

# Effective Storm Water Management

Complying with Ohio's NPDES Storm Water Permits

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Storm Water Coordinator CDO/DSW



# NPDES General Storm Water Permit for Construction Activities (page 3 of 40)

## ★ Eligibility Requirements

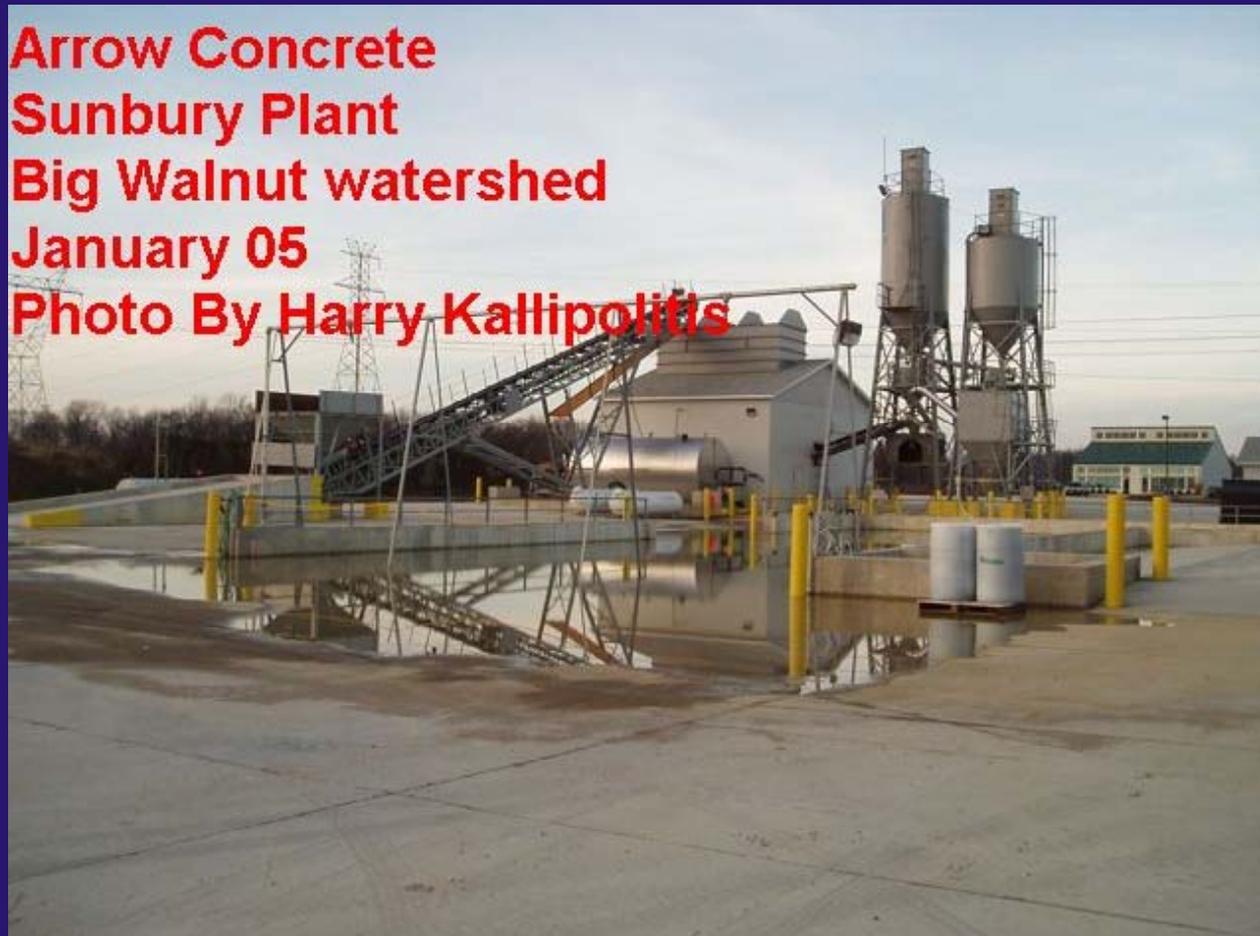
- ★ All construction resulting in one or more acres of disturbance must obtain coverage under the General Permit

