Waukesha County

Municipal Separate Storm Sewer System (MS4) Permit

2008 Annual Report to the Land Use Parks & Environment Committee
What is an MS4 permit?

- 1972 Clean Water Act (Water pollution control):
  - Federal (EPA) and state (DNR) rules
  - WI Pollution Discharge Elimination System (WPDES) Permits - 1970’s issued to all “point” sources
    - Sewage treatment plants, paper mills, etc.

- 1987 Clean Water Act revisions:
  - Storm water began to be treated as a point source (cities & large livestock farms)
NR 216 Wisconsin Administrative Code (DNR):

- **Phase I** (1994 start): Communities > 50,000 population + construction sites > 5 acres
- **Phase II** (2004 start): Communities with population density >1000/square mile + constr. sites > 1 acre

Phase II permit issued in 2006

- Included Waukesha County and 31 out of 38 communities in the county
- Start date of November 1, 2006
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

GENERAL PERMIT TO DISCHARGE UNDER THE
WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM
WPDES PERMIT NO. WI-S050075-1

In compliance with the provisions of ch. 283, Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code, owners and operators of municipal separate storm sewer systems are permitted to discharge storm water from all portions of the

MUNICIPAL SEPARATE STORM SEWER SYSTEM

owned or operated by the municipality to waters of the state in accordance with the conditions set forth in this permit.

The Start Date of coverage under this permit shall be included in the Department letter sent to the municipality authorizing coverage under this general permit. The Department is required to charge an annual permit fee to owners and operators authorized to discharge under this permit in accordance with s. NR 216.08, Wis. Adm. Code.

State of Wisconsin Department of Natural Resources
For the Secretary

By
Russell A. Rasmussen, Director
Bureau of Watershed Management
Division of Water

EXPIRATION DATE: Dec. 31, 2010

Date Permit Signed/Issued: January 19, 2006
Affected by MS4 Permit

Waukesha County

Legend

- "Urbanized land" (>1000 pop./sq.mi.)
- County land (in)
- County land (out)
- County facilities
Community MS4 Permits in Waukesha Co.

Legend
- **Pink**: Phase I (13)
- **Green**: Phase II (18)*
- **Beige**: Exempted (3)
- **White**: Not required (4)

*Includes Waukesha Co.

(31 out of 38 communities)
By November 1, 2008, must implement:

- Updates to storm water ordinance
- Ordinance enforcement procedures
- Dept. of Commerce certification
- Public education & outreach program (agreements with 25 communities)
MS4 Permit Requirements (cont.)

- By November 1, 2008, must submit the following for all County property (buildings, roads, parks):
  - Map of all county storm water conveyance systems and discharge points
  - Illicit discharge detection & elimination program
  - Pollution prevention program
  - Internal educational program
  - Demonstrate compliance with 20% TSS (total suspended solids) reduction target – SLAMM modeling
  - Long-term maintenance plans for county BMPs
Sample MS4 Map – County Highway F
MS4 Permit Requirements (cont.)

- By May 1, 2009, must implement:
  - Illicit discharge detection/elimination program
  - Pollution prevention plans (12 facilities)
  - Internal educational program

- By November 1, 2009, complete initial screening in IDDE program
  - By November 1, 2010, complete on-going IDDE screening
Pollution Prevention Planning

Example: Salt handling & management practices
Example: Fox Brook Park storm water discharge
MS4 Permit Requirements (cont.)

- By March 31 each year, must submit annual progress report
  - Demonstrating compliance with all MS4 permit requirements
- By November 1, 2013, must demonstrate compliance with 40% TSS reduction
  - Draft submittal shows county compliance, but needs to be approved by DNR
  - Many communities concerned about this
Scores of Wisconsin communities are scrambling to find ways to comply with controversial - and, they complain, overreaching - water pollution requirements that could cost in excess of $150 million over the next five years.

Municipalities should do what they can to meet pollution runoff rules, but the state needs to be flexible.
What Does it all Mean to Waukesha County?

- Consider storm water best management practices (BMPs) for all future facility/road planning & maintenance

- Recommend BMP demonstration sites
  - Continue leadership on storm water issues
  - Part of county sustainability program
  - Enhance public education efforts
  - Demonstrate MS4 permit compliance
Example Storm Water BMPs for County Use

- Vegetative swales (county roads)
- Rain garden/Bioretention
- Green roof
- Pervious pavement
Grass Swales

Key to overall county MS4 permit compliance!
Rain Garden - Retzer Nature Center
Native Plants

- Low maintenance (after establishment)
- Good infiltration...
It’s all about the Roots!

Lawn grass:
3 inches

Natives:
5-15 feet

Native plants
Bioretention

- Engineered media
  - Sand/compost mix
- Filters pollutants
- Recharges groundwater
Green Roof Design

- Engineered growing media
- Reduces runoff
- Saves energy
- Improves aesthetics
Great lakes WATER Institute - Milwaukee
Milwaukee Metropolitan Sewage District
Pervious Pavement

(concrete or asphalt)

(Choker Course)

Washed stone
(Reservoir course)

Native Soil
Denver: Next AM Following 12” Snow

Pervious Concrete

Conventional Asphalt

Sites directly across street
Photos taken 5 minutes apart
Pervious Pavers
Open-Celled Paving Grids
Possible Demo Site – Co. Courtyard

Pervious pavement?

Green Roof?
Summary

- Very involved permit process
- Consistent with county clean water & sustainability goals, but...
  - Still waiting for DNR approval on our submittal
  - Until complete, budget impacts are uncertain
- State grants could help get a county demonstration site going in 2010?