

# Day of Treatment With Glyphosate



# 10 Days After Glyphosate Treatment



Remember: You need a commercial pesticide license with an aquatic endorsement to apply pesticides in a wetland



# Deep Pools a refuge for mosquito predators



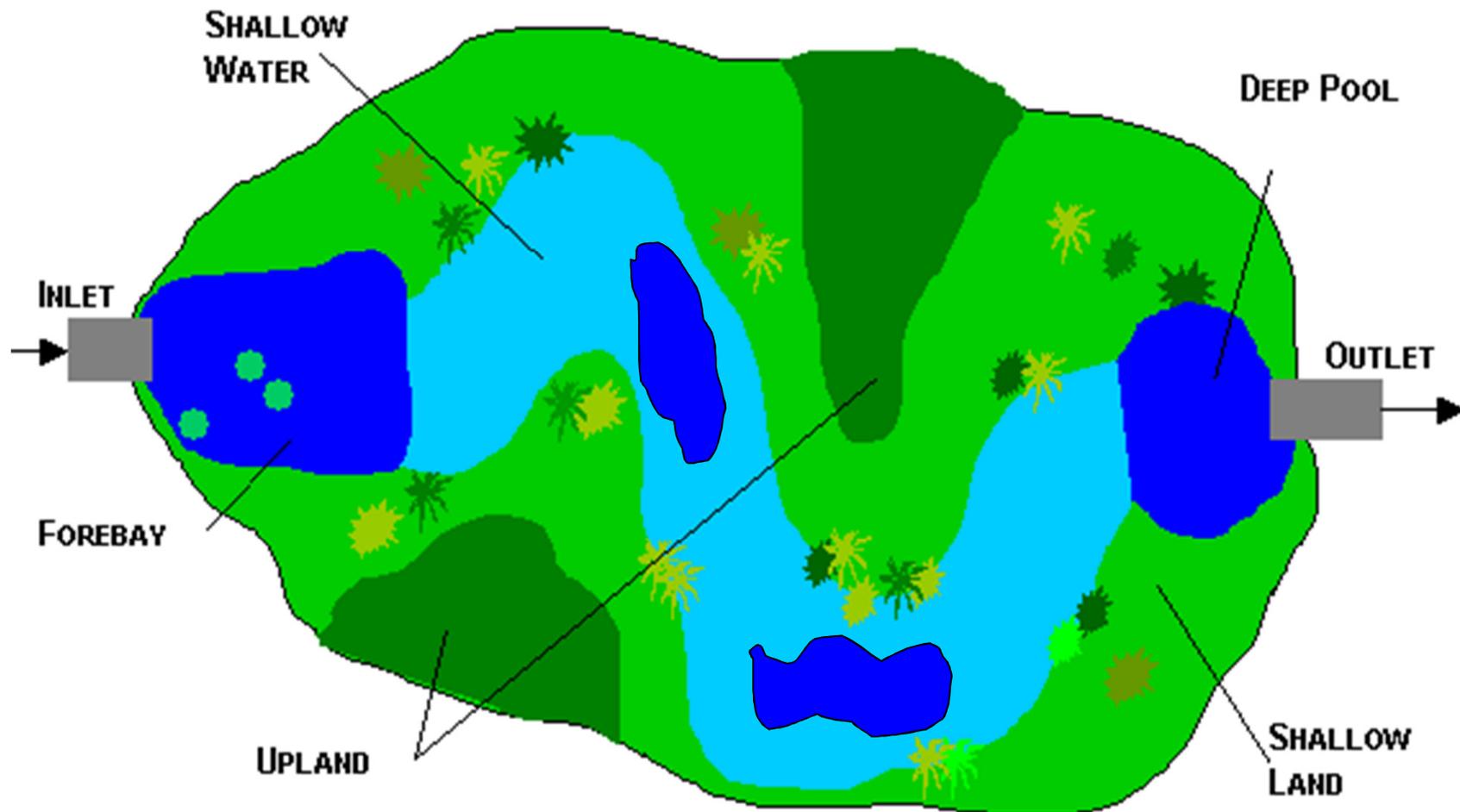
# Designing for Mosquito Maintenance

Several (may be  
small) Deep Pools



Aggressively Plant  
non-cattail, non-  
willow vegetation &  
provide habitat