<http://www.epa.state.oh.us/dsw/storm/stormform.html>

## ★ Support Activities Authorized

- ▶ Asphalt plants, equipment staging, concrete batch plants, borrow/waste areas

Permit also authorizes storm water discharges from support activities such as batch plant, waste and borrow areas



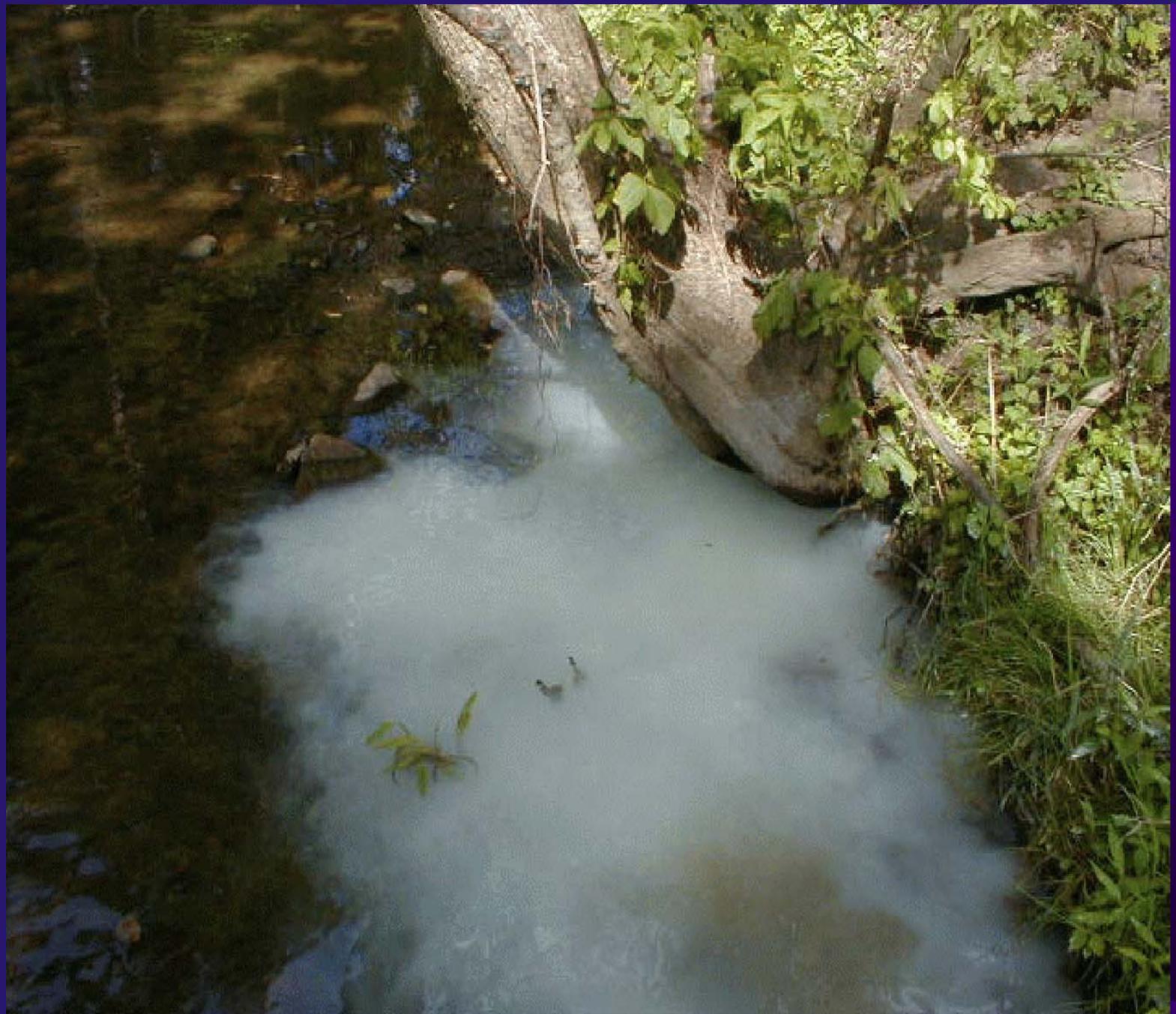
# Storm Water Discharges (page 5 of 40)

