SECTION 32 92 00

TURF AND GRASSES

PART 1: GENERAL

1.01 DESCRIPTION

Restore all disturbed grass and landscaped areas to conditions equal to or better than before work began and to the satisfaction of AW.

1.02 SUBMITTALS

A. Manufacturer's product data:

1. Certification showing the date and time the sod was cut and the nursery of origin.

2. Certification of laboratory test results for topsoil provided by contractor.

3. Seed Certification including the following:

a. Botanical Name and Common Name
b. Seed Testing Laboratory
c. Percent Weed Seed
d. Percent Other Crop Seed
e. Percent Pure Live Seed
f. Seed Test Date

2. Complete materials list of all materials proposed to be furnished and installed under this section

3. Specifications and other data required to demonstrate compliance with the specified requirements.

B. Delivery slips:

1. Accompany all shipments of topsoil with delivery slip showing the product weight and name of supplier.

C. Pre-Construction Photos

1. Provide pre-construction photos of the existing conditions prior to disturbance of proposed areas of construction.

1.03 GUARANTEE

A. If a satisfactory stand of lawn/grass has not been produced, the Contractor shall renovate and reseed the lawn and unsatisfactory portions thereof immediately or during the next growing season if proper weather conditions do not exist. A satisfactory stand is defined as a section of lawn that has:

1. No bare spots larger than 3 square feet.

2. Not more than 10 percent of total area with bare spots larger than 1 square foot.

B. Disturbed areas that will be exposed in excess of 10 days shall be temporarily mulched until proper conditions exist for establishment of permanent vegetative cover.

PART 2: PRODUCTS

2.01 TOPSOIL

- Shall contain 10 to 30 percent clay, 20 to 70 percent sand, and 20 to 70 percent silt in that portion passing a No. 10 sieve.
- Shall contain 5 to 20 percent organic matter as determined by loss on ignition of samples. Refer to AASHTO T-194
- Shall have a pH value of 5.9 to 7.0.
- Shall be free of course sand and gravel, stiff clay, trash, and weed seeds.

2.02 FERTILIZER

A. Turf Sod or Seed: Dry, free flowing slow release elemental nitrogen in granular form. Minimum 50 percent nitrogen.

B. Hydraulic Seeding: Elemental nitrogen concentration ranging from 21-34 percent.

2.03 SEED AND SOD

A. Meet the Utah Seed Act (Utah Code Title 4, chapter 16) requirements.

B. Lawn Areas
Apply the following seed mixture at locations where turf grass is removed: (Percentages are by weight)

- 50 to 60 percent Kentucky Blue Grass with a minimum of 3 varieties
- 20 to 30 percent Perennial Ryegrass
- 10 to 20 percent Creeping Red Fescue

C. SOD

Nursery grown sod shall be healthy, green, freshly cut, free of weeds, and of good quality. It shall be machine cut in uniform strips or rolls, contain all the dense root system of the grass, and shall not be less than 1-1/2 inches thick.

D. Airfield Areas
Apply the following seed mixture at locations located inside of the airfield fence.

Western Wheatgrass	2.63 lbs/ac
Steambank Wheatgrass	2.16 lbs/ac
Intermediate Wheatgrass	4.33 lbs/ac
Hycrest Cested Wheatgrass	2.75 lbs/ac
Sand Drop Seed	0.12 lbs/ac

E. All other Areas
Apply a dryland seed mix containing the following seeds to all other areas:

- Dryland Alfalfa
- Crested Wheat Grass
- Indian Rice Grass

2.04 SOIL EROSION CONTROL BLANKETS

When required, soil erosion control blankets shall be machine produced mat of wood excelsior formed from a web of interlocking wood fibers, covered on one side with either plastic netting or twisted Kraft paper cord netting. Soil erosion control blankets shall not be installed on flat surfaces or sloped surfaces up to and including 10:1 slopes. Soil erosion control blankets shall be used on surfaces with a slope greater than 10:1 according to manufacturer's installation guidelines.

