

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS**  
**SECTION 02920 SEEDING**

**PART 1 - SCOPE**

This work shall consist of furnishing and placing seed, commercial fertilizer, agricultural limestone, erosion control fabric, and mulch material when specified, and of caring for such areas until acceptance, all in accordance with these Specifications, on all newly graded earthen areas that are not to be paved, stabilized, or sodded, unless otherwise indicated on the plans or directed by the Owner.

**PART 2 - MATERIALS AND EQUIPMENT**

2.01 MATERIALS.

A. Grass Seed.

1. The seed shall meet the requirements of the Tennessee Department of Agriculture and no "Below Standard" seed will be accepted. Grass seed furnished under these Specifications shall be packed in new bags or bags that are sound and not mended.
2. The Contractor shall furnish the Owner a certified laboratory report from an accredited commercial seed laboratory or from a State seed laboratory showing the analysis of the seed to be furnished and approving the seed for purity and germination. The report from an accredited commercial seed laboratory shall be signed by a Senior Member of the Society of Commercial Seed Technologists. At the discretion of the Owner, samples of the seed may be taken for a check against the certified laboratory report. Sampling and testing will be in accordance with the requirements of the Tennessee Department of Agriculture.
3. When a seed group is used, the percentages forming the group shall be as set out below, unless otherwise specified.

<u>Name</u>	<u>Quantity, Percent by Weight</u>
Group A	
Lespedeza (Common or Korean)	20
Sericea Lespedeza	15
Ky. 31 Fescue	40
English Rye	15
White Dutch Clover	5
Weeping Love Grass	5
Group B	
Ky. 31 Fescue	55
Redtop	15
English Rye	20
White Dutch Clover	5
Weeping Love Grass	5
Group C	
Sericea Lespedeza	50
Ky. 31 Fescue	30
English Rye	15
White Dutch Clover	5

4. In mixing or forming "Groups" of seed, they shall be uniformly mixed. "Group" seed shall not be mixed until after each type seed that is used to form the "Group" has been tested and inspected separately and approved for purity and germination. Seed mixed before tests and inspection are made will not be accepted.

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B. Fertilizer.

Manufactured fertilizer shall be a standard commercial fertilizer containing the specified percentages by weight of nitrogen (N), phosphoric acid (P<sub>2</sub>O<sub>5</sub>) and potash (K<sub>2</sub>O). The fertilizer shall be furnished in standard containers with the name, weight, and guaranteed analysis of the contents clearly marked. The containers shall insure proper protection in handling and transporting the fertilizer. All commercial fertilizer shall comply with local, state, and federal fertilizer laws.

C. Agricultural Limestone.

Agricultural limestone shall contain not less than eighty-five (85%) of calcium carbonate and magnesium carbonate combined and shall be crushed so that at least 85 percent will pass the No. 10 mesh sieve and 100 percent will pass the 3/8 inch sieve.

D. Mulch Material.

All mulch material shall be air dried and virtually free of noxious weeds and weed seeds or other materials detrimental to plant growth on the work site or on adjacent agricultural lands. Hay shall be stalks of approved grasses, sedges, or legumes seasoned before baling or loading. Straw shall be stalks of rye, oats, wheat, or other approved grain crops. Both hay and straw shall be suitable for spreading with standard mulch blower equipment. Biodegradable fabric as specified in this section may be used as an alternate to mulch material at the Contractor's option.

E. Inoculants for Legumes.

Inoculants for treating legume seed shall be standard cultures of nitrogen fixing bacteria that are adapted to the particular kind of seed to be treated. The inoculant shall be supplied in convenient containers of a size sufficient to treat the amount of seed to be planted. The label on the container shall indicate the specified legume seed to be inoculated and the date period to be used.

F. Mulch Binder.

Cut back asphalt, Grade RC-70 or RC-250 conforming to AASHTO Specifications shall be used.

G. Water.

Water shall be free from any harmful or objectionable qualities or organisms.

H. Biodegradable Fabric.

1. Biodegradable fabric shall consist of a knitted or bonded construction of yarn with uniform openings interwoven with strips of biodegradable paper. The fabric shall be degradable by exposure to ultraviolet light. The fabric shall be "Hold/Gro" as manufactured by Gulf States Paper Corporation of Tuscaloosa, Alabama, or equal. The fabric shall be furnished in rolls and shall conform to the following requirements:

- a. Roll Widths: 5 feet minimum and 10 feet maximum.
- b. Roll Length: Approximately 360 feet.
- c. Weight: Approximately 0.2 pounds per square yard of fabric.