- ★ Permit does authorize the following:
  - ★ Fire hydrant flushing
  - ★ Potable water sources
  - ★ Irrigation drainage
  - ★ Lawn watering

# Division of Surface Water

800-282-9378









**Do not direct washout to inlets**

# Drilling operations



# Spills

(page 6 of 40)  
800-282-9378



Note: Grease Spill (approx. 14,000 Gallons)



# Notice of Intent Requirements (page 8 of 40)

- ★ Notice of Intent (NOI) must be submitted 21 days prior to construction
  - ★ Individual Lot NOI
  - ★ Co-Permittee Requirements

# All Ohio EPA Forms

- ★ Notice of Intent (NOI) form and instructions
- ★ Permit Transfer Application
- ★ Individual Lot NOI and Instructions
- ★ NOT (Notice of Termination)
- ★ All General Permits
- ★ Co-Permittee Forms

[www.epa.state.oh.us/dsw/storm/stormform/html](http://www.epa.state.oh.us/dsw/storm/stormform/html)

# Storm Water Pollution Prevention Plan (SWPPP) (page 10 of 40)

- ★ SWPPP must be developed in accordance with page 12 of 40 of the General Permit
- ★ Must be developed prior to the submittal of NOI
- ★ Must be maintained on site available for review
- ★ Checklist found at:  
[www.epa.state.oh.us/dsw/storm/swp3\\_cgp\\_checklist2.pdf](http://www.epa.state.oh.us/dsw/storm/swp3_cgp_checklist2.pdf)
- ★ Duty to inform all contractors and sub-contractors



# Planning Consideration For Effective SWPPP Implementation

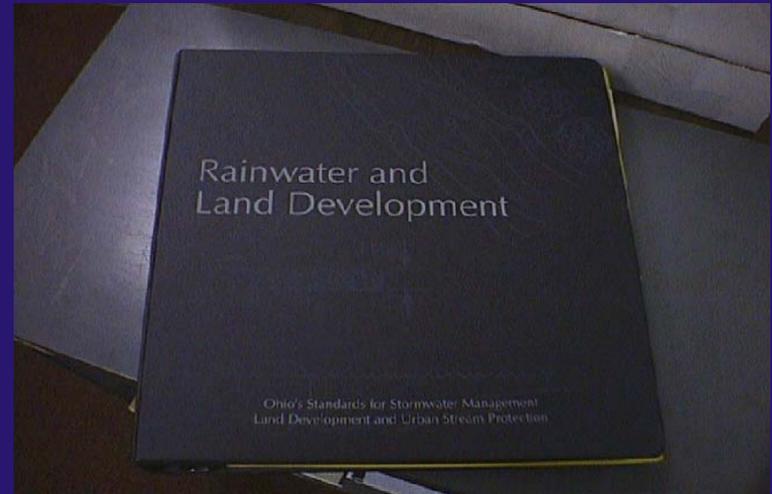
- ★ Delineate your watersheds
  - ★ For all phases of construction
  - ★ Pre and post-storm installation
  - ★ Identify all controls per watershed
- ★ Ensure the design limitations are not exceeded for each control