# “Scatter” Small S.A. Deep Pools Across Wetland



# Multiple Pools - Boone

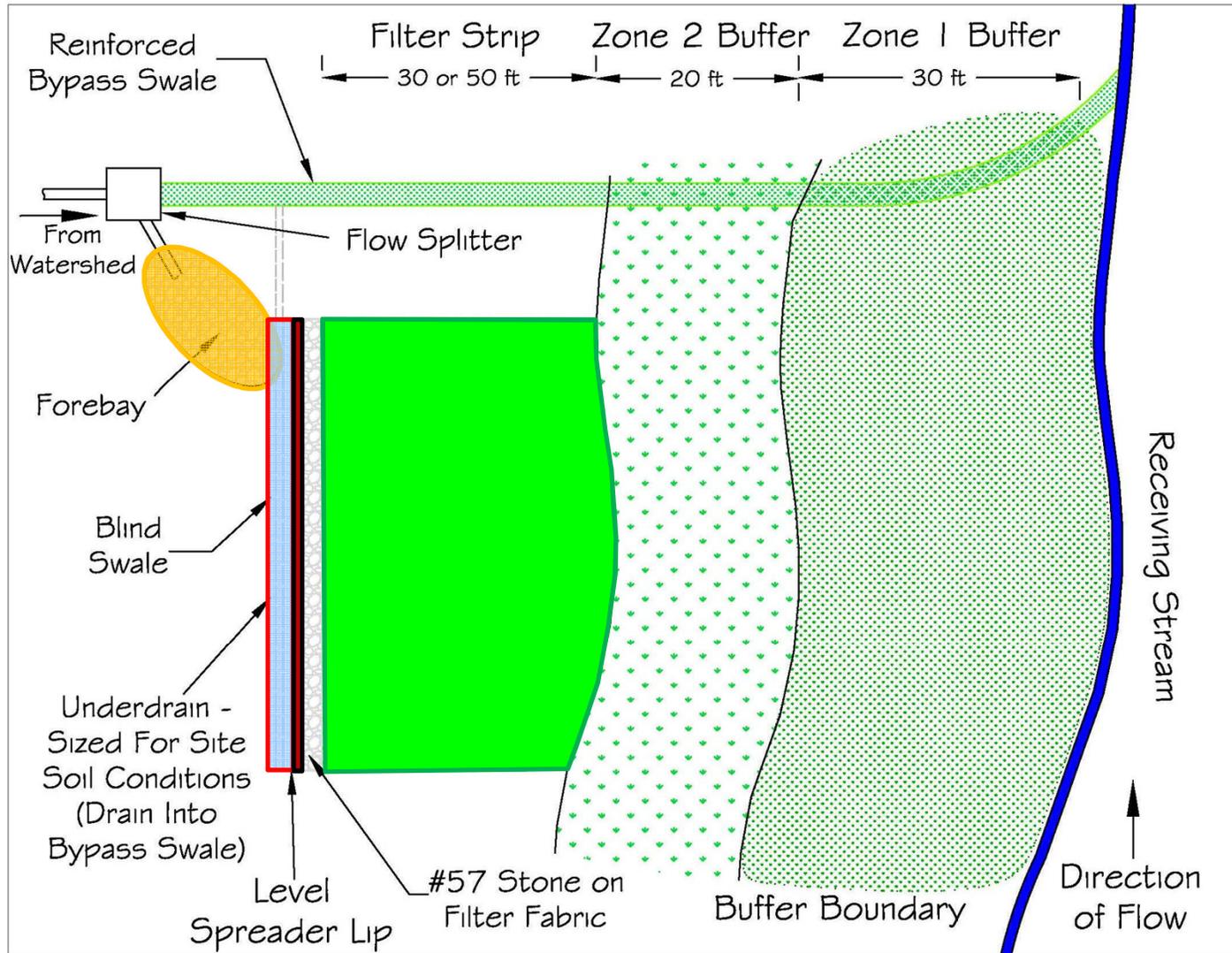


# Level Spreader – Vegetated Filter Strips



# LS-VFS (DOT Interchange)





# Most Common Reasons to Use LS-VFS in North Carolina

- Seasonally High Water Table Precludes the use of Bioretention or Permeable Pavement
- Developer does NOT want a wetland on his/her property
- Seen as simple to maintain

