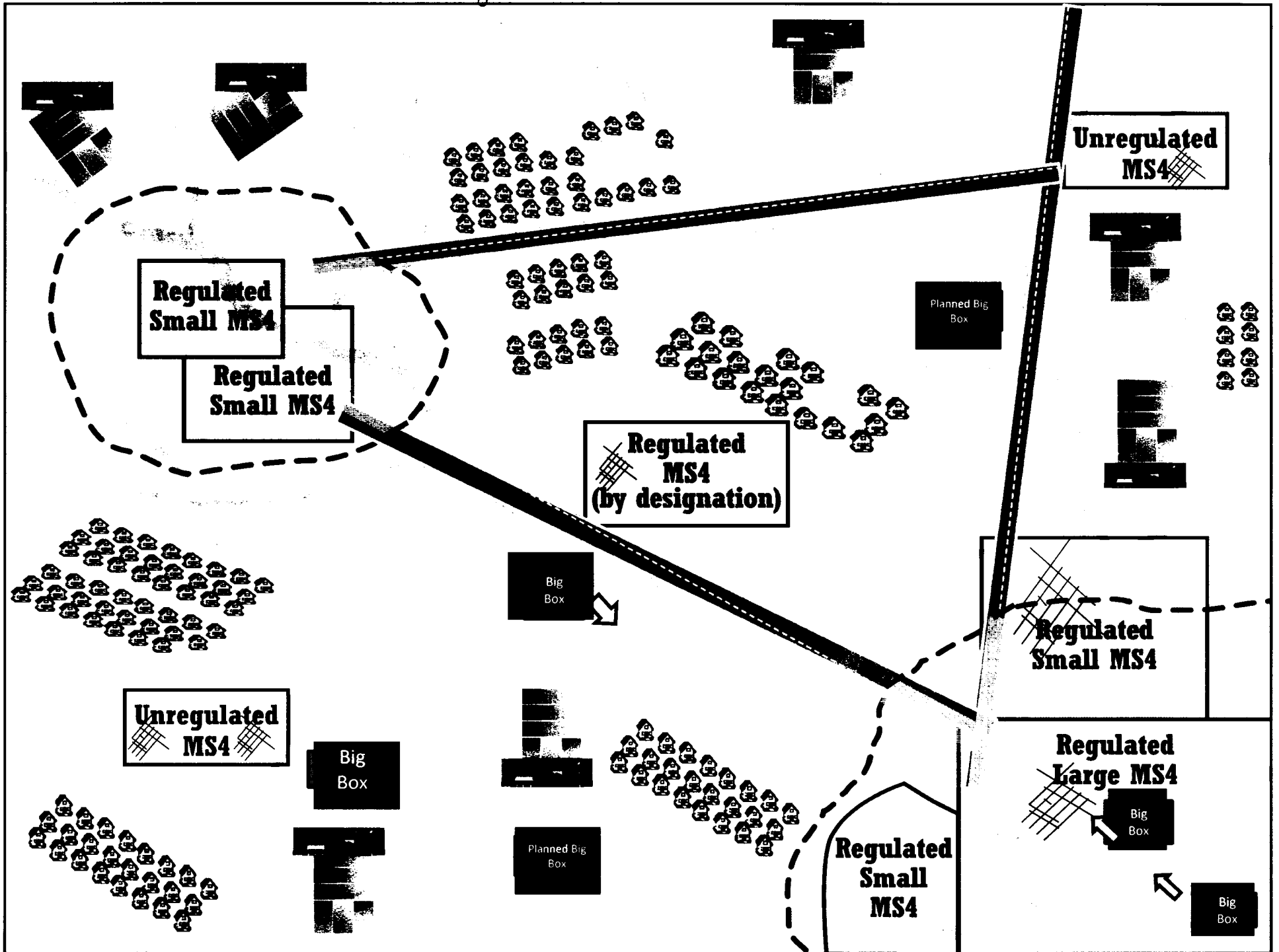
402(p) of the Clean Water Act

- Section 402(p) established phased approach to permitting certain stormwater discharges
- Section 402(p)(4) required EPA to establish permit application requirements for industrial and medium and large municipal separate storm sewer discharges (100,000 population and greater)
- Section 402(p)(5) requires EPA to
 - Conduct a study to identify unregulated discharges, assess their pollutant loadings and establish methods to control the pollutants and
 - Submit the results in a report to Congress
- Section 402(p)(6) provides authority for EPA to regulate other stormwater sources, based on the study, “to protect water quality”

Phase I and II Regulations

- Phase I – finalized in 1990
 - Regulates discharges from industrial operations, construction activity 5 acres or more, and MS4s that serve 100,000 or more people
 - Establishes permit application requirements and requires development of stormwater management plan
 - Encompasses 750 MS4s on individual permits
- Phase II – finalized in 1999
 - Regulates discharges from small MS4s in “urbanized area” as defined by the Census and construction activities between one and five acres
 - Urbanized area covers 2% of land area
 - Requires development of stormwater management plan that addresses 6 minimum control measures
 - Public Education & Outreach
 - Public Participation
 - Illicit Discharge Detection and Elimination
 - Pollution Prevention/Good Housekeeping
 - Active Construction Program
 - Post Construction Program
 - Encompasses 6,700 MS4s, mostly on general permits

Just 402



2009 NRC Report: Urban Stormwater Management in the U.S.

- Current approach unlikely to produce an accurate picture of the problem and unlikely to adequately control stormwater's contribution to waterbody impairment
- Requirements leave a great deal of discretion to dischargers to ensure compliance
- “A more straightforward way to regulate stormwater contributions to waterbody impairment would be to use flow or a surrogate, like impervious cover, as a measure of stormwater loading”
- “Efforts to reduce stormwater flow will automatically achieve reductions in pollutant loading. Moreover, flow is itself responsible for additional erosion and sedimentation that adversely impacts surface water quality.”
- “Stormwater control measures that harvest, infiltrate, and evapotranspire stormwater are critical to reducing the volume and pollutant loading of small storms.”

