

SECTION 01560

SOIL EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Work required by regulations to prevent soil erosion and control sedimentation during Work on a Project.

1.02 RELATED SECTIONS

- A. Trenching, Backfilling, and Compacting: Section 02221.
- B. Finish Grading: Section 02260.
- C. Paving and Surfacing: Section 02500.

1.03 SEDIMENT AND EROSION CONTROL PLAN

- A. The Sediment and Erosion Control Plan shall conform to the requirements of the Berks County Conservation District.
- B. For design, construction, and maintenance of any measures not included in the original plan but required because of unforeseen or changed Project conditions, refer to the requirements of Chapter 102 of Pennsylvania Administrative Code, Title 25 as authorized by the Clean Streams Law, Act 222, as amended and instructions of Berks County Conservation District.

1.04 REGULATORY REQUIREMENTS

- A. The sediment and erosion control measures are subject to inspection by State, county, and local regulatory agencies. The Contractor shall be fully responsible for constructing and maintaining the sediment and erosion control measures to the extent that they are, at all times, acceptable to the regulatory agencies. The Contractor shall be liable for payment of any fines or legal costs that the Owner may incur as a result of the Contractor's failure to properly construct and maintain the sediment and erosion control measures.
- B. One objective of the "Sediment and Erosion Control Plan" is the protection of private property. To assist any damaged property owners in redress of grievances, the following stipulations are made:
 - 1. Any silt, sediment, or mud leaving the construction site will be construed as damage to neighboring property and evidence of negligence on the part of the Contractor.
 - 2. Any damages claimed by neighboring property owners will be rectified and restitution made by the Contractor.

- C. Comply with the requirements of Chapter 102 of Pennsylvania Administrative Code Title 25 as authorized by the Clean Streams Law, Act 222, as amended.
- D. Comply with any local laws, codes, and regulations concerning the construction and maintenance of sediment and erosion control measures.

1.05 CONSTRUCTION SEQUENCE

- A. Install all sediment and erosion control measures prior to start of clearing operations.
- B. Conduct construction operations in accordance with the following general sequence:
 1. Construction of sediment and erosion control measures including ditches, swales, silt fences, and construction entrances.
 2. Clearing, removal of debris, and stockpiling of soil materials.
 3. Construction of stabilized construction roads, temporary parking lots, and construction staging areas.
 4. Excavation and, if required, embankment construction.
 5. Construction of building, structure, pipeline, and other items required by the Contract Documents.
 6. Backfilling, final grading, paving, seeding, and other ground stabilization.
 7. Removal of temporary sediment and erosion control measures.

1.06 GENERAL SEDIMENT AND EROSION CONTROL METHODS/PROCEDURES

- A. In all cases, the smallest practical area of land surface shall be disturbed.
- B. Stripped topsoil shall be placed up slope from proposed construction areas where possible. Stockpiles shall be stabilized immediately. Topsoil shall be kept separate from all other materials.
- C. Excavated material shall be placed up slope from the excavation whenever possible. Runoff from spoil piles shall be directed through a sediment filter structure and discharged in a non-erosive manner. Stockpiles of excavated material shall be stabilized immediately.
- D. Stockpiles of stripped topsoil, or excavated material and other erodible/soluble areas and materials shall be stabilized immediately.
- E. Utility excavations shall be open only long enough to properly install and inspect all underground facilities in accordance with applicable Specification Sections.
- F. Dewatering equipment discharge shall be directed onto a stabilized surface so that erosion does not occur. Discharges shall be directed through a sediment filter structure or sedimentation basin and discharged in a non-erosive manner.
- G. Backfilled excavations shall be restored to original type of cover and grade in accordance with Specifications. Temporary stabilization is required for any and all erodible/soluble areas and materials.

- H. Areas to be seeded or sodded shall be finish graded with six inches of topsoil unless otherwise specified. Positive drainage shall be maintained away from all structures. No isolated low spots shall be created.
- I. All sediment shall be prevented from entering any storm drain, ditch, or water course through use of a sediment filter structure.
- J. Construction access from unpaved areas to paved areas or streets (public or private) shall be via a stabilized construction entrance. The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto the paved surface. Sediment spilled, dropped, or tracked onto paved surface shall be removed immediately.

