

## CONSTRUCTION SPECIFICATION

### MN-6. SEEDING, SPRIGGING AND MULCHING

#### 1. SCOPE

The work shall consist of preparing the area for treatment, furnishing and placing seed, sprigs, mulch, fertilizer, inoculant, lime and other soil amendments, and anchoring mulch in designated areas as specified.

#### 2. MATERIALS

Seed - All seed shall conform to the current rules and regulations of the state where it is being used and shall be from the latest crop available. It shall meet or exceed the standard for purity and germination listed in the seeding plan.

Seed shall be labeled in accordance with the state laws and the U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of invitations for bids. Bag tag figures will be evidence of purity and germination. No seed will be accepted with a test date of more than nine (9) months prior to the delivery date to the site.

Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The percent of noxious weed seed allowable shall be as defined in the current state laws relating to agricultural seeds. Each type of seed shall be delivered in separate sealed containers and fully tagged unless exception is granted in writing by the Engineer.

Fertilizer - Unless otherwise specified, the fertilizer shall be a commercial grade fertilizer. The fertilizer shall meet the standard for grade and quality specified by state law. Where fertilizer is furnished from bulk storage, the Contractor shall furnish a supplier's certification of analysis and weight. When required by the contract, a representative sample of the fertilizer shall be furnished to the Engineer for chemical analysis.

Inoculants - The inoculant for treating legume seeds shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species and shall not be used later than the date indicated on the container or as otherwise specified. A mixing medium, as recommended by the manufacturer, shall be used to bond the inoculant to the seed. Two times the amount of the inoculant recommended by the manufacturer shall be used, except four times the amount shall be used when seed is applied by use of a hydraulic seeder. Seed shall be sown within twenty-four (24) hours of treatment and shall not remain in the hydraulic seeder longer than four (4) hours.

Lime and other Soil Amendments - Lime shall consist of Standard Ground Agriculture Limestone, or approved equivalent. Standard Ground Agriculture Limestone is defined as ground limestone meeting current requirements of the State Department of Agriculture

Mulch Tackifiers - Asphalt emulsion tackifiers shall conform to the requirements of ASTM D 977, Specification for Emulsified Asphalt. The emulsified asphalt may be rapid setting, medium setting, or slow setting. Non-asphaltic tackifiers required because of environmental considerations shall be as specified in the seeding plan.

Straw Mulch Materials - Straw mulch shall consist of wheat, barley, oat or rye straw, hay, grass cut from native grasses or other plants as specified in the seeding plan. The mulch material shall be air dry, reasonably light in color, and shall not be musty, moldy, caked, or otherwise of low quality. The use of mulch that contains noxious weeds will not be permitted. The Contractor shall provide a method satisfactory to the Engineer for determining weight of mulch furnished.

Other Mulch Materials - Mulching materials, such as wood cellulose fiber mulch, mulch tackifiers, synthetic fiber mulch, netting, and mesh are other mulching materials that may be required for specialized locations and conditions. These materials, when specified, must be accompanied by the manufacturer's recommendations for methods of application.

3. SEEDING MIXTURES, SOD, SPRIGS AND DATES OF PLANTING

The application rate per acre for seed mixtures, sprigs, or sod and date of seeding or planting shall be as shown on the plans or as specified in the seeding plan.

4. SEEDBED PREPARATION AND TREATMENT

Areas to be treated shall be dressed to a smooth, firm surface. On sites where equipment can operate on slopes safely, the seedbed shall be adequately loosened (4 to 6 inches deep) and smoothed. Depending on soil and moisture conditions, disking or cultipacking or both may be necessary to properly prepare a seedbed. On sites where equipment cannot operate safely, the seedbed shall be prepared by hand methods by scarifying to provide a roughened soil surface so that broadcast seed will remain in place.

If seeding is to be accomplished immediately following construction operations, seedbed preparation may not be required except on compacted, polished, or on freshly cut soil surfaces.

Rocks larger than six (6) inches in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance operations shall be removed or disposed of in locations and as approved by the Inspector.

Seedbed preparation shall be discontinued when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by the Engineer.

5. SEEDING, SPRIGGING, FERTILIZING, MULCHING, AND STABILIZING

All seeding or sprigging operations shall be performed in such a manner that the seed and/or sprigs are applied in the specified quantities uniformly on the designated areas. The method and rate of seed application shall be as specified in the seeding plan. Unless otherwise specified, seeding or sprigging shall be accomplished within two (2) days after final grading is completed and approved.

Fertilizer, lime, and other soil amendments shall be applied as specified in the seeding plan. When specified, the fertilizer and soil amendments shall be thoroughly incorporated into the soil immediately following surface application.

The rate, amount, and kind of mulching or mesh shall be as specified in the seeding plan. Mulches shall be applied uniformly to the designated areas, and shall be applied

to areas seeded not later than two (2) working days after seeding has been performed. Straw mulch material shall be stabilized within twenty-four (24) hours of application by the use of a mulch crimper or equivalent anchoring tool or by a suitable tackifier. When the mulch crimper or equivalent anchoring tool is used, it shall have straight blades and be the type manufactured expressly for, and capable of firmly punching the mulch into the soil. On sites where the equipment can be safely operated, it shall be operated on the contour. On sites where equipment cannot safely operate to perform the work required, hand methods shall be used.

The tackifier shall be applied uniformly over the mulch material at the specified rate, or by injecting it into the mulch material as it is being applied. The mesh or netting stabilizing materials shall be applied smoothly but loosely on the designated areas, and the edges shall be buried or securely anchored by means of spikes or staples as specified in On the drawings.

The Contractor shall maintain the mesh or netting areas until all work under the contract has been completed and accepted. Maintenance shall consist of the repair of areas damaged by water erosion, wind, fire, or other causes. Such areas shall be repaired to re-establish the intended condition and to the design lines and grades required by the contract. The areas shall be re-fertilized, re-seeded, and re-mulched prior to the new application of the mesh or netting.

