E&SC Design

• Minimizing Erosion
  • Reducing stormwater runoff
  • Minimizing exposed soils
• Reducing Sediment Loads
  • Stormwater Velocity Control
  • Detention
  • Flocculation
E&SC Plan Design

- Runoff management during construction
Constructability

- If it’s drawn on the plan sheet it’s constructible....
- E&SC constructability is giving the means and methods to manage stormwater runoff during construction operations
• Carry offsite drainage around the project limits
• Runoff diversion around linear construction can be difficult
Clean Water Diversion

• Maintaining offsite drainage through the project may be even more difficult

• What to do when CWD must cross grade

Treat it like a jurisdictional stream
Clean Water Diversion

- Piping offsite water through project
  - Temporary pipe located outside project limits at collection point
  - Discharge outside of project limits at a stabilized receiving point
  - Pipes may have traffic crossing them
• Conveying drainage from existing pipe outfalls can also be problematic
Temporary Stream Diversions for Culvert Construction
Stream Channel Diversions

- Temporary Channel around the work site
Stream Channel Diversions

- Utilize existing barrels or stage the barrel construction
Stream Channel Diversions

Temporary Pipe
Stream Channel Diversions

- Bypass Pumping
Impervious Dike
Turbidity Curtain

• Should be used at jurisdictional water bodies
Sediment Control Basins

- Topography issues
Sediment Control Basins

Porous baffle design
Sediment Control Basins

- Access issues for maintenance
Sediment Control Basins

• Cleanout/maintenance issues
What equipment is available for maintenance
Sediment Control Basins

- Stabilized outlet/undisturbed area
E&SC Devices & Utilities

- Aerial & underground
- Timing of utility relocation
Site Visits

- Back in the old days...
Flocculants
Inlet Protection Issues
Concrete Washouts
NCDOT Roadside Environmental Unit

• Main Web Page
  • https://www.ncdot.gov/initiatives-policies/environmental/Pages/default.aspx

• Roadside Environmental SharePoint Connect Site
  • https://connect.ncdot.gov/resources/roadside/Pages/default.aspx