



EROSION & SEDIMENT CONTROL

FIELD GUIDE

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PURPOSE OF THE GUIDE

This field guide contains information for the installation and maintenance of erosion and sediment control devices from the DelDOT Standard Construction Details and Specifications. Additional details and practices are also provided; however, the guide is not intended as a replacement to the Standard Construction Details and Specifications. The guide is intended for use by field construction personnel to aid in the implementation of proper erosion and sediment control practices.

EROSION AND SEDIMENT PROBLEMS ASSOCIATED WITH CONSTRUCTION SITES

Sediment washing into streams is one of the most serious water quality problems in Delaware. Construction and land development activities expose disturbed soils to precipitation and stormwater runoff. When sediment from unstabilized areas washes into surface waters, it can kill or weaken fish and other organisms and damage aquatic habitats. Water pollution, channel and reservoir siltation and damage to public facilities, as well as to private

property, are some of many examples of problems caused by uncontrolled erosion and sedimentation.

Follow basic principles to minimize erosion and sediment loss from construction sites:

- Follow all phasing plans to minimize amount of soil disturbed at any time.
- Preserve existing vegetation whenever possible.
- Stabilize bare soil immediately.
- Use silt fence or other barriers to intercept and filter sediment in runoff.
- Use check dams or other products to prevent ditch erosion.
- Protect inlets and outfalls.
- Install sediment traps and settling basins. Use flocculants as needed to reduce turbidity of effluents.
- Maintain your BMPs!

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ENVIRONMENTAL LAWS AND PERMIT PROGRAMS COVERING CONSTRUCTION ACTIVITIES

All construction sites require stormwater Best Management Practices (BMPs). Prevention of erosion and sediment loss on your construction site is not just a good practice – It's the law!

The following is a brief outline of the Federal, State and DeDOT regulations and requirements that cover Erosion and Sediment (E&S) Control on construction sites. Failure to understand and/or comply with any of these may result in significant fines, penalties, delays or stoppage of work. More detailed information can be found in the websites and resources listed below. Or contact the DeDOT Stormwater Engineer's Office at (302)-741-2600.

National Pollutant Discharge Elimination System (NPDES):

Part of the Federal Clean Water Act, the NPDES permit program controls water pollution by regulating discharge of pollutants into waters of the United States. The NPDES Stormwater Program regulates stormwater discharges from three potential sources: municipal separate storm sewer

systems (MS4s), construction activities, and industrial activities. In Delaware, any land disturbing activity over 5,000 square feet must have an approved Sediment and Stormwater Plan and must also submit a Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under the State NPDES General Permit.

Delaware Sediment and Stormwater Regulations:

The Department of Natural Resources and Environmental Control (DNREC) implements Delaware's sediment and stormwater program. A copy of the current Delaware Sediment and Stormwater Regulations is maintained on DNREC's website (<http://www.dnrec.delaware.gov>). DNREC has delegated to DeDOT authority to administer and enforce many of the state Sediment and Stormwater Program elements. This includes, on DeDOT projects:

- Erosion and sediment control and stormwater management plan approval
- Inspection during construction

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- Post-construction inspection of permanent stormwater facilities
- Education and training

DeLDOT Requirements and Standard Specifications:

All erosion, sediment control and stormwater management measures must be designed in accordance with the latest version of the Delaware Sediment and Stormwater Regulations, DeLDOT Standard Construction Details, DeLDOT Standard Specifications and Design Guidance for drainage, erosion control and stormwater management. Copies of these documents can be found on the DeLDOT website (www.delDOT.gov). The special provisions of the DeLDOT Standard Specifications for Road and Bridge Construction that govern erosion, sediment control and water pollution are found in Section 110. Additional specifications for the installation of E&S control devices can be found in Section 200.

Projects in certain watersheds may have additional requirements to meet Total Maximum Daily Loads (TMDLs) and any approved pollution control strategies. To verify if a project will need to follow these extra design requirements, contact the DeLDOT Stormwater Engineer.

TOP COMPLIANCE ISSUES

The following have historically been among the most frequently cited E&S control and pollution problems on DeLDOT construction sites. Special attention should be paid to these areas by all DeLDOT construction staff, inspectors and contractors in order to avoid violations of state laws and potential penalties or work stoppages.

- Improper or missing BMPs
- Improper silt fence installation and/or maintenance
- Unprotected inlets
- Lack of stabilization
- Inadequate seeding rates
- Inadequate or improperly maintained construction entrances (soil on road)
- Tracking issues
- Blankets incorrectly anchored or trenched
- Good housekeeping problems (trash, storage, concrete washout, spills, etc.)
- Failure to correct deficiencies noted on CCR reports in a timely manner

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USING THIS FIELD GUIDE

The guide has been developed using DelDOT standard details as base information. The details and associated installation notes from the standard details are presented on the first page(s) for each practice. Details have been colorized to emphasize flow patterns and highlight filtering elements. In addition, the standard details have been augmented by notating installation and maintenance “hot spots” where particular attention should be paid to critical installation elements, areas of concentration for inspections, sediment removal and erosion monitoring.

The subsequent pages for each practice are intended to provide contractors and inspection personnel with guidance for maintenance in accordance with DelDOT’s Standard Specifications and to present photographs depicting proper and improper installation and maintenance techniques.

The guide does not present requirements for material specification, measurement or payment. Contractors and field personnel should refer to the standard specifications for that information.

Any questions or comments about the practices in this field guide should be directed to the DelDOT Stormwater Section.

CONTACTS AND RESOURCES

DelDOT Stormwater Section

(302) 760-2180

<http://www.deldot.gov/information/business/drc/stormwater.shtml>

(This site includes links to approved product lists, manuals, DelDOT standard construction details, and DelDOT Standard Specifications)

DelDOT NPDES Section

(302) 760-2194

<http://www.deldot.gov/stormwater>

DNREC Sediment & Stormwater Program

(302) 739-9921

<http://www.swc.dnrec.delaware.gov/Pages/SedimentStormwater.aspx>

(This site includes links to the Delaware Sediment and Stormwater Regulations, CCR certification resources, and NPDES construction permits)

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