

SECTION 02800

FINISH GRADING, LAWN WORK, WILD FLOWERS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work includes turf establishment (sod, hydromulch, etc.) as described on drawings.

B. Make required analysis and material tests for topsoil, fertilizers, and other materials of similar character per current methods of the Association of Official Agricultural Chemists, when required.

C. Grass seed shall conform to tolerances for germination and purity per applicable standards of U.S. Department of Agriculture.

D. The turf contractor shall have a stand of grass established prior to substantial completion of the project. If this is not possible due to time of year or schedule, he shall maintain and protect the seeded areas until the grass is established.

PART 2 - PRODUCTS

2.01 TOPSOIL MATERIAL

A. Topsoil material (stockpiled, as specified in Specifications) has been saved for use in finish grading. After sifting out all plant growth, rubbish, and stones, use for areas designated to receive grass. If stockpiled topsoil is not sufficient quantity to complete work, furnish acceptable topsoil from another approved source to provide four inches (4") of topsoil for grass areas unless otherwise noted on drawings. Grass areas shall be defined as the graded areas disturbed during construction not to be paved or built upon.

B. Acceptable topsoil material shall be defined as natural, fertile, agricultural soil, capable of sustaining vigorous plant growth, uniform composition throughout admixture of subsoil, free of stones, lumps, plants, and their roots, sticks, or other extraneous matter; do not deliver while in a frozen or muddy condition.

2.02 FERTILIZER

A. Provide a commercial balanced fertilizer delivered to the job in bags labeled with manufacturer's guaranteed analysis. Store in weatherproof storage, place in such a manner that its effectiveness will not be impaired.

B. Fertilizer shall be a grade containing the percentages of plant food elements by weight as specified elsewhere in these specifications.

C. Availability of various elements shall be per Standards of the Association of Official Agricultural Chemists.

2.03 GRASS SEED

A. Grass seed shall be of the previous season's crop and the date of analysis shown on each bag shall be within nine (9) months of the time of delivery to the project. When requested by the Owner or Representative, the seeding contractor shall furnish a sample of seed from each bag for testing.

B. The seed shall comply with all provisions of the U.S. Department of Agriculture as to labeling, purity, and germination.

2.04 MULCHING

A. Dry straw or hay of good quality, free of seeds of competing plants and at such rate of 1 1/2 - 2 tons per acre; or,

B. Wood cellulose or cane fiber mulch at a rate of 1,000 pounds per acre when the slope is 3/4:1 and steeper; or,

C. A combination of good quality dry straw or hay free of seeds of competing plants at a rate of 2 1/2 tons per acre and wood cellulose or cane fiber mulch at a rate of 500 pounds per acre. This combination shall be used when the slope is flatter than 3/4:1; or,

D. Sericea lespedza seed bearing hay at a rate of 3 tons per acre. This mulch may be applied green or air dried, but must contain mature seed.

E. Manufactured mulch materials, such as soil retention blankets, erosion control netting, or others that may be required on special areas of high water concentration or unstable soils. When these materials are used, follow the manufacturer's recommendations for installation.

2.05 HYDRO-MULCHING

Wood cellulose fiber or cane fiber mulch will be applied with hydraulic seeding and fertilizing equipment. All slurry ingredients shall be mixed to form a homogeneous slurry and spray applied within one hour after the mixture is made.

When wood cellulose or cane fiber mulch is used at the 500 pound per acre rate, straw or hay mulch with asphalt emulsion is applied over this to complete the mulch.

Wood cellulose or cane fiber mulch at the 1,000 pound per acre rate is used alone where other mulch material will not stick.

Wood cellulose or cane fiber mulch is self anchoring.

PART III - EXECUTION

3.01 RESPONSIBILITY

The site grading contractor will be responsible to stockpile acceptable topsoil in a sufficient quantity to provide four inches (4") minimum cover for all grass areas, including but not limited to all curbed islands, and topsoil planting mounds/berms at the appropriate height and width as defined and shown on the landscaping and/or planting drawings. The topsoil and grass areas shall be further defined as any area disturbed during the grading and construction process.