# Planning Consideration

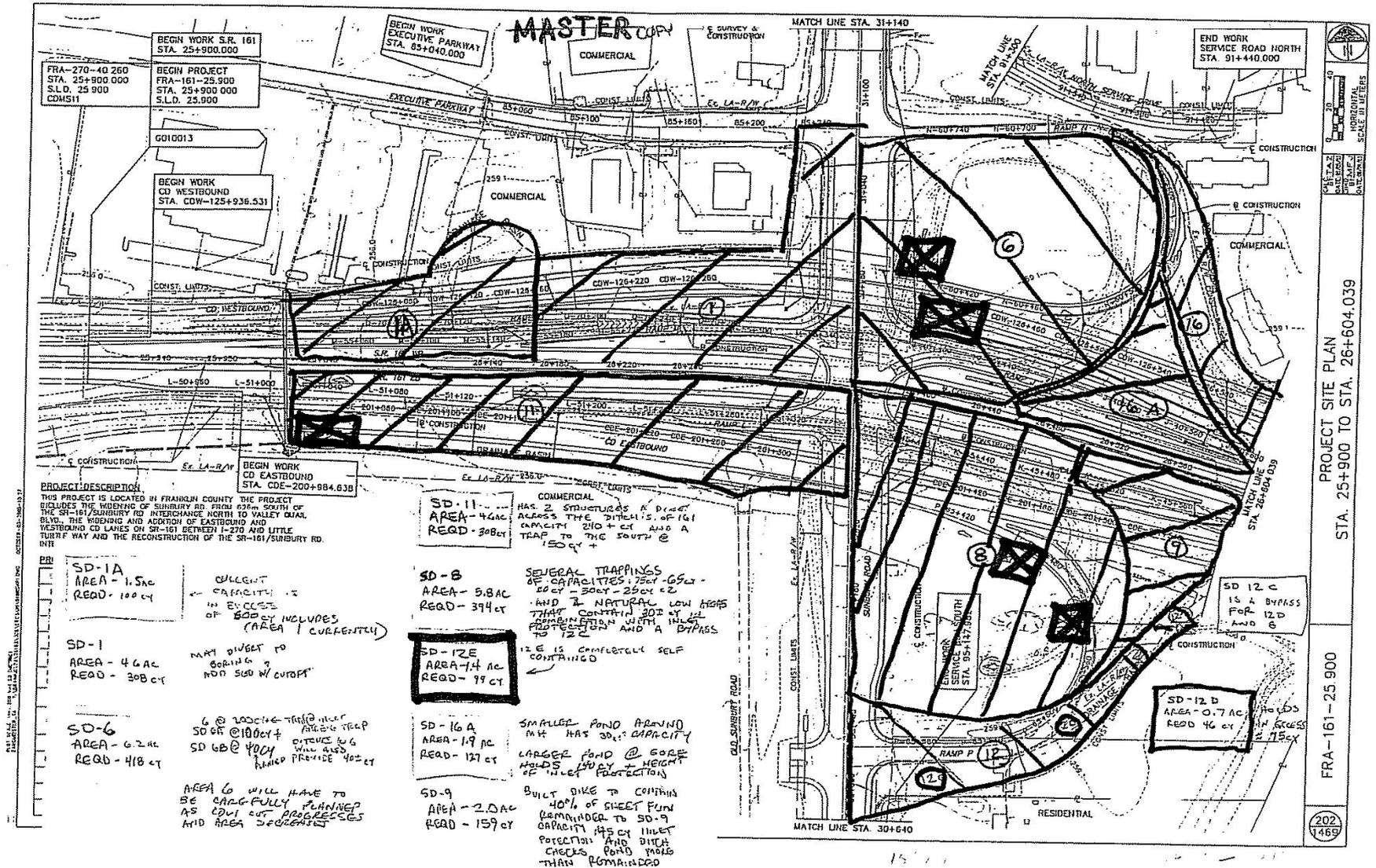
## Watershed Information Must Address

- ★ Watershed size in acres (drainage area)
- ★ Design limitation for each control including amount required and provided



<http://www.dnr.state.oh.us/water/rainwater/default/tabid/9186/Default.aspx>

# SWPPP



PROJECT SITE PLAN  
 STA. 25+900 TO STA. 26+604.039  
 FRA-161-25.900  
 202  
 1469

# Duty to Inform (page 12 of 40)

The General Permit mandates a duty to inform all sub contractors who will be involved in the implementation of the SWPPP of the conditions of the General Storm Water Permit.

