

SECTION 32 92 19
SEEDING

PART 1 - GENERAL

1.01 SUMMARY

- A. The scope of work includes all labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for, and incidental to performing all operations in connection with furnishing, delivery, and installation of seed (also known as "landscaping") complete as shown on the drawings and as specified herein.
- B. The scope of work in this section includes, but is not limited to, the following:
 - 1. Examination.
 - 2. Preparation.
 - 3. Finish grading.
 - 4. Seeding.
 - 5. Hydroseeding.
 - 6. Maintenance and protection.
 - 7. Final inspection.

1.02 CONTRACT DOCUMENTS

- A. Shall consist of specifications and general conditions and the construction drawings. The intent of these documents is to include all labor, materials, and services necessary for the proper execution of the work. The documents are to be considered as one. Whatever is called for by any parts shall be as binding as if called for in all parts.

1.03 RELATED DOCUMENTS AND REFERENCES

- A. Drawings and general provisions of contract including general and supplementary conditions and Division I specifications apply to work of this section.
- B. Related Specification Sections
 - 1. Section 01 65 00 – Product Delivery Requirements (as applicable)
 - 2. Section 01 66 00 – Product Storage and Handling Requirements (as applicable)
 - 3. Section 01 70 00 – Execution and Closeout Requirements (as applicable)

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- 4. Section 32 90 00 – Planting
- 5. Section 32 91 13 – Soil Preparation
- C. Meet requirements and recommendations of the applicable portions of the latest editions of Standards listed below:
 - 1. U. S. Department of Agriculture (USDA)
 - 2. Federal Seed Act (FSA)

1.04 DEFINITIONS

- A. Weeds: Includes but is not limited to Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.05 MAINTENANCE DATA

- A. Submit under provisions of Section 01 70 00 (as applicable).
- B. Maintenance Data: At a minimum, Contractor shall submit a weekly report detailing maintenance performed and establishment progress until the turf is accepted.

1.06 QUALITY ASSURANCE

- A. Seeds shall be labeled in accordance with the most current U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act.
- B. Certification: Every bag of seed shall be accompanied by a Certificate of Analysis indicating whether the material is of a single variety, blend or mixture, and the quality.

1.07 QUALIFICATIONS

- A. Contractor shall have a current and valid Louisiana Landscape Horticulturalist License as issued by the Louisiana State Horticultural Commission. The Contractor or Subcontractor shall be required to perform the work specified in the drawings and specifications. All Landscape Horticulturalists shall also have appropriate experience related to the work specified herein.
- B. The Contractor shall provide proof of qualifications for verification.

1.08 REGULATORY REQUIREMENTS

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- A. Comply with regulatory agencies for fertilizer and herbicide composition.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Sections 01 65 00 and 01 66 00 as applicable.

1.10 COORDINATION

- A. Coordinate work under this section and other related work.

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PART 2 – PRODUCTS

2.01 MATERIALS

- A. Grass Seed (between March & September): Shall be hybrid Bermuda grass (*Cynodon Dactylon*) hulled minimum eighty-two (82%) percent by weight of pure live seed, maximum one (1%) percent by weight weed seed.
1. Bermuda Grass (*Cynodon dactylon*) hybrids; acceptable varieties include Celebration, Tifsport, or Tifway 419.
 2. PARKWAYS reserves the right to reject on or after delivery any seed which does not, upon review, meet requirements of these specifications.
 3. Certificate of Analysis from each bag of grass seed is to be delivered to the Department of Parks & Parkways at 2829 Gentilly Boulevard, New Orleans, Louisiana, 70122 a minimum of three (3) days prior to installation.
- B. Grass seed (between September & March): Shall be half (50%) Annual Ryegrass, minimum eighty-two (82%) percent by weight of pure live seed, maximum one (1%) percent by weight weed seed. The second half (50%) shall be selected variety of hybrid Bermuda Grass (*Cynodon Dactylon*) Non Hulled Seed. It shall be eighty two (82%) percent by weight of pure live seed, maximum one (1%) percent by weight weed seed.
1. Bermuda Grass (*Cynodon dactylon*) hybrids; acceptable varieties include Celebration, Tifsport, or Tifway 419.
 2. PARKWAYS reserves the right to reject on or after delivery any seed which does not, upon review, meet requirements of these specifications.
 3. Certificate of Analysis from each bag of grass seed is to be delivered to the Department of Parks and Parkways at 2829 Gentilly Boulevard, New Orleans, Louisiana, 70122 a minimum of three (3) days prior to installation.
- C. Fertilizer: Soil tests shall be made to determine fertility and soil pH in order to prescribe the exact requirements for any amendments. Soil tests shall be conducted by a reputable laboratory and results provided to PARKWAYS.
1. All fertilizers (either granular or liquid) shall be uniform in composition, free flowing and suitable for application with approved equipment.
 2. Fertilizers shall be delivered to the site fully labeled, according to applicable fertilizer laws and shall bear the name, trade name or trademark, and warranty of the producer or manufacturer.