Key Elements of the Proposed Rule

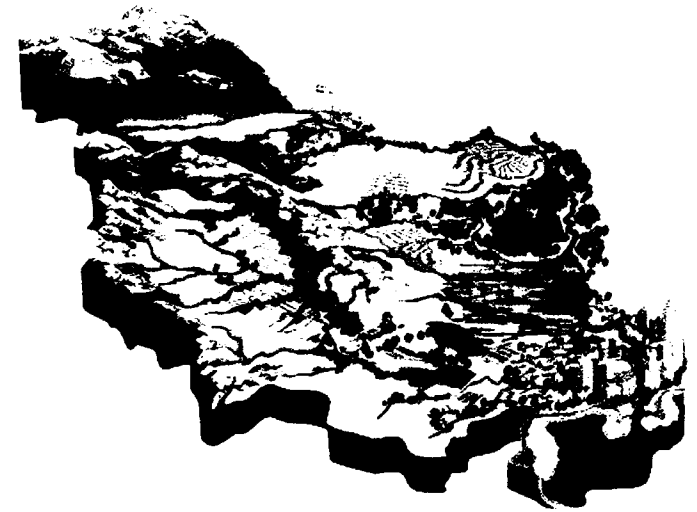
1. Establish performance standards for discharges from:
 - Newly developed sites
 - Control a specific percentile storm
 - Redeveloped sites
 - Control a lesser percentile storm than new development
 - Could apply standards to sites in MS4 and sites of a certain size outside of MS4
2. Require MS4s to develop plans to address discharges from existing sites (retrofits)
3. Extend protection of MS4 Program

Element 1: Performance Standards

- Considerations
 - Types of sites: residential, commercial, institutional, industrial, roads
 - Recognize state programs that are as protective – either statewide or regionally/municipality based
- Discharges from Newly Developed Sites
 - Standard may require retention of a certain percentile¹storm *"Small"*
 - Rule could allow site-specific analysis
 - Standard would accommodate site constraints: volume that cannot be retained onsite could be handled through off-site mitigation, payment in lieu, or treat and release
 - Site constraints would be identified and would include water rights laws
- Recommend Lower Standard for Discharges from Redevelopment Sites
 - Recognize site constraints
 - Encourage redevelopment to revitalize urban communities
 - Provide incentives for smart growth and brownfields development

Applying the Standard

- Considerations
 - Create a level playing field
 - Protect downstream communities from upstream development
- Where could it apply?
 - Nationwide
 - Combined Statistical Areas
 - MS4s only
- Size threshold of sites outside of MS4
 - Current size threshold in MS4s in one acre



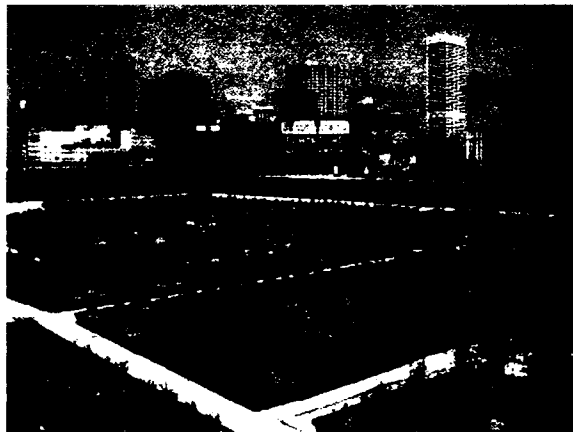
Element 2: Municipal Plan to Manage Discharges from Existing Sites (Retrofits)

- Considerations
 - Address existing degradation from existing sites
 - Help restore urban waters
- Proposed approach would require MS4 to:
 - Develop plan with public comment that identifies long term goals, highest priority projects and milestones
 - Integrate green infrastructure into projects cities are already doing
 - Plan implemented through an iterative approach
- Could Apply to:
 - MS4s serving 100,000 population or greater
 - MS4s serving 50,000 population or greater
 - Could allow exemptions where MS4 discharges do not cause or contribute to violations of water quality standards

Retrofit Projects



Curb Extension



Green Roofs



Downspout Disconnection

Vacant Land Program

BEFORE



AFTER



Element 3: Extending the Protection of the MS4 Program

- Considerations
 - Helps ensure standards are properly implemented (consistent with NRC report)
 - Reduces need for expensive retrofits
 - Builds on existing framework of local oversight (reduces the areas the state must oversee directly)
 - Implements 6 minimum measures which help prevent contamination
- Options
 1. No change –Urbanized Area defined by Decennial Census
 2. Jurisdiction boundaries of the Phase II MS4 rather than urbanized area boundary
 3. Urbanized clusters as defined by Census **with population threshold**
 - Reaches unregulated densely populated areas
 4. Small watershed which overlap with urbanized area **with population threshold**
 - Reaches areas of high growth
 - Promotes watershed approaches
 5. Combination of 3 and 4
 6. Principal Arterial Roads

Considerations

- How to phase in requirements
 - Effective date
 - Time needed to change codes and ordinances
- Size threshold for newly regulated MS4s
- Size threshold for MS4s to develop retrofit plans

Rulemaking Schedule

- 9/30/11 – Proposal Signed
- 11/19/12 – Final Action