2. Fabric shall be secured in a place with wood pegs or other biodegradable materials.

3. The manufacturer shall provide moisture proof bags comparable to 4 to 6 mil opaque polyethylene bags for protection of the fabric prior to installation.

2.02 EQUIPMENT.

All equipment necessary for the satisfactory performance of this construction shall be on the project and inspected before work will be permitted to begin.

**PART 3 - CONSTRUCTION REQUIREMENTS**

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**3.01 GENERAL**

The Contractor shall notify the Owner at least 48 hours in advance of the time he intends to begin sowing seed and shall not proceed with such work until permission to do so has been granted by the Owner. Before starting seeding operations on any area, final dressing and the placing of topsoil shall have been completed in accordance with the project requirements. All seeding and related operations shall be continuous operations.

**3.02 PREPARING THE SEEDBED.**

Each area to be seeded shall be scarified, disked, harrowed, raked, or otherwise worked until it has been loosened and pulverized to a depth of not less than one inch. This operation shall be performed only when the soil is in a tillable and workable condition. Fertilizer, at the rate of not less than 23 pounds of Grade 6-12-12 or equivalent, per 1,000 square feet, and agricultural limestone, at the rate of not less than 100 pounds per 1,000 square feet, shall be distributed evenly over the seedbed, unless other are specified on the plans or in the Contract Documents. The limestone and fertilizer shall be lightly harrowed, raked, or otherwise incorporated into the soil as specified above when mixed with seed in water and applied with power sprayer equipment.

**3.03 TIME OF SEEDING.**

Group "A" seed shall be used for seeding from February 1 to August 1, and Group "B" seed shall be used from August 1 to December 1, except that either Group "A" or "B" may be used during the month of August. Group "C" seed shall be used from February 1 to December 1 and only when specified on the Plans or in the Contract Documents. Seeding shall be performed only when the soil is in a tillable and workable condition, and no seeding shall be performed between December 1 and February 1, unless otherwise permitted.

**3.04 SEEDING.**

Seed of the specified group shall be sown as soon as preparation of the seedbed has been completed and thoroughly watered after seeding. Care shall be exercised to not wash seeding by over watering. Seed shall be sown uniformly by means of a rotary seeder, wheelbarrow seeders, hydraulic equipment, or other satisfactory means, and unless otherwise specified on the Plans or in the Contract Documents, at the rate of 1 ½ pounds per 1,000 square feet. Group "C" seed and seeds of legumes when sown alone shall be inoculated before sowing in accordance with the recommendations of the manufacturer of the inoculant and as directed by the Owner. No seeding shall be done during windy weather, or when the ground surface is frozen, wet, or otherwise nontillable.

**3.05 BIODEGRADABLE FABRIC.**

A. When biodegradable fabric is specified, the fabric shall be loosely draped over the seeded area. The seed bed to be covered shall be prepared, fertilized, limed, seeded, and watered prior to installation of the fabric. If the slope is greater than 3 to 1, fabric shall be applied vertically with paper strips oriented parallel to the slope.

B. The Contractor shall dig a 4 inch deep check ditch 1 foot back from the slope crown, then fold, place and peg fabric every 9 inches in the check ditch, and cover with soil. An identical check ditch shall be provided 1 foot away from the bottom of the slope. When 2 or more lengths of fabric are required to be installed side by side to cover an area, they shall overlap 4 inches minimum. Fabric installed end to end shall overlap 4 inches minimum with the upgrade section on top of the lower grade section. End to end overlaps of adjacent rows of fabric shall be staggered a minimum of 5 feet. Each length of fabric shall be pegged in 3 rows, each edge and the center, with pegs placed on 3 foot centers maximum. Overlapped ends shall be pegged on 9 inch centers across the fabric overlap. Pegs shall be driven flush with the ground. The Contractor shall strictly adhere to the installation directions provided by the manufacturer of the fabric.

C. The Contractor shall maintain and protect the biodegradable fabric until Final Acceptance or until the Owner has determined that the fabric has served its useful life, whichever occurs first. Maintenance shall consist of watering as required, repairs made necessary by erosion, wind, fire, or any other cause until Final Acceptance. Following the restoration of damaged areas under plant establishment requirements for applicable underlying items, the fabric shall be repaired or replaced to

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meet the original requirements and maintained until Final Acceptance of the Project.