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3. Fertilizer applications shall be determined by soil tests. If soil testing is waived where there is insufficient time for complete soil tests, fertilizer materials that supply the following levels of nutrients can be applied: nitrogen 15 percent, phosphoric acid 5 percent, and soluble potash 10 percent.
- D. Herbicide: The Contractor shall supply the necessary amounts of chemicals for weed control of the project site. Herbicide applications must be approved by PARKWAYS.
- E. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.
- F. Turf Spray Dye (blue): Blazon or Regal Blue Turf colorant (or PARKWAYS approved equal) in one or five gallon containers at a rate of one gallon per gallon of mixture.
- G. Soil fill for fine grading:
 1. Refer to Section 32 91 13 for soil preparation as included in project specifications.
 2. Unless otherwise specified, topsoil shall be a loamy sand, sandy loam, clay loam, loam, silt loam, sandy clay loam or other soil approved by PARKWAYS. It shall not have a mixture of subsoil and shall contain no slag, cinders, stones, lumps of soil, sticks, roots, trash or other extraneous materials larger than 1.5 inches (40 mm) in diameter.
 3. If included in topsoil mixture, Mississippi River pump sand must be free of sticks, roots, stones, lumps of clay, debris and other objectionable materials. Spillway dirt will not be accepted.
 4. Topsoil must also be free of weeds and weed seeds.
 5. Unless otherwise specified, all topsoil shall be tested by a reputable laboratory for pH and soluble salts; results must be submitted to PARKWAYS prior to installation.
 6. As needed, pH correction material shall be applied at a rate sufficient to correct the pH to a range of 6.0 to 7.0. Soluble salts shall not be higher than 500 parts per million.
- H. Water Management Gel: Water management gel shall consist of an acrylamide copolymer gel with the ability to retain and release available water to the root zone. The manufacturer's recommended amount the water management gel shall be mixed with the required amount of backfill soil per plant before backfilling.

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PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify that prepared soil base is ready to receive the work of this section.
- B. The Contractor shall repair any site deficiencies, such as ruts, depressions, eroded areas, or similar, prior to seeding operations to the satisfaction of PARKWAYS.

3.02 PREPARATION

- A. Apply glyphosate herbicide to kill weeds or existing turf. Allow 7 to 10 days for vegetation to die. Lightly scrape off dead material.
- B. If extensive grading will be needed at the location, remove topsoil and stockpile for replacement after the rough grade is established.
- C. Redistribute or add topsoil back over the rough grade.

3.03 FINISH GRADING

- A. Immediately prior to seeding the bed shall be prepared through use of a tiller, disk, cultipacker, harrow or other approved methods. The soil shall be thoroughly pulverized to a minimum depth of approximately four inches (4").
 - 1. Till in soil amendments and fertilizer such as phosphorous, potash, lime or sulfur as recommended by the soil sample results and smooth by means of raking or other approved methods. Fertilizers shall be distributed uniformly over entire areas to be seeded.
- B. The finished surface shall be smooth, finely textured, free of all sticks, debris, rubbish, etc. and shall conform to the lines and grades indicated on the drawings and/or as directed by PARKWAYS. All humps, depressions or other irregularities shall be corrected prior to seeding.
- C. Grade changes within the dripline of trees shall not exceed two inches.

3.04 SEEDING

- A. On the same day that the finish grading operations are performed (with no rain between operations) and after approval by PARKWAYS of the seed bed, the hulled grass seed shall be applied at the rate of 1 to 2 pounds each of the specified seed types per 1,000 square feet of seed bed by means of an approved mechanical seed spreader which will provide a depth of one-eighth inch ($\frac{1}{8}$ "). For unhulled grass seed, the seeding rate must be increased proportionally.