Must maintain written documentation



# Dynamics of Construction



# Sediment Ponds (page 14 of 40)

- ★ Must address a minimum sediment storage capacity of 104 cubic yards per acre of drainage
  - ★ Traps may be implemented for watersheds < 5 acres
  - ★ Sediment basins with riser for larger watersheds
  - ★ Must de-water in between storm event

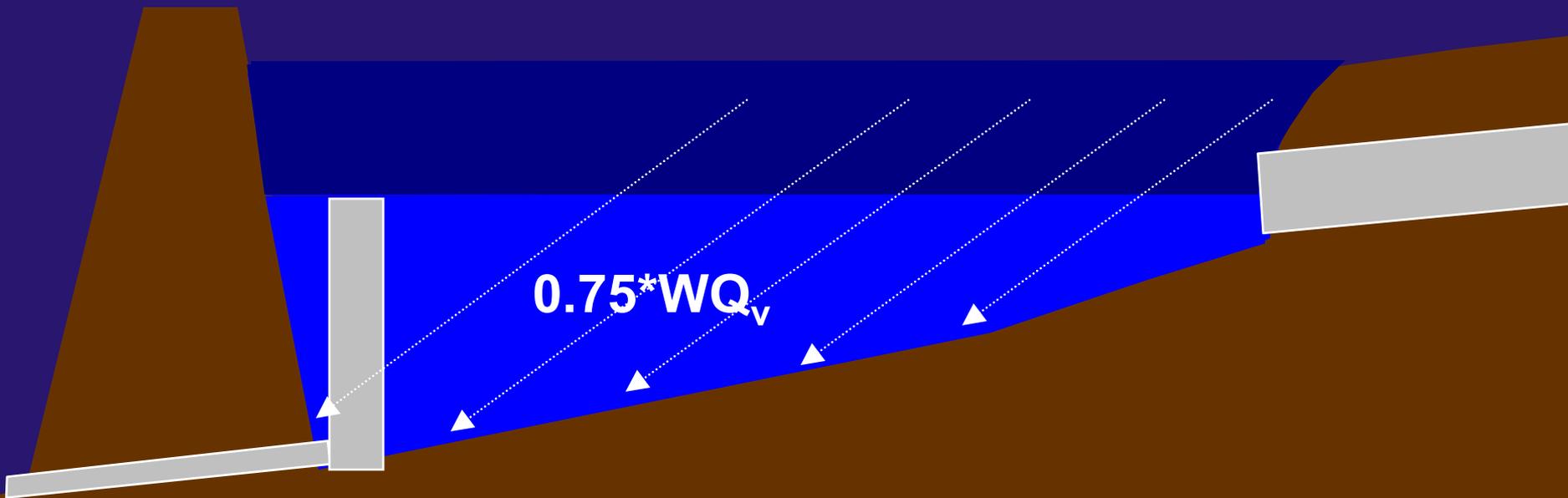




To storm sewers

# OEPA/ASCE Criteria: Wet Pond

0.56 inch rainfall, 24-hour drawdown  
(Page 20 of 40)



# Water Quality Ponds



**Dry Extended Detention Basin**



**Wet Pond - Solids Settling**

**Wet Pond Designed for Eutrophication**



**Wetland**



Photo Copyright 1999, Center for Watershed Protection

# Filtering Systems



**Swales and Filter Strips**



**Sand /  
Media  
Filter**



**Biofilter / Bioretention**



Photo courtesy of Environmental Design Group, Inc.

# Exemptions from Post Construction Requirements

- ★ Construction which does include the installation of any impervious areas (i.e.. Soccer Fields, Parks)
- ★ AML Sites, Restoration Activities, Wetland Mitigation,
- ★ Linear construction activities, i.e....Utilities



# Transportation Projects

The construction of new roads and roadway improvement projects by public entities shall implement post construction practices in accordance with ODOT's "Location and Design Manual, Volume Two found at:

<http://www.dot.state.oh.us/se/hy/LD2/LD2TOC.htm>



# Offsite Mitigation of Post Construction (page 24 of 40)

- ★ Ohio EPA may consider offsite mitigation for Post Construction requirements provided:
  1. Pre-approved by Ohio EPA
  2. Discharges to same stream or HUC 14
  3. Mitigation Ratio is 1.5 to 1
  4. Ensure mitigated area remains in perpetuity



# Non-Structural Post Construction Alternatives (page 24 of 40)

Ohio EPA may consider the use of non-structural practices such as large buffer zones, preservation areas, or riparian setbacks provided:

1. Intent of Post construction requirements depicted in permit are satisfied
2. Pre-approved by Ohio EPA
3. Legally binding documentation to ensure practice is maintained in perpetuity.



