

**SECTION 9.50**  
**TURF ESTABLISHMENT**

**9.50.01--Description:** The work included in this item shall consist of providing an accepted uniform stand of established perennial turf grasses by furnishing and placing fertilizer, seed, and mulch on all areas to be treated as shown on the plans or where designated by the Engineer.

The work will also include the installation of erosion control matting consisting of mulch and netting woven together as one unit where shown on the plans or as directed by the Engineer.

**9.50.02--Materials:** The materials for this work shall conform to the requirements of Section M.13.

**9.50.03--Construction Methods:** Construction Methods shall be those established as agronomically acceptable and feasible and which are approved by the Engineer.

**1--Preparation of the Seedbed:**

(a) Level areas, medians, interchanges and lawns: These areas shall be made friable and receptive for seeding by disking or by other approved methods to the satisfaction of the Engineer. In all cases the final prepared and seeded soil surface shall meet the lines and grades for such surface as shown in the plans, or as directed by the Engineer.

(b) Slope and Embankment Areas: These areas shall be made friable and receptive to seeding by approved methods which will not disrupt the line and grade of the slope surface. In no event will seeding be permitted on hard or crusted soil surface.

(c) All areas to be seeded shall be reasonably free from weeds taller than 75 mm. Removal of weed growth from the slope areas shall be by approved methods, including hand-mowing, which do not rut or scar the slope surface, or cause excessive disruption of the slope line or grade. Seeding on level areas shall not be permitted until substantially all weed growth is removed. Seeding on slope areas shall not be permitted without removal or cutting of weed growth except by written permission of the Engineer.

**2--Seeding Season:** The calendar dates for seeding shall be:

Spring--March 15 to June 15  
Fall--August 15 to October 15

All disturbed soil areas shall be treated during the seeding seasons as follows:

(a) Areas at final grade: Seeding will be accomplished.

(b) "Out-of-season" seedings shall be performed in the same manner as "in-season" seedings. Since acceptable turf establishment is less likely, the Contractor shall be responsible for "in-season" reseeded until the turf stand conforms to 9.50.03-5.

(c) During "out-of-season" periods unseeded areas shall be treated in accordance with Section 2.10, Water Pollution Control.

**3--Seeding Methods:** The grass seed mixture conforming to Article M.13.04 shall be applied by any agronomically acceptable procedure. The rate of application shall be no less than 195 kg/ha.

Fertilizer conforming to M.13.03 shall be initially applied at a rate of 360 kg/ha during or preceding seeding. When wood fiber mulch is used, it shall be applied in a water slurry at a rate of 2250 kg/ha with or immediately after the application of seed, fertilizer and limestone. When the grass seeding growth has attained a height of 150 mm, the specified areas designated herein shall be mowed to a height of 75 mm. Following mowing, all

seeding grass areas (mowed and unmowed) shall receive a uniform application of fertilizer hydraulically placed at the rate of 360 kg/ha.

**4--Compaction:** The Contractor shall keep all equipment and vehicular and pedestrian traffic off areas that have been seeded to prevent excessive compaction and damage to young plants. Where such compaction has occurred, the Contractor shall rework the soil to make a suitable seedbed; then reseed and mulch such areas with the full amounts of the specified materials, at no extra expense to the State.

**5--Stand of Perennial Turf Grasses:** The Contractor shall provide and maintain a uniform stand of established turf grass species having attained a height of 150 mm consisting of no less than 1100 plants per square meter throughout the seeded areas until the entire project has been accepted.

**6--Establishment:** The Contractor shall keep all seeded areas free from weeds and debris, such as stones, cables, baling wire, and he shall mow at his own expense, on a one-time-only basis, all slopes 4:1 or less (flatter) and level turf established (seeded) areas to a height of 75 mm when the grass growth attains a height of 150 mm.

Clean-up shall include, but not be limited to, the removal of all debris from the turf establishment operations on the shoulders, pavement, and/or elsewhere on adjacent properties publicly and privately owned.

**7--Erosion Control Matting:** Erosion control matting shall be installed following seeding where called for on the plans or as directed by the Engineer. Staples shall be installed as per Manufacturer's recommendations. Where two lengths of matting are joined, the end of the up-grade strip shall overlap the down-grade strip.

The Contractor shall maintain and protect the areas with erosion control matting until such time as the turf grass is established. The Contractor shall replace or repair at his own expense any and all erosion control matting areas damaged by fire, water or other causes including the operation of construction equipment. No mowing will be required in the locations where erosion control matting is installed.

**9.50.04--Method of Measurement:** This work will be measured for payment by the number of square meters of surface area of accepted established perennial turf grass as specified or by the number of square meters surface area of seeding actually covered and as specified.

Erosion control matting will be measured by the number of square meters of surface area of erosion control matting installed and accepted.

**9.50.05--Basis of Payment:** This work will be paid for at the contract unit price per square meter for "Turf Establishment" which price shall include all materials, mowing, maintenance, equipment, tools, labor, and work incidental thereto. Partial payment of up to sixty percent (60%) may be made for work completed, but not accepted.

Erosion control matting will be paid for at the contract unit price per square meter for "Erosion Control Matting" complete in place and accepted, which price shall include the hay mulch, netting, staples, maintenance, equipment, tools, labor, and work incidental thereto.

Pay Item	Pay Unit
Turf Establishment	m <sup>2</sup>
Erosion Control Matting	m <sup>2</sup>