

# Common Mistakes and Omissions

## *WPDES Construction Site Erosion Control and Storm Water Management Plans*

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# Overview

- Responsible Party
- Silt Fence for Construction Limits
- Temporary Runoff Diversions
- Sizing Sediment Basins for Subsoil Class
- Site-Specific Dewatering Plans
- Non-Growing Season Stabilization
- Bringing Infiltration Basins On-Line
- Impervious Surfaces in Protective Areas
- Liner Requirements



# Responsible Party

- The Authorized Representative is the person who ultimately signs the application
- Overall responsibility for the operation of the site, including:



- The weekly inspections and 24 hours after each 0.5" rainfall event or greater
- Maintain WPDES permit compliance
- Maintain local compliance
- Initiate plan amendments
- Department actions



# Silt Fence for Construction Limits

Use silt fence for intended use only...

## EROSION CONTROL

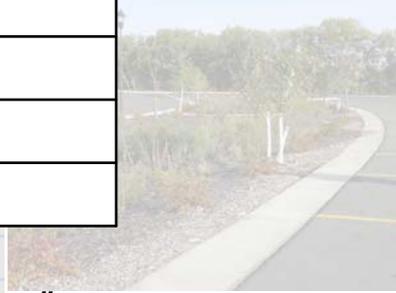
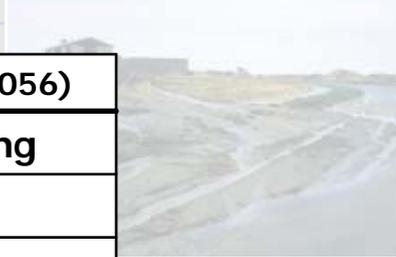


- NOT as a construction boundary
- NOT to define wetland boundaries
- Install parallel to contours
- Maximum parallel spacing dependent on slope lengths

(From WDNR Technical Standard 1056)

Slope	Fence Spacing
< 2%	100 feet
2 to 5%	75 feet
5 to 10%	50 feet
10 to 33%	25 feet
>33%	20 feet

- Identify "Construction Boundary" silt fencing on plans separately



# Temporary Runoff Diversions

- Direct site runoff to BMP for treatment throughout construction duration
- Designed to convey 2-year, 24-hour storm
- Plans and Specifications address...
  - Location
  - Channel Grade
  - Typical cross section
  - Stabilization
  - Schedule for installation



# Sizing Sediment Basins

- Drainage Area > 5 Acres

- Treatment surface area

$$S_a = 1.2 * (q_{out}/v_s)$$

Where  $v_s$  = particle settling velocity

- Use representative soil class in subsoil layer for design

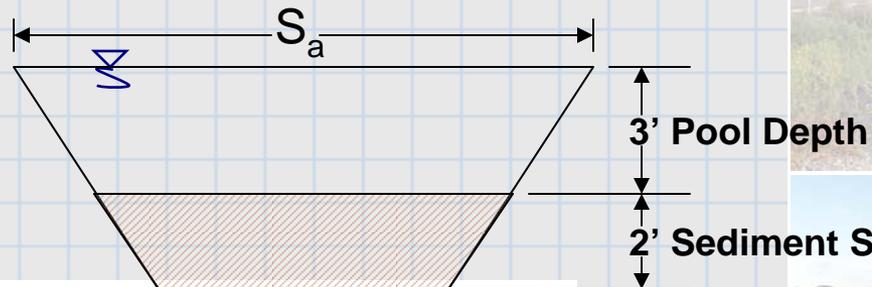
- Based on dominant textural class entering structure

- Class 1 = sand ( $1.2 \times 10^{-3}$  ft/sec)

- Class 2 = silt ( $7.3 \times 10^{-5}$  ft/sec)

- Class 3 = clay ( $1.2 \times 10^{-5}$  ft/sec)

- Must have a 5 foot depth



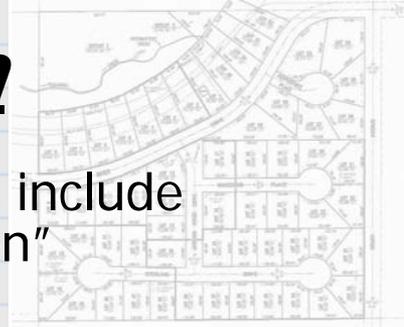
# Non-Growing Season Stabilization



- Seeding dependent on consistent soil temperatures (1059)
  - $T_{\text{soil}} > 53^{\circ}\text{F}$  Temporary seed
  - $T_{\text{soil}} < 53^{\circ}\text{F}$  Dormant seed
- Dormant seed will not provide non-growing season stabilization

**WATCH THE WEATHER**

- Plan should always include "Winter Stabilization"
- Use Technical Standards as 'Toolbox' for stabilization methods
  - Phasing minimizes amount of disturbed area
  - Temporary Seed
  - Mulch (Hydromulch, Straw, Tackifier)
  - Erosion Matting
  - Polymer





