

DIVISION 2 - SITE WORK

SECTION 02930 - ESTABLISHING VEGETATION

1. GENERAL REQUIREMENTS:

The work includes the seeding and grassing of the site where indicated and any other grassed area which is disturbed by the Contractor's actions.

2. ORDER OF WORK:

Upon completion of any phase of grading, the Contractor shall seed for and begin establishment of a vegetative cover within 30 days for all disturbed areas. If the grading is completed during months when permanent vegetative covers cannot be established, a temporary vegetative cover shall be provided until the conditions are proper for establishment of the permanent cover.

3. ROADWAY SHOULDERS:

Where existing grassed roadway shoulders and lawns are disturbed by installation of pipelines or other operations of the Contractor, they shall be repaired and reseeded. Mulch shall be used where required for stabilization of repaired areas. Where topsoil has previously been hauled in, it shall be restored by removal, stockpiling, and replacing, or by hauling in new topsoil.

4. MATERIALS:

All materials shall be furnished by the Contractor from sources off the property.

A. Temporary Vegetative Cover:

(1) Seeding: Seeding shall consist of one or more of the following:

<u>Late Winter - Spring</u>	<u>Per Acre</u>
Oats	50 lbs.
Winter Rye (Grain)	50 lbs.
Oats and	25 lbs.
Winter Rye (Grain)	25 lbs.
 <u>Summer</u>	 <u>Per Acre</u>
Sudan Grass	35 - 45 lbs.
Brown Top Millet	30 - 40 lbs.
Weeping Lovegrass	4 - 6 lbs.

<u>Late Summer/Early Winter</u>	<u>Per Acre</u>
Winter Rye (Grain)	50 lbs.
Oats	50 lbs.
Barley	30 - 40 lbs.
Wheat	30 - 40 lbs.

All seed used shall have been tested not more than six (6) months prior to seeding. The specifications provided with each container shall state the percent purity, germination and number of noxious weed seed per pound.

- (2) Fertilizer: Fertilizer shall be 8-8-8 grade, uniform in composition, free flowing and suitable for application with approved equipment, delivered to the site in bags or other convenient containers each fully labeled, conforming to the applicable State fertilizer laws, and bearing the name and warranty of the producer. If no soils test is taken, apply fertilizer at a rate of 20 lbs./1,000 sf.
- (3) Lime: Lime shall be ground limestone containing not less than 85% of total carbonates and shall be grounded to such fineness that at least 50% will pass through a 100 mesh sieve and at least 90% will pass through a 20 mesh sieve. If no soils test is taken, apply lime at a rate of 100 lbs./1,000 sf.
- (4) Mulch: Mulch shall be dry, unchopped, unweathered small grain straw or hay free of seeds of competing plants. Apply 1 to 2 tons/acre on all seeded areas. All slopes with straw mulch exceeding 3:1 slopes shall have an asphalt tack applied at the rate of 225 gallons/acre. In areas of high pedestrian traffic, a rapid setting tack shall be applied. Mulches other than straw, such as bark, burlap, jute matting, wood fiber or others shall be installed as indicated on the drawings. The Contractor may use alternate mulches upon approval of the Engineer.
- (5) Maintenance: The Contractor shall maintain the temporary vegetative cover by mowing, irrigation, repair of planting failures, or other necessary methods for the duration of the temporary cover.

B. Permanent Vegetative Cover:

- (1) Seeding: Seeding shall consist of one or more of the following:

<u>September - April 15</u>	<u>Per Acre</u>
Winter Rye (Grain) and Bermuda Grass (unhulled)	40 lbs. 40 lbs.
Wheat and Bermuda Grass (unhulled)	75 lbs. 35 lbs.

<u>April 15 - June</u>	<u>Per 1,000 Sq. Ft.</u>	<u>Per Acre</u>
Bermuda Grass (hulled)	0.5 - 0.75 lb.	25 lbs.
Weeping Love Grass	0.2 lb.	5 lbs.
<u>July - August</u>	<u>Per 1,000 Sq. Ft.</u>	<u>Per Acre</u>
Sudan and	1 lb.	40 lbs.
Bermuda (hulled)	0.5 - 0.75 lb.	25 lbs.

All seed used shall have been tested not more than six (6) months prior to seeding. The specifications provided with each container shall state the percent purity, germination and number of noxious weed seed per pound.

