

# **VILLAGE OF CARO**

## **ENGINEERING DESIGN STANDARDS**

APRIL 2004

# **SECTION 10 – SOIL EROSION AND SEDIMENTATION CONTROL**

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### **ENGINEERING DESIGN STANDARDS**

#### **A. Submittal Procedure**

1. Soil Erosion and Sedimentation Control Plans shall be incorporated into any plans submitted. A Tuscola County Soil Erosion Control Permit is required.

#### **B. Plan Requirements**

The Soil Erosion and Sedimentation Control Plans shall contain the following data and other information as required by the county or other agencies on sheets twenty-four inch by thirty-six inch (24" x 36"), using the USGS Vertical Datum.

1. Public and private roads in the area and all adjacent properties and the extent of site grading, all to at least one hundred (100) feet outside site boundaries.
2. Topographic plan scale, one inch equals fifty feet (1" = 50') to one hundred (100) feet beyond site boundaries showing:
  - a. Existing ground elevations, with either two (2) foot contour intervals or spot elevations on a fifty (50) foot grid.
  - b. Existing structures and significant features including trees six (6) inches in diameter or larger, existing ground cover, extent and condition.
  - c. Existing drainage and soil information.
3. Site Grading and Development Plans as required under other sections of the Village of Caro's Design Standards for all proposed utilities on the site.
4. The Soil Erosion and Sedimentation Control Plan shall include the following:
  - a. Description and location of the limits for all proposed earth changes.
  - b. Description and location of all soil erosion measures.
  - c. The timing and sequence of all proposed earth changes.
  - d. Information as to how excavated material will be handled and stored to prevent erosion.
  - e. Information on trench backfill restoration including schedule of placement.
  - f. Information concerning the existing drainage system including a provision for maintenance.

#### **C. Notes**

The following notes shall appear on the plans:

1. Daily inspections shall be made by the Contractor for effectiveness of erosion and sedimentation control measures and any necessary repairs shall be performed without delay.
2. Any sedimentation from work on this site shall be contained on the site and not allowed to collect on any off site areas or in waterways.
3. Contractor shall apply temporary erosion and sedimentation control measures when required and as directed on these plans. The Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches and other earth changes have been accomplished. This would include temporary sedimentation ponds.
4. Staging the work will be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
5. Soil erosion control practices shall be established in the early stages of construction by the Contractor. Sediment control practices will be applied as a perimeter defense against any transporting of silt off the site.

D. Principles of Erosion and Sediment Control

1. Plan the development to fit the topography, soils, waterways and natural vegetation at a site with the least necessary earth disturbance or change.
2. Expose the smallest practical area of land for the shortest practical time through staging the work and early application of temporary or permanent erosion control measures.
3. Apply soil erosion control measures as a first line of defense against on site damage, to prevent sediment from being produced. These measures included special grading methods, run-off control structures, temporary and permanent vegetation.
4. Apply sedimentation control measures as a perimeter protection to prevent off site damage. These measures include diversion ditches, sediment traps, vegetative filters, and sediment basins.
5. Apply follow up and periodic maintenance for continued effectiveness of control measures.

E. Design Standards

1. Riprap is required at all locations where storm water velocities may be erosive to soils. Riprap shall be placed at all storm water inlets and outlets and basin outlets. Riprap shall be a nominal four (4) inch to six (6) inch minimum diameter and be clean of any foreign material.
2. Newly constructed storm water facilities shall be constructed to control flow velocities to limit erosion.
3. The plans shall, based on the nature of the proposed development, contain a time schedule for the installation of permanent soil erosion control measures.

4. If specific details are required for soil erosion control measures, they shall be shown on the plans.
5. Soil erosion controls shall be used to prevent silt from entering public roadways and storm sewers at all times.
6. All disturbed areas shall receive four (4) inches of topsoil, seed and mulch.
7. Crushed aggregate mud mats 100 feet long by 26 feet (100' x 26') wide, at a minimum, shall be used at the entrance of construction sites.
8. On larger projects or when phasing is involved, the developer may be required to provide alternate construction drives to the site to avoid damage to newly constructed streets. A crushed aggregate mud mat should be used any time the new approach is used for construction traffic. All construction drives shall be approved by the Village.