1.07 SPECIFIC SEDIMENT AND EROSION CONTROL PROCEDURES

- A. Clearing/Grubbing: Shall follow the procedures as outlined in Section 02100.
- B. Rough Grading/Foundation Excavation:
 - 1. Upstream diversion facilities shall be re-established and relocated as required to maintain function during excavation operations.
 - 2. Temporary and permanent diversion and collection system shall be modified or installed at the downstream limits of all areas to be excavated. All discharge from such facilities shall be via either temporary or permanent sediment traps and discharge structures.
 - 3. Temporary and permanent sediment traps and discharge structures shall be modified or installed at all points of discharge of sediment-carrying water.
- C. Dewatering Operations: Dewatering operations, when required, shall discharge through filter bags onto non-erodible surfaces.
- D. Temporary Sediment Traps for Storm Drain Inlets:
 - 1. Traps shall be installed immediately upon completion of any new storm drainage inlet structure. Traps shall also be installed where there is a possibility of runoff from the construction area entering existing storm drain inlets.
 - 2. Sediment traps shall be inspected after each rain and maintained in a functional condition at all times during the construction period.
 - 3. Traps shall be removed when contributing drainage areas are stabilized.
- E. Silt Fence Sediment Barrier:
 - 1. Silt fence sediment barrier shall be used to filter sediment from runoff.
 - 2. Sediment barriers shall be inspected after each rain and repaired as required to maintain proper function.
 - 3. Remove sediment behind barrier whenever sediment deposit reaches depth of approximately six inches.
 - 4. Materials:
 - a. Geotextile fabric: PennDOT 408, Section 735, Class 3 Type A or B.
 - b. Stakes: PennDOT 408, Section 865.2(c).
- F. Straw Bale Sediment Barrier:
 - 1. Straw bales shall be used only as short-term control measures.
 - 2. Bales shall be securely staked across areas of concentrated flow.
 - 3. Bales shall be inspected regularly and replaced as necessary.

- G. Stabilized Construction Entrance:
1. Install stabilized construction entrance at each point where construction traffic leaves Project site and enters any paved or public roads.
 2. Stabilized construction entrances shall be used to reduce tracking of mud onto paved roads.
 3. Any sediment or mud which flows or is tracked onto any paved or public roads shall be removed daily.
 4. The stabilized construction entrance shall be removed when permanent pavement structure will be constructed.
 5. Materials:
 - a. Rock: PennDOT 408, Section 703.3, AASHTO #1 – 8-inch thickness.
 - b. Geotextile fabric: PennDOT 408, Section 735, Class 4.
- H. Temporary Cover: The following methods shall be used to provide temporary ground cover and stabilization of erodible surfaces:
1. Seeding:
 - a. Refer to Section 02260, Paragraph 3.06C, for seed mix and rate of application.
 - b. Temporary seeding on slopes in excess of 5:1 shall be mulched. All temporary seeding between June 1 and September 15 shall be mulched. Temporary seeding shall be watered as required to develop cover.
 - c. Mulch shall be straw, shall be clean and free from noxious weeds, and shall be applied at the rate of 100 pounds (2-3 bales) per 1,000 square feet.
 2. Black Polyethylene Sheeting: 3 mil black polyethylene sheeting may be used to stabilize erodible/soluble material stockpiles. Sheets shall be overlapped so as to shed and not contain water. Sheets shall be anchored with tires or approved equal at six feet O.C. along seams and edges and ten feet O.C. throughout.
 3. Plywood Sheeting: Plywood sheeting may be used to protect existing vegetation under short duration storage/stockpile areas. Use of this protection method shall be limited to maximum four days. Contractor shall be responsible for restoring or replacing vegetation damaged under sheeting.

1.08 RESTORATION

- A. After completion of construction, remove all temporary erosion and sedimentation control devices. Restore areas in which these devices were located to the original condition.

PART 2 – PRODUCTS

NOT APPLICABLE TO THIS SECTION

PART 3 – EXECUTION

NOT APPLICABLE TO THIS SECTION

END OF SECTION