# Level Spreaders must be a stable, hardened material



# Concrete Level Spreaders

- One foot minimum thickness
- Allow 2-3" separation from top of LS to filter strip surface
- Consider footers below frost line



# Interface between Level Spreader & Filter Strip

- Gravel liner over a geo-fabric
- Suggested width: 2 to 3 ft
- Suggested depth: 2 to 3 inches
- Vertical Distance from Top of LS to gravel layer: 2 to 3 inches

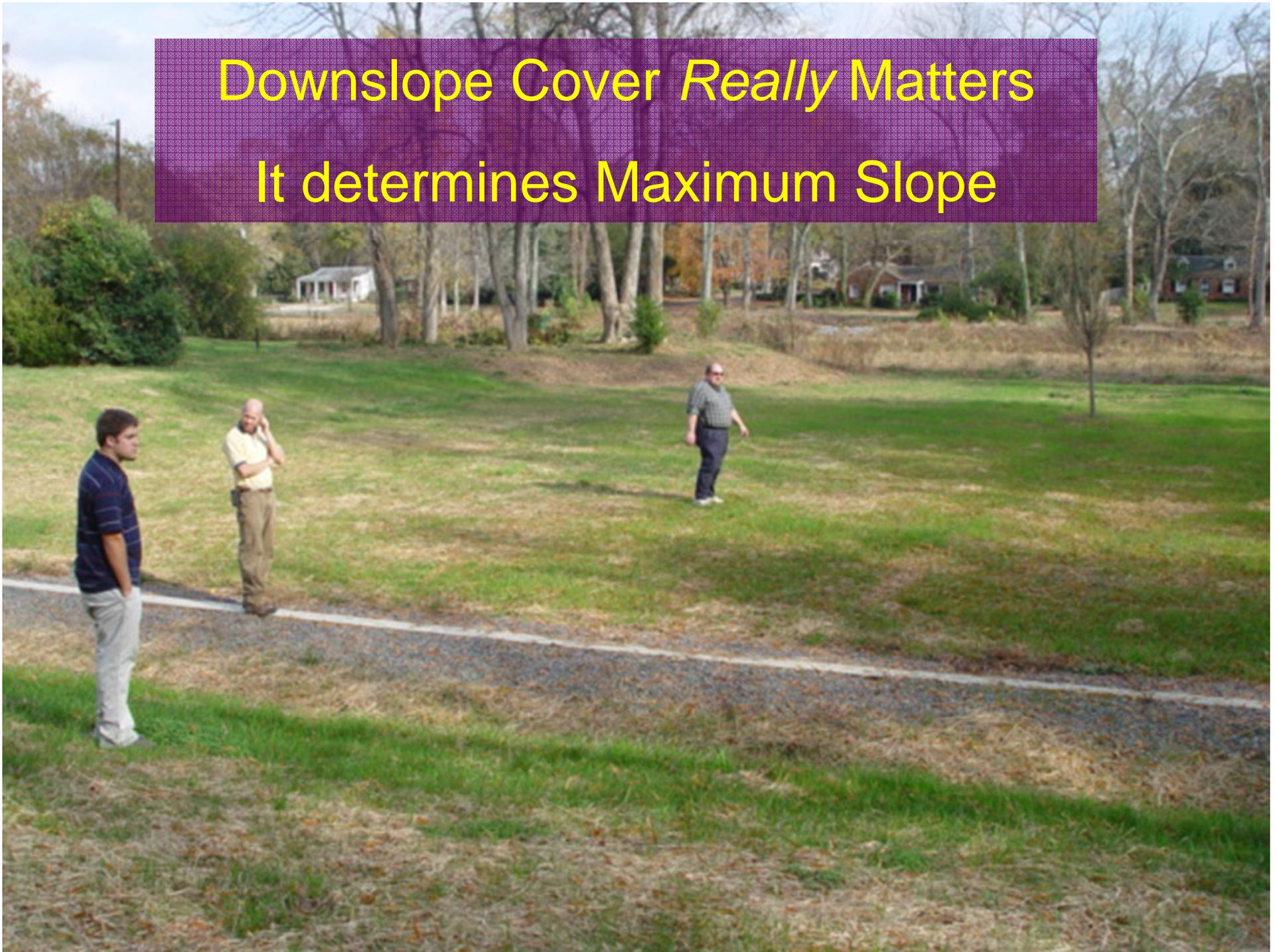


# Under-draining a Grassed Blind Swale &/or a Forebay

- Want the Swale to dewater within ~1 day
  - ~ 1 in/hr drawdown
- If underlying soil too clayey, use simple underdrain
- If possible, tie underdrain into bypass channel

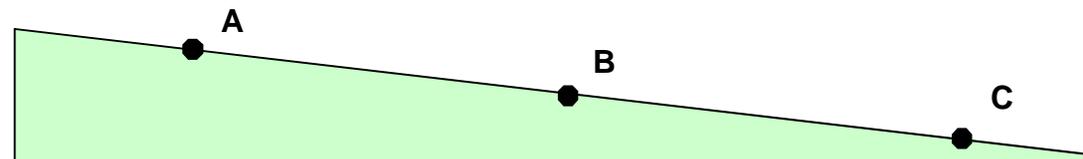
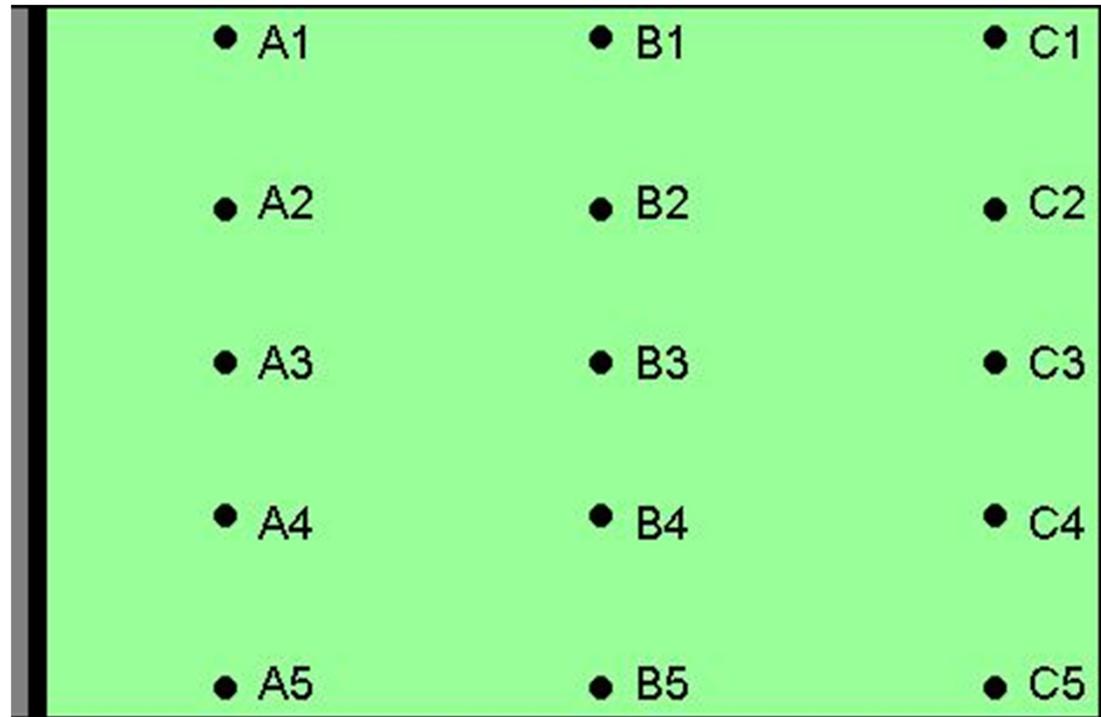


