Ohio EPA Storm Water Regulations

Overview of Programs that Affect Land Development

Land Use Impacts the Water Cycle

Runoff from “Urban” Land Use Contains Pollutants

- Fecal Coliform
- Oil & Grease
- Misc. Wast Discharges
- Suspended Solids

Runoff from “Urban” Land Use Has Greater Energy

- flashy stream flows
- loss of access to floodplain and channelized streams
- accelerated stream channel erosion
- infrastructure damage

How Ohio EPA Regulates Storm Water Runoff

- National Pollutant Discharge Elimination System (NPDES) Permits
  - Federal Clean Water Act - 1972
    - Ohio EPA has permit authority in State of Ohio
    - Ohio Revised Code 6111
  - Applied to storm water discharges
    - Phase I - 1992
      - Municipalities ≥ 100,000
      - Construction sites which disturb ≥ 5 acres
      - Various industrial activities
How Ohio EPA Regulates Storm Water Runoff

- **Phase II – 2003**
  - Municipalities
    - Any “community” in Urban Area
    - Includes “non-traditional” communities, e.g., ODOT
  - Construction Activities
    - Disturbances ≥ 1 acre
    - Exceptions: Agriculture, Silviculture, Maintenance Activities where < 5 acres disturbed, Erosivity Factor “R” < 5
  - Industrial
    - Established “No Exposure” Exemption

Municipal Storm Water Program

Municipal Storm Water Permits

- Applies to Municipal Separate Storm Sewer System (MS4)
- Community implements Storm Water Management Program (SWMP)
  - Submitted in 2003
  - Fully implemented by 2008
  - Best Management Practices (BMPs) to address the Six Minimum Control Measures (MCMs)
  - Submit Annual Report to Ohio EPA

Storm Water Permits for Construction Activities

- Applies to Construction Site “Operators”
  - Developers
  - Home Builders
  - General Contractors
- Larger Common Plan of Development or Sale disturbs ≥ 1 acre
- BMPs in a Storm Water Pollution Prevention Plan (SWP3)
  - Sediment & Erosion Control during Construction
  - Controls for Other Pollutants during Construction
  - Post-Construction Runoff Controls

Construction Permit Program
Sediment & Erosion Control

Other Sources of Pollutants on Construction Sites

Post-Construction BMPs
- Applies to all sites regulated by construction site permit
  - "Larger Common Plan" disturbs ≥ 1 acre
  - Except linear projects that create no impervious area
- Two types
  - Structural BMPs
    - Devices that remove pollutants and control the discharge rate of the Water Quality Volume (WQv)
  - Non-Structural BMPs
    - Ordinances, zoning codes and other measures that limit the creation of runoff, protect water resources or change behavior

Non-Structural Post-Construction BMPs
- Ohio EPA encourages a minimum stream setback of 25 feet
  - More stringent requirements apply to sites in Darby Creek watershed
- Communities in Urban Areas will establish additional requirements
  - Through implementation of their SWMP under the MS4 program
  - Must adopt best local land use practices
Structural Post-Construction BMPs

- Grass Filter Strips
- Enhanced (Water Quality) Swales
- Bioretention Cells
- Water Quality Ponds
  - Dry Extended Detention Basin
  - Wet Extended Detention Basin
  - Constructed Wetland
- Sand Filters
- Infiltration Trenches

Structural BMPs

- Must be used on sites where "larger common plan" disturbs ≥ 5 ac
  - But, appropriate on all sites
- Incorporate into the permanent drainage system
- Must treat Water Quality Volume (WQv)
  - Based on 0.75-inch rainfall
  - Outlet designed per target "drawdown time"
- Reduced requirements for redevelopment projects
  - Encourage non-structural approach, i.e., reduce impervious area
  - If not, treat 20% of WQv

Traditional vs Water Quality BMPs

- Traditional Structures
  - Detain runoff only from large, infrequent storm events
  - Do not provide significant pollutant removal
  - Do not protect the integrity of the receiving channel
- Water Quality Structures
  - Detain 85% of all storm events which occur
  - Remove pollutants from the "first flush", i.e., WQv
  - Release the WQv over a 24 - 48 hour period

Extended Detention Outlet

- OUTSIDE VIEW
- INSIDE VIEW

Summary

- Municipal NPDES Permits require
  - Communities in Urban Areas to pass ordinances and establish a local program to require best local land use practices
- Construction Activity NPDES Permits require
  - Developer to incorporate them into site design
- Goals
  - Develop compatible state and local programs
    - Local may be more stringent than Ohio EPA requirements
  - Review by local community
    - SWPS
    - Site Inspections
    - Enforcement

Summary

- Post-construction BMPs affect site design
  - Plan up-front to avoid conflicts later
  - Provide easements to access BMPs so that maintenance can be performed
  - Must name entity that will be responsible for maintenance
  - Non-structural BMPs often require deed restrictions or conservation easements to assure their long-term viability
- Everyone is on a learning curve
  - You may get conflicting information
  - Do not be afraid to contact the Ohio EPA and ask questions
    - Ohio EPA Post-Construction Q&A Document
For More Information

**Websites**
- Ohio EPA: [www.epa.state.oh.us/dsw/storm/index.html](http://www.epa.state.oh.us/dsw/storm/index.html)

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