# Use of Alternative BMPs for Post-Construction (page 24 of 40)

Ohio EPA may consider the use of alternative BMP's for post construction provided:

1. Pre-approved by Ohio EPA
2. BMP follows TARP or USEPA Protocols
3. Stand alone maintenance agreement is in place which is required for all Post Construction BMPs to ensure function in perpetuity.



# Wetland Considerations (page 27 of 40)



# Contaminated Sediments (page 28 of 40)



# Self Inspections Required (page 29 of 40)

1. The inspections must be conducted every 7 days and within 24 hours of a rain event equal to or greater than 0.5 inches.
2. All inspections must be logged noting all deficiencies. Logs must be maintained on site.
3. All deficiencies must be corrected within 3 days or 10 days for a sediment pond.
4. Check page 29 of 40 for log detail requirements.



1/2/2003 10:49

# Vehicle Tracking



# Clearing/Grubbing

- ★ BMP: Use chips to cover the affected areas.
- ★ Permit Requirement: Sediment controls must be installed within 7 days of grubbing.



OSU Training Seminar  
for OSU personell and contractors  
October 22, 2004

Photo by Harry Kallipolitis  
note: Demostratio of Silt Fence Installation



# Silt Fence/Filter Berms (page 19 of 40)

- ★ Design capacity must not exceed:
  - ★ Silt fence not to exceed 0.5 acres of drainage to 100 linear feet of silt fence
  - ★ Filter Berms must meet requirement of silt fence



# Sediment Pond

**Target at Reynoldsburg  
Blacklick Creek Watershed  
Photo by Harry Kallipolitis  
December 13, 2007**

**Note: Northern Perimeter**



**Target at Reynoldsburg  
Blacklick Creek Watershed  
Photo by Harry Kallipolitis  
December 13, 2007**

**Note: Sediment Pond**







# De-watering



Downstream of site.



# De-watering



# De-watering



Dewater into a sediment trap before discharging to stream.



Call your Ohio EPA District Office and Army Corps of Engineers (ACOE). Send a letter including photos, location on USGS map, and name and address of owner.





# Stream Crossings



Good stream crossing

Lancaster By-pass  
Hocking River Watershed  
Fairfield County  
Barren areas south of S. R. 293  
3-11-03



Lancaster By-pass  
Hocking River Watershed  
Fairfield County  
Mulched areas south of S. R. 293  
3-11-03



ODOT 161/270 Project  
Big Walnut  
Photo by Harry Kallipolitis  
Franklin County  
January 4, 2005





30/08/2005



Broken

Failure

All (approx 14,000 Gallons)



# IF YOU CAN SEE IT REPORT IT

OHIO EPA SPILL LINE

**1-800-282-9378**



# Ohio EPA Storm Water Contacts

## DISTRICT OFFICE CONTACTS FOR STORM WATER ISSUES

Harry Kallipolitis Central District Office (614) 728-3844

Dan Bogoevski Northeast District Office (330) 963-1145

Lynette Hablitzel Northwest District Office (419) 373-3009

Aaron Wolfe Southeast District Office (740) 380-5277

Chris Cotton Southwest District Office (937) 285-6442

## CENTRAL OFFICE CONTACTS FOR STORM WATER ISSUES

Michael Joseph Construction / Industrial (614) 752-0782

Anthony Robinson Municipal / Industrial (614) 728-3392

Jason Fyffe Municipal / Industrial (614) 728-1793

John Morrison Industrial / Municipal / Construction (614) 644-2259

Mark Mann Section Manager (614) 644-2023



# Guidance Documents for the Construction Storm Water Program at Ohio EPA

For additional information, see list of guidance documents and additional resources in binder.