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- B. Immediately after seeding, roll seeded areas to press seed into the ground with a hand roller weighing not less than 150 pounds or more than 200 pounds. Care shall be exercised to prevent foot prints or other disturbances to the finished surface.

3.05 HYDROSEEDING

- A. Hydroseeding shall consist of mixing and applying seed, commercial fertilizer, water management gel, and polyacrylamide tackifier with wood fiber and water.
- B. Hydroseeding shall occur on the same day that the finish grading operations are performed (with no rain between operations).
- C. Seed and fertilizer shall be uniformly spread over the area at the rates specified in Table (A). Paper or wood fiber shall be mixed and applied with the seed in accordance with the manufacturer's recommendations and as approved by PARKWAYS. The fiber shall be in addition to straw or mulch when straw or mulch is specified. The application rate for pellet-inoculated seed shall be determined using the seed mass exclusive of inoculant materials. The materials and the quantities thereof to be mixed with water will be specified. The quantity of water shall be as needed for application.

Table (A).

Type Fertilizer	Pounds per Acre	Kilogram Per Hectare
8-8-8	1000	1120
12-12-12	667	748
13-13-13	615	689
16-16-16	500	560

- D. Mixing of materials for application with hydro-seeding equipment shall be performed in a tank with a built-in continuous agitation system of sufficient operating capacity to produce a homogeneous mixture and a discharge system which will apply the mixture at a continuous and uniform rate. The tank shall have a minimum capacity of 962 gallons (3700 L). PARKWAYS may authorize use of equipment of smaller capacity if it is demonstrated that the equipment is capable of performing all operations satisfactorily.
- E. A dispersing agent may be added to the mixture provided the contractor furnishes evidence that the additive will not affect germination. Any material considered detrimental, as determined by PARKWAYS, shall not be used.
- F. Any mixture containing polyacrylamide tackifier shall not be applied during any rainy weather or when soil temperatures are below 41 degrees F or if the wind speed is above 20 miles per hour. Pedestrian traffic or equipment shall not be permitted to enter areas where hydro-seeding has been applied.

3.06 MAINTENANCE AND PROTECTION

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- A. Watering shall be required for all areas which have been seeded except when natural precipitation has provided the necessary moisture as determined by PARKWAYS. Watering shall be done in a manner which will prevent erosion due to the application of excessive quantities, and the watering equipment shall be of a type that will prevent damage to the finished surface. A minimum amount of rainfall would be two (2) one inch (1") rainfalls per week. If more water is needed it is the responsibility of the Contractor to provide it.
- B. The seeded areas shall be protected against traffic or other use by placing warning signs of a type approved by PARKWAYS on the various areas where seeding has been completed or by other means, such as protective fencing.
- C. The Contractor shall produce dense, vigorous, well established lawn and shall maintain lawn areas until final acceptance of the work by PARKWAYS.
 - 1. Maintenance shall include, but not be limited to the preparation and reseeding or resodding of any bare areas, proper watering refilling of rainwashed gullies and rutted areas, fertilizing and mowing.
 - 2. Maintain turf at 1.5 to 2 inches in height. At least three (3) mowings shall be completed before the work will be accepted.
 - 3. Two to three weeks after emergence, make nitrogen applications every two to three weeks until the turf has one hundred percent (100%) coverage.
 - i. Apply the equivalent of one half (0.5) to one (1) pound of nitrogen per one thousand square feet (1000 s.f.).
 - 4. Any areas which fail to show a uniform stand of grass shall be reworked and reseeded at the Contractor's expense with the same seed as originally used thereon, and such reseeding shall be replaced until all required areas are covered with a satisfactory stand of grass.

3.07 FINAL INSPECTION

- A. Inspection of work to determine its final acceptance will be made by PARKWAYS. No plant material, turf included, will be accepted unless it is alive and healthy and all related work conforms to the drawings and specifications.
- B. Should any portion of the work be unacceptable, Contractor shall make all work acceptable and request a re-inspection by PARKWAYS, within five (5) business days.
- C. The Contractor will be notified by letter of acceptance within five (5) business days after re-inspection, should the latter be necessary.

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- D. A satisfactory stand of grass is defined as a cover of living weed free grass in which gaps larger than four (4) inches do not occur at the time of acceptance by PARKWAYS.

END OF SECTION