Downslope Cover *Really* Matters  
It determines Maximum Slope



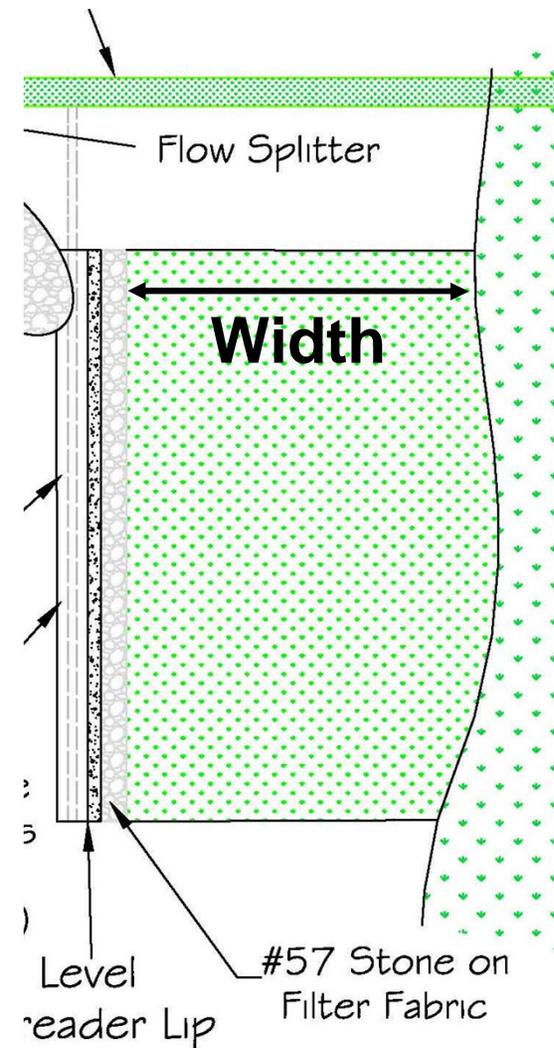
# Grading Engineered Filter Strip (VFS)

- Uniform and Even,  
Perpendicular  
to the Level  
Spreader



# Minimum VFS Widths

- Grassed VFS
  - 30 ft
  - Ex. 50 ft in SA Waters
- Wooded VFS
  - 50 ft – Riparian Rule
  - 30 ft – Effluent from Pond/  
Infiltration Device
    - Except 50 ft in SA



# Engineered Filter Strip Grass

Region	Appropriate Grasses
Mountains	Blue Grass, Tall Fescue
Piedmont	Tall Fescue, Common Bermuda
Coastal Plain	Centipede, Common Bermuda



# When to Avoid Level Spreaders

- Bad Downslope Topography
  - Slope Too Steep
  - Channels embedded in Buffer
- Large Watersheds
- Not enough space to place or limited treatment capacity