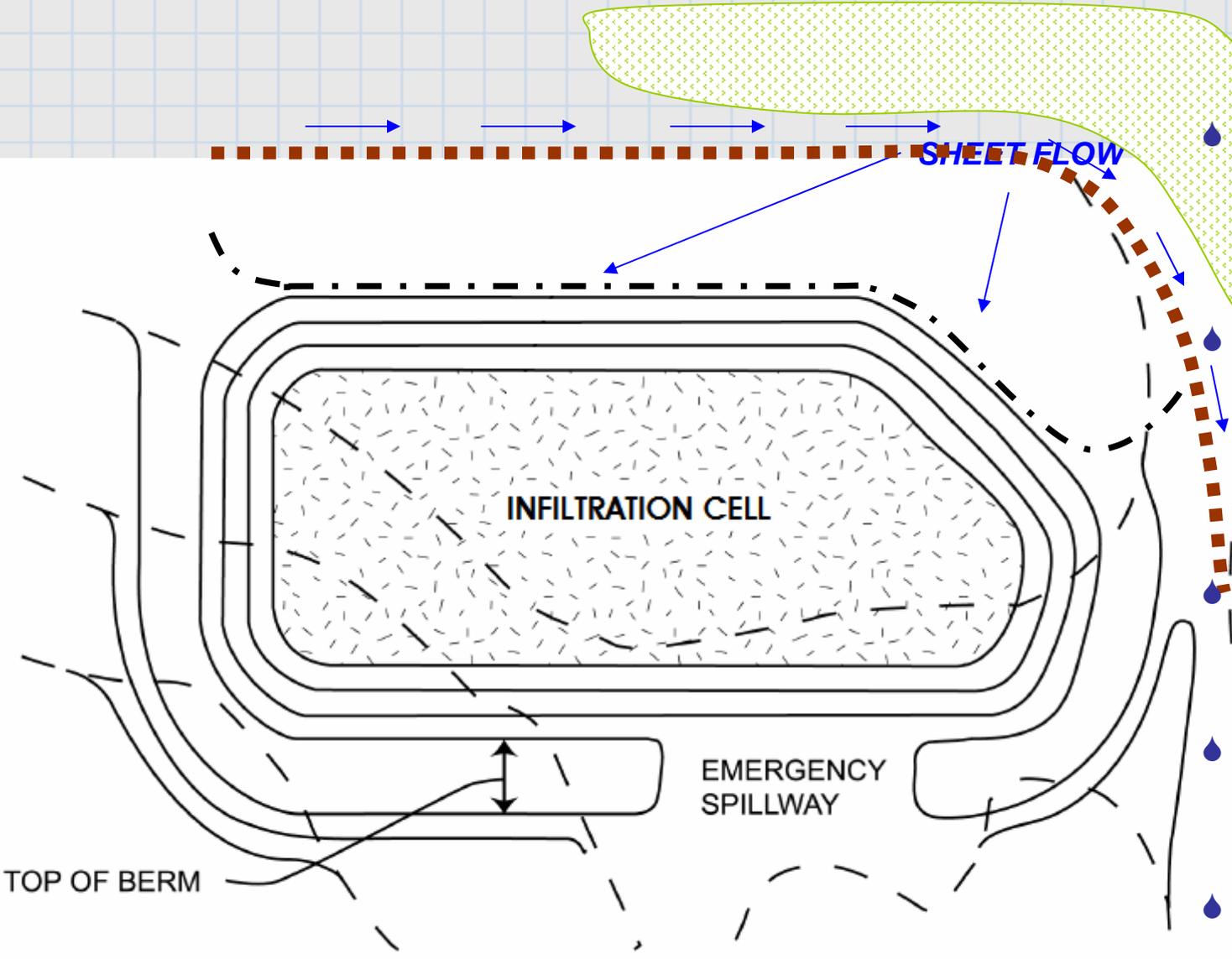
# Site-Specific Dewatering Plans

- Develop site-specific dewatering plan by looking at...
  - Soil Textures
  - Proximity to waterways and wetlands
  - Groundwater table
  - Discharge to BMP or vegetated overland flow
  - Treatment trains
- Use Dewatering Practice Selection Matrix
- Plans should identify practice and location wherever possible
- Dewatering includes the need to pump from temporary grading depressions and trenches after rainfall events
- Utility Projects





# Bringing Infiltration Basins On-Line



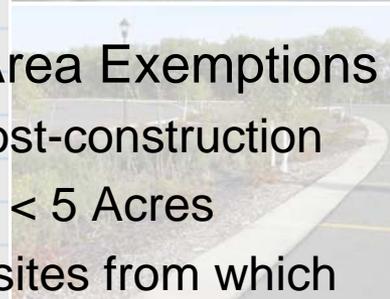
- Protect infiltration cell area
- Construct temporary diversion
- Bypass runoff to other on-site BMP for treatment
- Establish 70% vegetative cover
- Inspect infiltration basin
- Remove temporary diversion and erosion control

# Impervious Surfaces in Protective Areas

- BMPs may be located in protective area (Filter Strips, Swales, Wet Detention Basins, etc.)
- Impervious Surfaces kept out to the **MAXIMUM EXTENT PRACTICABLE**
  - Written site-specific explanation for any parts disturbed during construction



- NR 151 Protective Area Exemptions
  - Redevelopment post-construction
  - In-fill development < 5 Acres
  - Post-construction sites from which runoff does not enter the surface water



# Liner Requirements

- ◆ Revised Technical Standard 1001 for Wet Detention Ponds (October 2007)
- ◆ Refer to Appendix D for Pond Liner Design, Decision Flowchart
  - ◆ Type A
  - ◆ Type B
  - ◆ Type C



- ◆ Clay liner minimum thickness for all liner types = 2'



**Questions?  
Thank You!**