The site grading contractor, shall be responsible to spread the topsoil within all perimeter graded areas and future building areas only.

The site grading contractor shall be responsible for backfilling of all curbed islands and planting mounds/berms. They shall also be responsible for removal of all stones, roots, and raking of all topsoil areas that are to be seeded and/or planted. It will also be the site grading contractor's responsibility to provide fertilizer, grass seed, and any additional topsoil required and mulching.

3.02 GRASS SEEDING

A. Remove stones, roots, rubbish and other deleterious materials from topsoiled areas that are to be seeded.

B. Immediately prior to sowing seed, scarify ground as necessary; rake until surface is smooth and friable. Sow seed evenly, lightly wood rake into ground, then roll ground with suitable roller; water thoroughly with fine spray. During any weather, keep lawn watered with sprinklers or other approved methods. Re-seed any areas not doing well or damaged. At intervals as may be required according to seasonal conditions, mow and water grass and execute necessary weeding until acceptable and full stand of grass has been obtained.

C. Provide permanent grass seeding for lawn areas so indicated. Seed in accordance with the following schedule (unless otherwise directed by Owner or Owner's Representative:

1. Sow areas ready for seeding between March 1 and October 1 with Hulled Common Bermuda at a rate of 85 pounds per acre.

2. Sow areas ready for seeding between October 1 and March 1 with Unhulled Common Bermuda at a rate of 90 pounds per acre, and Annual Rye Grass at the rate of 50 pounds per acre.

3. Apply fertilizer at a rate of 20/25 pounds per 1,000 square feet.

3.03 WILD FLOWERS

A. Areas indicated on plans to receive wild flower coverage shall be fine graded, fertilized, and prepared in a manner similar to traditional turf establishment.

B. Area to be hydromulched with seed mix as follows:

Tickseed	10 pounds/acre
Cosmos	15 pounds/acre
Ox-Eyed Daisy	5 pounds/acre
Side Oats Grama	4 pounds/acre
Showy Primrose	0.5 pounds/acre
Plains Coreopsis	2 pounds/acre
Black Eyed Susan	2 pounds/acre
Indian Blanket	10 pounds/acre
Texas Bluebonnet	4 pounds/acre
Little Bluestem	4 pounds/acre

3.04 MULCH

A. All areas to be seeded shall be mulched. Mulch materials shall be applied uniformly over the seeded area. Mulch shall be straw and shall be at the rate of 1 1/2 - 2 tons per acre.

B. Mulch shall be anchored with an emulsified asphalt binder at the rate of 10 gallons per 1,000 square feet.

3.05 PROTECTION

Provide, at no additional cost to Owner, fencing, railing, wire or other types of protection for topsoiled and seeded areas against trespassing and damage. If lawns are damaged prior to Final Acceptance, treat or replace them as directed. Remove protection when so directed.

3.06 MAINTENANCE

Provide maintenance from start of work until Final Acceptance. Maintenance includes watering of lawns, weeding, mowing, edging, repairs of wash-outs and gullies, repairs to protection, and other necessary work of maintenance. Maintain slopes against erosion.

3.07 REHYDROMULCHING

The Owner's representative will designate areas to be replanted. Areas on which a stand of growing grass is not present in a reasonable length of time. (Bermuda grass seed should be germinating in 6-8 days) shall be prepared, reseeded and remulched, as specified for original planting at no additional cost to Owner. A stand shall be defined as live plants from seed occurring at a rate of not less than 1,000 growing plants per square foot. Replanting required because of faulty operations or negligence on the part of the Contractor shall be performed without cost to Owner.

3.08 FINAL CLEAN-UP

A. At time of final inspection of work, and before final acceptance, clean paved areas that are soiled or stained by operations of work of this section. Clean by sweeping or washing, and remove all defacements or stains.

B. Remove construction equipment, excess material and tools. Cart away from site any debris resulting from work of this section and dispose of as directed.

SECTION 02922

SODDING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included

- Sod bed preparation
- Fertilizing
- Sodding
- Miscellaneous management practices

B. Related Work Specified Elsewhere

- Finish Grading, Section 02800
- Lawns and Grasses, Section 02930

1.02 REFERENCE STANDARDS

A. Standardized Plant Names

American Joint Committee of Horticultural Nomenclature, Second Edition, 1942.

