

Municipal Sanitary Storm Sewer Systems: Clean Water Act Requirements for Municipalities

And Other Wet Work

Erik Olson, Associate Regional Counsel

U.S. EPA Region 5, Chicago



Federal Clean Water Act

33 U.S.C. § 1251 et seq.

Brief History

Relation to State Laws

NPDES

Brief History of the CWA

1948 – Federal Water Pollution Control Act

1972 – Reorganized and Expanded, now the Clean Water Act

Pollution Control Programs

Water Quality Standards

Wastewater Standards

NPDES

NPDES

National Pollutant Discharge Elimination System

CWA Section 402, 33 U.S.C. § 1342

Pollutant

Point source

Water of the United States

State NPDES Permitting Programs

Authorization for States, Tribes and Territories
CWA Section 402(b), 33 U.S.C. § 1342(b)

State becomes the Permitting Authority

Illinois: IEPA issues NPDES permits

Federal Grants Support State Program
CWA Section 106, 33 U.S.C. § 1256

CWA Requirements for Municipalities

Municipal Sanitary Sewer Systems/POTWs

Pretreatment

Municipal Separate Storm Sewer Systems

Not CWA Requirements

Municipal Drinking Water Systems

Safe Drinking Water Act

42 U.S.C.A § 300f et seq.

Flint, Michigan

Stormwater and Sanitary Sewage

Combined Sewers

Mix Sanitary Sewage and Stormwater

Older Municipalities

Combined Sewer Overflows

Chicago

Stormwater and Sanitary Sewage

Separating Storm Sewers

Response to CSOs/SSOs

Eliminating connections between sanitary sewer system and storm sewer system

Stormwater

Municipal Separate Storm Sewer System (MS4) Programs
CWA Section 402(p), 33 U.S.C. § 1342(p)

Phase I – Early 1990s
Medium and Large Municipalities

Phase II – Early 2000s
Small Municipalities

Phase I MS4 Communities

Rockford, IL

Individual NPDES Permit for MS4 System

First Permit Issued 1994

Compliance Issues

Phase II Communities

Significantly more common than Phase I

General Permit Issued by Illinois

Municipalities provide Notice of Intent (NOI) to be covered under the permit

Application

Stormwater Pollutants

Sources:

- Construction Sites

- Industrial Facilities

- Anything in the Streets or Parking lots

- Oil, Fertilizer, Pet Waste



Stormwater Pollutants

Metals

Zinc, Cadmium, Arsenic, Nickel, Copper, Iron, Lead, Chromium, Magnesium, and Mercury)

Nutrients

Nitrogen, Ammonia, Nitrate, Nitrite, and Phosphorus

Other

Oil and Grease, Petroleum Hydrocarbons, and Solids

MS4 Permit Requirements

1. Develop and Implement a Stormwater Management Program
2. Submit Notice of Intent
3. Submit Annual Reports

Stormwater Management Program

Best Management Practices

Measurable Goals

Six Minimum Control Measures

Minimum Control Measures

1. Public education and outreach on storm water impacts
2. Public Involvement and Participation
3. Illicit discharge detection and elimination

Minimum Control Measures

4. Construction site stormwater runoff control
5. Post construction storm water management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

Public Education and Outreach

Measurable Goals:

- ☐ Distributed Paper Material
- ☐ Speaking Engagement
- ☐ Public Service Announcement
- ☐ Community Event
- ☐ Classroom Education Material
- ☐ Other

Public Participation/Involvement

Measurable Goals:

- ☐ Educational Volunteer
- ☐ Stakeholder Meeting
- ☐ Public Hearing
- ☐ Volunteer Monitoring
- ☐ Program Involvement
- ☐ Other

