

**SECTION 329223  
GRASSING**

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**SECTION 329223  
GRASSING**

PART 1 - GENERAL

1.1 RELATED SECTIONS

1. Section 312316.13 - Trenching
2. Section 312500 – Erosion and Sedimentation Control
3. See also approved Erosion and Sedimentation Control on the approved and permitted plan. Plans govern over requirements presented in the specification.

1.2 DEFINITIONS

- A. Weeds: Vegetative species other than specified species to be established in given area.

1.3 MEASUREMENT AND PAYMENT

- A. Section 012000 - Price and Payment Procedures

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, and date of packaging, and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer. Damaged bags are not acceptable.
- C. Deliver sod on pallets.
- D. All material shall be deemed acceptable by the Engineer prior to use.

1.5 PLANTING DATES

- A. This specification provides for the establishment of a permanent grass cover between the dates of March 1 and September 30. If finished earth grades are not completed in time to permit planting and establishment of the permanent grass during the favorable season between the dates specified above, unless otherwise accepted, the Contractor will be required to plan a temporary cover to protect the newly graded areas from erosion and to keep windblown dust to a minimum. The temporary cover shall be planted between October 1 and February 28 unless otherwise permitted.

1.6 REFERENCE

- A. Grassing shall conform to the “Manual for Erosion and Sediment Control in Georgia,” latest edition.

1.7 COORDINATION

- A. Section 013000 - Administrative Requirements: Requirements for coordination.
- B. Coordinate Work of this Section with existing underground sprinkler system piping and watering heads when present. Contractor is responsible for repairing any sprinkler systems to their original condition in the case that they must encroached upon in order to complete the work.

PART 2 - PRODUCTS

2.1 SEED

- A. All grass seed shall be certified by the Georgia Department of Agriculture.
- B. All grass seed shall be in undamaged containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- C. Selected grasses shall be appropriate for the season and site as specified by the erosion control manual.
- D. Selected seed shall be equal type and grade to the previously existing grass.
- E. The Engineer reserves the right to test, reject, or accept all seed before seeding.

2.2 FERTILIZER

- A. 10-10-10, commercial fertilizer of approved type, conforming to state fertilizer laws.

2.3 SEEDING SCHEDULE

- A. Schedule

SEED	RATE	PLANTING DATES
Centipede	25 lbs/acre	March 1 – September 30
Carpet	30 lbs/acre	March 1 – September 30
Rye	75 lbs/acre	October 1 – February 28

- B. In areas where existing grass is to be matched, contractor shall sow seed at a rate and dates recommended by seed distributor.

#### 2.4 LIME

- A. Agricultural grade, ground limestone.

#### 2.5 SOD

- A. Sod shall be densely rooted, good quality grass, free from noxious weeds. The sod shall be obtained from areas where the soil is reasonably fertile. The sod shall be raked free of all debris and the grass mowed to two inches before cutting. The sod shall contain practically all of the dense root system and with the root system not be less than one (1) inch thick. Sod shall be cut in uniform strips not less than twelve (12) inches in width and not less than twenty-four (24) inches in length.
- B. Sod shall be provided where shown on the plans or as directed by the Owner's representative or the Engineer.

#### 2.6 ACCESSORIES

- A. Straw Mulch: Oat or wheat straw reasonably free from weeds and/or foreign matter detrimental to plant life and in dry condition.
- B. Excelsior Mulch: Excelsior mulch shall consist of wood fibers cut from sound, green timber. The average length of fibers shall be 4 to 6 inches. The cut shall be made in such a manner as to provide maximum strength of fiber, but at a slight angle to the natural grain of the wood so as to cause splintering of the fibers when weathering in order to provide adherence to each other and to the soil.
- C. Wood cellulose fiber shall be made from wood chip particles manufactured particularly from discharging uniformly on the ground surface when dispersed by a hydraulic water sprayer. It shall remain in uniform suspension in water under agitation and blend with grass seed and fertilizer to form homogenous slurry. The mulch fibers shall intertwine physically to form a strong moisture-holding mat on the ground surface and allow rainfall to percolate into the underlying soil. The mulch shall be heat processed so as to contain no germination or growth-inhibiting factors. It shall be dyed (non-toxic) an appropriate color to facilitate metering of material.

#### 2.7 PRODUCT REVIEW

- A. The Contractor shall provide the Engineer with a complete description of all products before ordering. The Engineer will review all products before they are ordered.

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. All areas that are disturbed by the work, including trenched and ungraded clear areas, except areas to be paved, shall be provided with a full stand of permanent grass.
- B. Concentrated flow areas, all slopes steeper than 2.5:1 and with a height of ten feet or greater, and cuts and fills within stream buffers, shall be stabilized with sod and/or the appropriate erosion control matting and blanket. Appropriate matting or blankets shall be specified by the Engineer on the Drawings.

#### 3.2 PREPARATION

- A. The areas to be seeded shall be made smooth and uniform and shall conform to the finished grade indicated on the plans.
- B. Remove foreign materials, plants, roots, stones and debris from surfaces to be seeded.
- C. Grassing areas, if not loose, shall be loosened to a minimum depth of 3 inches before fertilizer, seed or sod is applied.

#### 3.3 STAND OF GRASS

- A. Before acceptance of the seeding performed for the establishment of permanent vegetation, the Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and the winter weather and be capable of re-establishment in the spring.
- B. Before acceptance of the seeding performed for the establishment of temporary vegetation, the Contractor will be required to produce a stand of grass sufficient to control erosion for a given area and length of time before the next phase of construction or the establishment of permanent vegetation is to commence.