B. Texas Highway Department - Standard Specifications for Construction, Item 164, Seeding for Erosion Control.

1.03 SUBMITTALS

A. Vendors Certification That Sod Meets Texas State Sod Law

- Include labeling requirements.
- Include purity and type.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Sod:

- Previous season's crop with date of analysis on each bag.
- Furnish and deliver each variety in separate bags or containers.
- Sod to be cut no more than three days before delivery.

B. Fertilizer:

- Unopened bags labeled with the analysis.
- Conform to Texas Fertilizer Law.

1.05 JOB CONDITIONS

A. Planting Season:

- Only during suitable weather and soil conditions.
- As specifically authorized by the Owner's Representative.

B. Schedule - Only after all other construction is complete.

C. Protect and Maintain Sodded Areas

- From traffic and all other use.
- Until sodding is complete and accepted.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Sod:

- Sod: As specified on drawings, weed, insect, and disease free having a minimum of 1 inch of topsoil attached to the roots and cut no more than three days prior to installation.

2. The sod shall be cut in strips of at least 1/2 sq. yd. and not more than 1 sq. yd. Sod shall be cut into strips not less than 12" in width or more than 9' in length. At the time of harvest, the top growth shall not exceed 3" in length.

3. All sod shall conform to the laws of the State and shall be obtained from sources meeting the approval of the Department of Agriculture, Division of Entomology.

B. Fertilizer:

- Uniform in composition, free flowing.
- Suitable for application in approved equipment.
- Analysis of 16-20-0, 16-8-8 or as directed.

C. Water:

- Free of oil, acid, alkali, salts or other substances harmful to growth of grasses.

PART III - EXECUTION

3.01 SOD BED PREPARATION

A. Cultivate to a depth of four (4") inches by disking and tilling with a power tiller.

B. Clear surfaces of all materials:

- Stumps, stones, and other objects larger than one inch (1").
- Roots, brush, wire, stakes, etc.
- Any objects that may interfere with sodding or maintenance.

C. Prepare sod bed:

- Remove soil clods larger than one inch (1").
- Grade areas to smooth, even surface, removing ridges and filling depressions. Final grade to be below finish grade of curbing and edging as shown on details. All grades shall meet approval of Owner's Representative before sodding.

3.02 SODDING

A. Sodding:

- Lightly water prepared grade, lay sod with staggered joints and with edges touching. Topdress with topsoil at edges if necessary to provide smooth surface. On slopes of 2 to 1 and greater, fasten sod in place with wood pegs (two each piece) or other approved method. Sod damaged by storage or during installation shall be rejected. Following setting, topdress with screened, approved topsoil.
- Water and fertilize at 5 lbs. per 1,000 sq. ft.
- Sod shall not be placed during a drought, nor during periods when sod is not normally placed in the area, and shall not be placed on frozen ground. No dry or frozen sod is acceptable.
- The contractor shall keep all sodded areas moist and growing until Final Acceptance. All areas shall be maintained in an acceptable condition until acceptance by Owner.

B. Rolling:

- After placing sod, roll with a hand roller, weighing not more than 100 lbs. per foot of width, in two directions.
- Eliminate all air pockets; finished surface should be free of excessive undulations.

3.05 MAINTENANCE AND MANAGEMENT

A. Includes protection, replanting, maintaining grades, repair of erosion damage. Also includes weekly mowing at 1 1/2" height until final acceptance.

B. Resodding:

- Resod damaged or unacceptable areas.
- Ruts, ridges, and other surface irregularities shall be corrected.

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SOD AND HYDROMULCH SPECS

RANCH TRAIL CORNERS

LOT 5R - RAINBOW ACRES ADDITION

N.E.C. HORIZON ROAD (F.M. 3097) AND RANCH TRAIL DR.

CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	CHECKED	SCALE	DATE	FILE	SHEET
Walls	Lovecchio	Barragan	1" = 40'	05/28/09	9005	L-4