Illicit Discharge Detection and Elimination

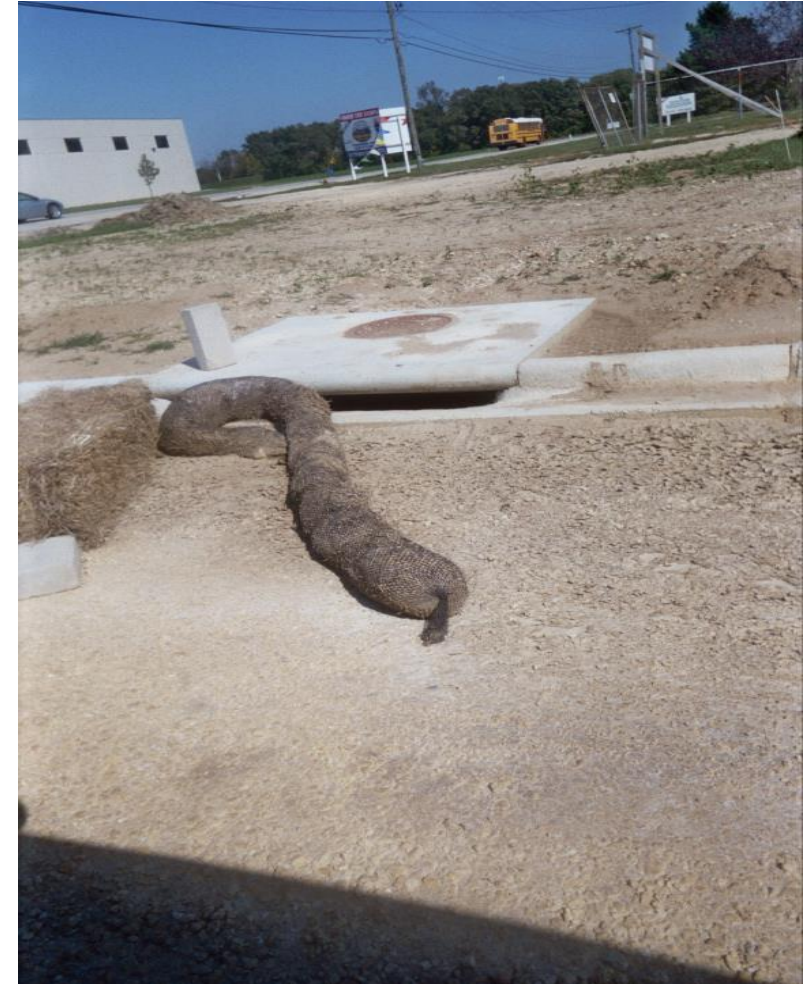
Measurable Goals:

- ☐ Sewer Map Preparation
- ☐ Regulatory Control Program
- ☐ Detection /Elimination Prioritization Plan
- ☐ Illicit Discharge Tracing Procedures
- ☐ Illicit Source Removal Procedures
- ☐ Program Evaluation and Assessment
- ☐ Visual Dry Weather Screening
- ☐ Pollutant Field Testing
- ☐ Public Notification

Construction Site Runoff Control

Measurable Goals:

- ☐ Regulatory Control Program
- ☐ Erosion and Sediment Control BMPs
- ☐ Other Waste Control Program
- ☐ Site Plan Review Procedures
- ☐ Public Information Handling Procedures
- ☐ Site Inspection/Enforcement Procedures
- ☐ Other Construction Site Runoff Controls



Post-Construction Runoff Control

- ❑ Measurable Goals:
- ❑ Community Control Strategy
- ❑ Regulatory Control Program
- ❑ Long Term O & M Procedures
- ❑ Pre-Construction Review of BMP Designs
- ❑ Site Inspections During Construction
- ❑ Post-Construction Inspections

Pollution Prevention/Good Housekeeping

Measurable Goals:

- ☐ Employee Training Program
- ☐ Inspection and Maintenance Program
- ☐ Municipal Operations Stormwater Control
- ☐ Municipal Operations Waste Disposal
- ☐ Flood Management/Assess Guidelines
- ☐ Other Municipal Operations Controls

MS4 Lawyering

Sufficient Legal Authorities to Run MS4 Program
Ordinances

Enforcement of Requirements:

Illicit Discharge Detection and Elimination

Construction Site Runoff Control

Post Construction

Case Study: Rockford Illinois

EPA and DOJ Enforcement of MS4 Permit Requirements

Initial Phase I Permit issued 1994

EPA Audit of program 2007

Consent Decree Signed 2015

Rockford

Initial Audit Conditions:

Failure to Implement
Stormwater Program

Focus on Flood Control



Rockford, Illinois

Eight Year Process:

Developed Stormwater Management Program

Implementing program over the term of the Consent Decree
Initial Compliance + Three years

\$329,395 Civil Penalty

City estimated cost of compliance at \$5.4 million

Resources

Illinois Environmental Protection Agency

<http://www.epa.illinois.gov/topics/forms/water-permits/storm-water/ms4/index>

EPA Stormwater

<https://www.epa.gov/npdes/npdes-stormwater-program>

Erik Olson, Associate Regional Counsel, U.S. EPA Region 5

(312)886-6829

olson.erik@epa.gov