2.05 MULCH

Mulch shall be oat or wet straw reasonably free of weed seed and foreign materials which may affect plant growth. Hay or chopped cornstalks is not permitted. Other materials may be used if approved by AW.

PART 3: EXECUTION

3.01 PREPARATION OF SEED BED

A. Topsoil Areas

Topsoil shall be replaced with adequate amounts of topsoil material to restore the disturbed areas to its original pre-disturbance grade and depth of topsoil but not less than 4 inches.

Remove, store, and use suitable topsoil available from the excavated material to backfill the excavation. Remove and dispose of all imported granular fill, grass, weeds, roots, sticks, stones, and other debris 1-inch or greater in diameter. Bring the topsoil to the finished grade by raking.

When there is insufficient topsoil available from the site excavated materials, furnish 4 inches of topsoil to be used as a seed bed in lawn areas as described in Part 2.01 of this Specification Section or clearly marked as lawn areas on the plans. Bring topsoil to finished grade by raking.

B. Non Topsoil Areas

The trench backfill may be used as a seed bed, where approved by AW or in areas clearly marked on plans that are not considered lawn areas. After the backfill has been given a reasonable time to settle, grade it off to the finished grade and harrow to a depth of 3 inches. Remove and dispose of all grass, weeds, roots, sticks, stones and other debris 1 inch or greater in diameter.

3.02 FERTILIZING

Apply fertilizer uniformly to all areas to be seeded at the rate of 1 pound per 100 square feet in topsoil and 2 pounds per 100 square feet in non-topsoil. Disc, harrow, or rake the fertilizer thoroughly into the soil to a depth of not less than 2 inches. Immediately before sowing the seed, rework the surface until it is a fine, pulverized, smooth seed bed varying not more than 1 inch in 10 feet.

3.03 SEEDING

Seed immediately after preparation and fertilization of the seed bed. Mix the seed thoroughly and sow it evenly over the prepared areas at the rate of 3 pounds per 1,000 square feet. Sow the seed dry or hydraulically. After sowing, rake or drag the area to cover the seed to a depth of approximately 1/4 inch. Sod all areas with slopes greater than 10%.

3.04 SODDING

Sod all areas as noted in the drawings. As a minimum, sod shall be fibrous, well rooted approved grass type. The grass shall be cut to a height of less than three (3) inches. Edges of sod shall be cleanly cut, either by hand or machine, to a uniform thickness of not less than one and one-half (1-½) inches, to a uniform width of not less than sixteen (16) inches, and in strips of not less than three (3) feet in length. Sod shall be free from all primary noxious weeds.

Lay sod with tight staggered joints. On slopes, start placement at the foot of the incline. Use wood pegs driven flush to hold sod in place on slopes 4:1 or greater. Use two wood pegs per strip of sod. Roll the sod lightly after placement. Fill any open joints with topsoil and/or sod.

Around walkways, driveways, grass, or other existing borders, remove sufficient soil so that the surface of the sod will be level with the existing surfaces and won't pose a tripping hazard,

3.05 MULCHING

Place mulching material evenly over all seeded areas within 48 hours of seeding. Place mulch at the rate of approximately 2 tons per acre, when seeding is performed in recognized growing season and at the approximate rate of 3 tons per acre when seeding is performed in a recognized non-growing season if applicable.

3.06 LANDSCAPED AREAS

Restoration of landscaped areas including plantings, shrubbery, and trees shall be performed in-kind and coordinated with the AW Project Manager prior to planting.

3.07 MAINTENANCE

Carefully maintain, tend, and water all seeded and sodded areas necessary to secure a good, well-established turf. Fill, grade, and reseed or re-sod all areas that have settled. Maintain the condition of the sodded areas for a period sufficient for the grass to root into the topsoil.

END OF SECTION 32 92 00