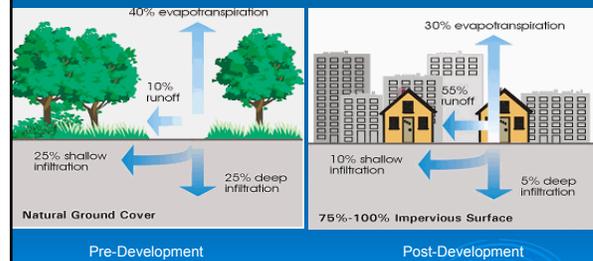


Ohio EPA Storm Water Regulations

Overview of Programs that Affect Land Development

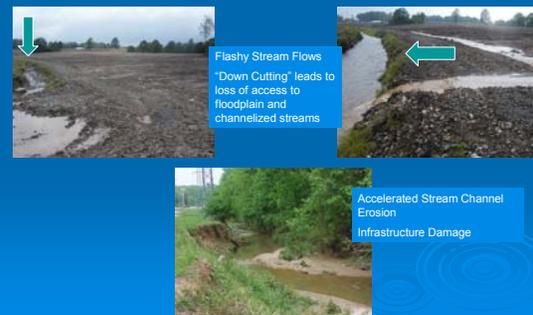
Land Use Impacts the Water Cycle



Runoff from "Urban" Land Use Contains Pollutants



Runoff from "Urban" Land Use Has Greater Energy



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

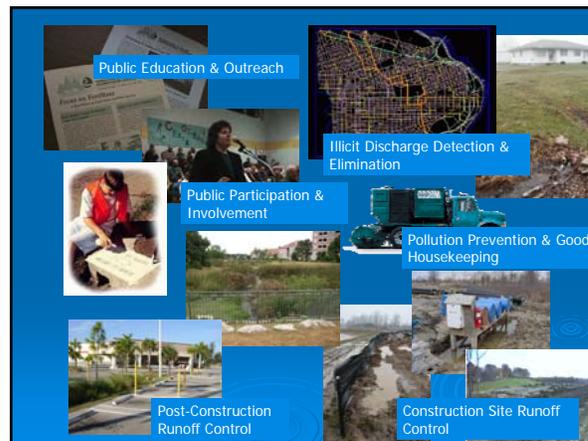
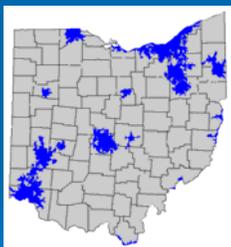
How Ohio EPA Regulates Storm Water Runoff

- 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

Construction Permit Program

- 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

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



Non-Structural 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
 - SWP3
 - 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

USEPA http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Ohio EPA www.epa.state.oh.us/dsw/storm/index.html

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