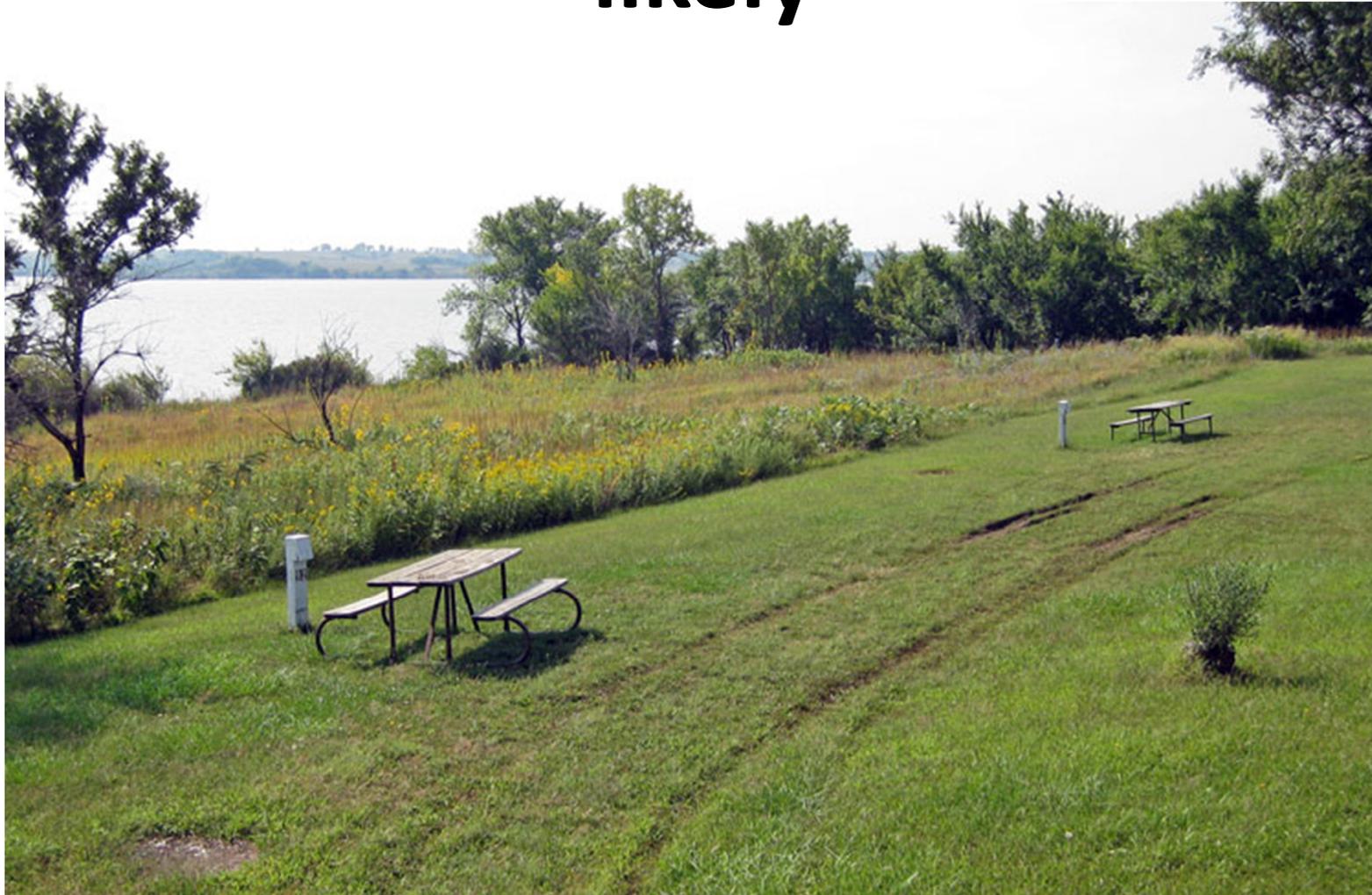


# Maintenance: Mowing



- Don't Mow after rain/ soggy conditions
- Be careful with lowering mower – scarring
- Probably best to move parallel to level spreader (on grade)
  - Might be wishful thinking

# Mowing in Wet Soil... Rutting more likely



# Fertilizer

- Typically, no.
- One-time initial, slow-release fertilization is OK
- Couple this with a soil test
- May need to lime for pH, too
- After that, let N+P in runoff do the work



By the way... a “no-no”

# “Worst Case” Scenario

- Regrade & Re-sod



# What is Permeable Pavement?

- AKA: Pervious pavement, porous pavement
- Several Types:

Permeable Interlocking  
Concrete Pavers (PICP)



Concrete Grid Pavers  
(CGP)



# Types of Permeable Pavements

## Pervious Concrete



## Pervious Asphalt