- (2) Fertilizer: Fertilizer shall be 8-8-8 grade, uniform in composition, free flowing and suitable for application with approved equipment, delivered to the site in bags or other convenient containers each fully labeled, conforming to the applicable State fertilizer laws, and bearing the name and warranty of the producer. If no soils test is taken, apply fertilizer at a rate of 20 lbs./1,000 sf.
- (3) Lime: Lime shall be ground limestone containing not less than 85% of total carbonates and shall be grounded to such fineness that at least 50% will pass through a 100 mesh sieve and at least 90% will pass through a 20 mesh sieve. If no soils test is taken, apply lime at a rate of 100 lbs./1,000 sf.
- (4) Mulch: Mulch shall be dry, unchopped, unweathered small grain straw or hay free of seeds of competing plants. Apply 1 to 2 tons/acre on all seeded areas. All slopes with straw mulch exceeding 3:1 slopes shall have an asphalt tack applied at the rate of 225 gallons/acre. In areas of high pedestrian traffic, a rapid setting tack shall be applied. Mulches other than straw, such as bark, burlap, jute matting, wood fiber or others shall be installed as indicated on the drawings. The Contractor may use alternate mulches upon approval of the Engineer.
- (5) Maintenance: The Contractor shall maintain the permanent vegetative cover by mowing, irrigation, repair of planting failures, or other methods for the duration of the project and until the project is accepted by the Owner.

5. INSPECTION AND TESTS:

The Engineer and Owner will be furnished with duplicate copies of invoices for all seed, fertilizer and lime used on the project. The Contractor shall provide tests and/or test results at his expense if required by the Engineer.

6. PREPARATION OF PLANTING BED:

- A. Equipment necessary for the proper preparation of the ground surface and for handling all required materials shall be on hand, in good condition, and shall be approved by the Engineer before the work is started.
- B. Clearing: Prior to grading and tillage operations, the ground surface shall be cleared of all heavy vegetation, stumps, stones, roots, cable wire, grade stakes, and any other material which might hinder proper grading, tillage, or subsequent maintenance operations.
- C. Grading: Grades on the areas to be seeded shall be maintained in a true and even condition, preventing the formation of depressions where water will stand. The finished grades on the road shoulders shall conform to the slopes as required by the North Carolina Department of Transportation.
- D. Tillage: After the areas required to be seeded have been brought to the grades shown on the drawings, the areas shall be thoroughly tilled to a depth of at least 6 inches by plowing, disking, harrowing, or other approved operations until the condition of the soil is acceptable to the Owner. The work shall be performed only during periods when beneficial results are likely to be obtained.
- E. Application of Fertilizer: Fertilizer shall be distributed uniformly at the specified rate on areas indicated to be seeded and shall be incorporated into the soil to a depth of at least 3 inches by disking, harrowing, or other acceptable methods. The incorporation of fertilizer may be a part of the tillage operation specified above.
- F. Application of Lime: Immediately following and simultaneously with the incorporation of the fertilizer, lime shall be distributed uniformly at the specified rate and shall be incorporated into the soil to a depth of at least 2 inches by disking, harrowing, or other acceptable methods. The incorporation of the lime with the fertilizer may form a part of the tillage operation specified above.
- G. Application of Superphosphate: Immediately following and simultaneously with the incorporation of the lime, superphosphate shall be distributed uniformly at a rate of 12 pounds per 1,000 square feet (unless soil tests indicate otherwise) and shall be incorporated into the soil to a depth of at least 2 to 3 inches by disking, harrowing, or other acceptable methods. The incorporation of the superphosphate with the lime may form a part of the tillage operation specified above.
- H. Leveling: Any undulation or irregularities in the surface resulting from tillage, fertilizing, liming or other operations shall be leveled out before seeding operations are begun.

7. SEEDING:

Seeding shall be in accordance with the seeding requirements specified herein and shown on the plans. No seeding shall be done during windy weather or when the ground is wet or otherwise non-tillable. The grass seed shall then be covered, using a flexible toothed weeder or other suitable equipment, by stirring the ground not deeper than 1/4 inch.

8. COMPACTION:

Immediately after the seed has been planted, the planted areas shall be leveled and rolled with a culti-packer, roller, or other approved equipment weighing 60 to 90 pounds per linear foot of roller.

9. WATERING:

Immediately following seeding, when necessary to maintain growth of grass and in any case when planting is permitted in dry weather, planted areas shall be watered. Each watering shall be in sufficient quantities to obviate rapid drying out, and at a rate of which will not cause erosion.

10. PROTECTION:

The seeded areas shall be protected against traffic or other use by erecting barricades immediately after seeding is completed and by placing warning signs on the various areas. The seeded areas shall be protected from erosion by placing mulches and other necessary methods.

11. ACCEPTANCE:

Seeded areas will be accepted when a healthy growth of vegetation is achieved and maintained to a height of 4 inches.

END OF SECTION 02930