**3.06 MULCHING.**

When seeding with mulch is specified, the mulch material shall be spread evenly over the seeded areas at an approximate rate of 75 pounds per 1,000 square feet immediately following the seeding operations. This rate may be varied by the Owner, depending on the texture and condition of the mulch material and the characteristics of the area seeded. All portions of the seeded areas shall be covered with a uniform layer of mulch, so that approximately 25 percent of the ground is visible. The mulch shall be held in place by the use of an approved mulch binder. Cutback asphalt or emulsified asphalt shall be applied at the approximate rate of 4 gallons per 1,000 square feet as required to hold the mulch in place. Mulch in medians and other areas affected by traffic shall be held in place by applying asphalt binder at the approximate rate of 11 gallons per unit. The Contractor shall cover exposed structures, guardrails, signs, and appurtenances, if the mulch binder is applied in such a way that it would come in contact with or discolor the structures.

**3.07 MAINTENANCE AND REPAIR.**

All seeded areas shall be cared for and maintained properly to the Owner's satisfaction until Final Acceptance of the Work and for the duration of the warranty period. Such care shall include, but not be limited to watering as necessary, fertilizing, and mowing the seeded areas when required by the Owner. When mowing is required, mower blades shall be set at sufficient height to protect the vitality of the growth. Areas which have been previously seeded and mulched in accordance with this Specification Section but which have been eroded, damaged or failed to successfully establish a stand of grasses or legumes shall be repaired as directed by the Owner. All material and labor required to maintain and repair seeded areas shall be furnished by the Contractor at no cost to the City. If the Owner directs the Contractor to place additional fertilizer on the area to be reseeded, and additional 4 pounds of agricultural limestone will be required for each additional pound of fertilizer.

**PART 4 – MEASUREMENT**

The furnishing of seeding as specified herein may be incidental to the work of the Contract, or may be measured and payment made under the Pay Items described herein, as defined by the Pay Items in the Proposal Sheet(s) and/or as included in the Plans and Contract Documents. If payment is made separately, measurement for the work of this Specification will be as described below.

**4.01 SEEDING (WITH MULCH).**

The area of seeding (with mulch) to be measured for payment will be the number of seeding units, with mulch, in accordance with these Specifications. Each unit will consist of 1,000 square feet measured along the surface.

**4.02 SEEDING (WITHOUT MULCH).**

The area of seeding (without mulch) to be measured for payment will be the number of seeding units in accordance with these Specifications. Each unit will consist of 1,000 square feet measured along the surface.

**4.03 BIODEGRADABLE FABRIC.**

Biodegradable fabric to be measured for payment will be the number of 1,000 square foot units for which biodegradable fabric has been applied over seeded areas. Measurement will be along the surface.

**4.04 GENERAL.**

All work and materials for seed bed preparation, application of fertilizer and limestone, application of mulch binder, watering and maintenance and repair of work, and all other similar items included in this section of the Specifications but not covered by a Pay Item herein will be considered as a subsidiary obligation of the Contractor under other items of the Contract.

**PART 5 – PAYMENT**

**5.01 SEEDING (WITH MULCH).**

Seeding (with mulch) will be paid for at the contract unit price per unit (1,000 square feet), for the accepted quantities, which price will be full payment for preparing the seedbed, and for furnishing and placing all materials including fertilizer, water, agricultural limestone, seed, mulch materials, mulch binder and inoculant,

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complete in place; and for maintenance and repair of the seeded and grassed area.

**5.02 SEEDING (WITHOUT MULCH).**

Seeding (without mulch) will be paid for at the contract unit price per unit (1,000 square feet) for the accepted quantities, which price will be full payment for preparing the seedbed, and for furnishing and placing all materials including fertilizer, water, agricultural limestone, seed, and inoculant, complete in place; and for maintenance and repair of the seeded and grassed areas.

**5.03 BIODEGRADABLE FABRIC.**

Biodegradable fabric will be paid for at the contract unit price per unit (1,000 square feet) for furnishing, installing, maintaining, and protecting the fabric, which price will be full payment for accomplishing the above.

**5.04 PAYMENT WILL BE MADE UNDER:**

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02920-5.01	SEEDING (WITH MULCH)	Unit of 1,000 SF
02920-5.02	SEEDING (WITHOUT MULCH)	Unit of 1,000 SF
02920-5.03	BIODEGRADABLE FABRIC	Unit of 1,000 SF

**END OF SECTION 02920**