#### 3.4 SEEDING DATES

- A. Seeding shall be performed during the periods and at the rates specified in the seeding schedules. Seeding work may, at the discretion of the Contractor, be performed throughout the year using the schedule prescribed for the given period. Seeding work shall not be conducted when the ground is frozen or excessively wet. The Contractor will be required to produce a satisfactory stand of grass regardless of the period of the year the work is performed.

#### 3.5 APPLYING LIME AND FERTILIZER

- A. Following advance preparation and placing of selected material for shoulders and slopes, lime, if called for based on soil tests and fertilizer, shall be spread uniformly over the designated

areas, and shall be thoroughly mixed with the soil to a depth of approximately 2 inches. Fertilizer shall be applied at a rate of 1,000 lbs. per acre for initial application unless otherwise directed by the Engineer. Lime shall be applied at the rate determined by the soil test. Unless otherwise provided, lime will not be applied for temporary seeding. In all cases where practicable, acceptable mechanical spreaders shall be used for spreading fertilizer. On steep slopes subject to slides and inaccessible to power equipment, the slopes shall be adequately scarified. Fertilizer may be applied on steep slopes by hydraulic thuds as a mixture or fertilizer and seed. When fertilizer is applied with combination seed and fertilizer drill, no further incorporation will be necessary. The fertilizer and seed shall be applied together when Wood Cellulose Fiber Mulch is used. Any stones larger than 2½ inches in any dimension, larger clod, roots, or other debris brought to the surface shall be removed.

### 3.6 SEEDING

- A. Seed shall be sown within 24 hours following the application of fertilizer and lime and preparation of the seedbed as specified in Section 3.4. Seed shall be uniformly sown at the rate specified by the use of acceptable mechanical seed drills. Rotary hand seeders, power sprayers or other satisfactory equipment may be used on steep slopes or on other areas that are inaccessible to seed drills.
- B. The seed shall be covered and lightly compacted by means of cultipacker or light roller if the drill does not perform this operation. On slopes inaccessible to compaction equipment, the seed shall be covered by dragging spiked chains, by light harrowing or by other satisfactory means.
- C. Apply water with fine spray immediately after each area has been sown.
- D. Do not sow seed when ground is too dry, during windy periods or immediately following rain.
- E. If permitted by special provisions, wood cellulose fiber mulch or excelsior fiber mulch may be used.

### 3.7 SEED PROTECTION (STRAW MULCH)

- A. All areas seeded with permanent grasses shall be uniformly mulched in a continuous blanket immediately following seeding and compaction operations, using at least 2 tons of straw per acre.

### 3.8 SEED PROTECTION (EXCELSIOR MULCH)

- A. Seed shall be sown as specified in section 3.6. Within 24 hours after the covering of seed, excelsior mulch shall be uniformly applied at a rate of 2 tons per acre. The mulch may be applied hydraulically or by other acceptable methods. Should the mulch be placed in a dry condition, it shall be thoroughly wetted immediately after placing. The Engineer may require light trolling of the mulch to form a tight mat.

3.9 SEED PROTECTION (WOOD CELLULOSE FIBER MULCH)

- A. After the lime has been applied and ground prepared as specified in Section 3.4, wood cellulose fiber mulch shall be applied at the rate of 1,500 lbs. per acre in a mixture of seed and fertilizer. Hydraulic equipment shall be used for the application of fertilizer, seed, and slurry of the prepared wood pulp. This equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of the specified amount of fiber, fertilized, seed and water. The slurry distribution lines shall be equipped with a set of hydraulic spray nozzles, which will provide even distribution of the slurry on the various areas to be seeded. The slurry tank shall have a minimum capacity of 1,000 gallons.
- B. The seed, fertilizer, wood pulp mulch, and water shall be combined into the slurry tank for distribution of all ingredients in one operation by the hydraulic seeding method specified herein. The materials shall be combined in a manner recommended by the manufacturer. The slurry mixture shall be so regulated that the amounts and rates of application shall result in a uniform application of all materials at rates not less than the amount specified. Using the color of the wood pulp as a guide, the equipment operator shall spray the prepared seedbed with a uniform visible coat. The slurry shall be applied in a sweeping motion, in an arched stream so as to fall like rain, allowing wood fibers to build upon each other until an even coat is achieved.

3.10 SODDING

- A. Sod shall be placed between March 1 and December 1 to all existing sodded yards that have been disturbed.
- B. Sod shall be placed within 24 hours of cutting.
- C. Sod shall be moist when laid and placed on moist ground. The sod shall be carefully placed by hand, beginning at the toe of slopes and working upwards. The length of the strips shall be at right angles to the flow of surface water. All joints shall be tightly butted and end joints shall be staggered at least 12 inches. The sod shall be immediately pressed firmly into the ground by tamping or rolling. Fill all joints between strips with fine screened soil. Sod on slopes shall be pegged with sod pegs to prevent movement. The sod shall be watered, fertilized, mowed, weeded, repaired, or otherwise maintained, to insure the establishment of a uniform healthy stand of grass until acceptance.

3.11 MAINTENANCE

- A. Maintain seeded surfaces until final acceptance.
- B. Maintenance shall consist of providing protection against traffic, watering to ensure uniform seed germination and to keep surface of soil damp, and repairing any areas damaged as a result of construction operations or erosion.
- C. If a poor stand of grass is present, re-seed as required to achieve final stabilization. Replace sod as needed.
- D. After grass has been established, mow as often as needed to maintain height between 4 and 6 inches until final acceptance.

3.12 ACCEPTANCE

- A. Before acceptance of the seeding performed for the establishment of permanent vegetation, the Contractor will be required to produce a satisfactory stand of perennial grass that covers at least 98% of the total areas with no bare spots exceeding one (1) square foot to that it is fully stabilized against erosion and whose root system shall be developed sufficiently to survive dry periods and the winter weather and be capable of re-establishment in the spring.

END OF SECTION 329223