SECTION 32 92 00 – TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Provide labor and materials necessary for installation of turf sod and other related work as required.

B. Related work described elsewhere:
   a. Section 32 84 00 – Planting Irrigation
   b. Section 32 90 00 – Planting
   c. Section 32 01 90 – Operation and Maintenance of Planting
   d. Section 01 81 13 – Sustainable Design Requirements – LEED

1.2 SUBMITTALS

A. Following the Sustainable Sites guidelines, for products that are extracted, harvested or recovered and manufactured from within 250 miles of Project. Indicate location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw or recycled material. Include statement indicating costs for each product that is regionally extracted, harvested or recovered and manufactured.

B. Submit sod growers certification of grass species stating botanical name and common name. Identify source location.

C. Submit required material samples and certifications.

D. Submit the following materials certification: Fertilizer analysis.

E. Submit soil test report. (Texas Plant and Soils Lab, Edinburg, TX (936-383-0739)

F. Submit one-pound samples of each material specified in this section with certified laboratory analysis of each sample as follows:
   1. Topsoil from on-site
   2. Imported Topsoil
   3. Root/Soil Conditioners

1.3 QUALITY ASSURANCE

A. Provide and pay for materials testing. Submit name of testing agency for approval by UT Representative (Texas Plant & Soils Lab).

B. A certified laboratory retained by the contractor shall provide testing and verification of representative common area turf material samples proposed for use on this project. Testing includes, but is not limited to, the following:
   1. Plasticity index
   2. Soil pH
   3. Particle size, percentage soil texture
   4. Percentage organic material
   5. Nutrient level analysis
      - macro, secondary and micro nutrients
      - Nitrate
      - Potassium
- Phosphorous
- Calcium
- Magnesium
- Sodium
- Percolation rate
- Conductivity

D. Based on above testing, laboratory shall make recommendations on type and quantity of amendments required to bring levels into acceptable ranges as detailed in Part 2 – Products and Materials of this section.

E. No later than 30 days after Notice to Proceed, submit to UT Representative for approval documentation confirming seed has been ordered from a recognized seed supplier.

1.4 DELIVERY, STORAGE AND HANDLING

A. Cut, deliver and install sod within 24 hour period. Only deliver what can be installed within 24 hour timeframe.

B. Deliver fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.

C. Provide bulk materials processed and blended off-site when specified. Deliver materials in clean, washed, and covered trucks to eliminate contamination during transportation. Coordinate on-site stockpiling locations with Owner. Stockpile in areas free of debris and away from drainage routes. Cover bulk material with plastic or geotextile if material is to be stockpiled more than 24 hours.

D. Protect sod from sun, wind and dehydration prior to installation. Do not tear, stretch, or drop sod during installation.

1.5 PROJECT CONDITIONS

A. Sod and the Planting Plan: Sod shall not be designed/planted under any existing trees. No exceptions.

B. Work notifications: Notify UT Representative at least 7 working days prior to start of sod installation.

B. Protect existing utilities, paving, and other facilities from damage caused by sod installation.

C. Install sod only after planting and other work affecting ground surface has been completed.

D. Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.

E. Provide hose and lawn watering equipment as required.

F. Ensure irrigation system is installed prior to sod installation. Locate, protect, and maintain irrigation system during turf installation. Repair damage to irrigation system components during turf installation.

1.7 WARRANTY

A. Refer to Section 32 01 90 - Operation and Maintenance of Planting
PART 2 - PRODUCTS AND MATERIALS

2.1 GENERAL

A. All plants and raw materials shall be manufactured and/or extracted or harvested within 250 miles of Project site and all recycled or salvaged materials shall be manufactured and recovered within 500 miles of Project site.

2.2 MATERIAL

A. Sod: Acceptable Varieties of Sod for the UT-Austin campus:

1. Class/Grade of Sod and Composition:
   a. Zoysia ‘Palasaides’
   b. Bermuda ‘Celebration’
   c. Turf shall be classified as certified stock or shall originate from certified stock.

2. Sod shall be 98% insect free grown in sandy loam based soil, within 250 miles of UT Austin campus, preferably wit

3. Thickness of Cut: Bermuda ‘Celebration’ or Zoysia ‘Palasaides’ shall be machine cut at a uniform soil thickness of 0.60 inch (15 mm), plus or minus 0.25 inch (6 mm), at the time of cutting, unless otherwise agreed upon. Measurement for thickness shall exclude top growth and thatch.

4. Pad Size: Sod shall be supplied in 24” wide standard rolls with clean cut edges. Maximum allowable deviation from standard widths and lengths shall be plus or minus 0.5 inch (15 mm) on width and plus or minus five percent on length. Broken pads and torn or uneven ends will not be acceptable.

5. Strength of Turf Sod Sections: Standard size sections of turfgrass sod shall be strong enough that it can be picked up and handled without damage.

6. Moisture Content: Bermuda ‘Celebration’ or Zoysia ‘Palasaides’ shall not be harvested or transplanted when its moisture content (excessively dry or wet) may adversely affect its survival.

7. Mowing Height: Before harvesting, Celebration® Bermudagrass shall be mowed uniformly at the following height: 0.5 to 1.5 inches.

8. Time Limitations: Sod shall be harvested and delivered within a period of 24 hours.

9. Sod shall be installed/transplanted as soon as possible after delivery, unless a suitable preservation method is approved prior to delivery.

10. Sod not transplanted shortly after delivery shall be inspected and approved by UT Landscape Services prior to its installation.

11. Diseases, Nematodes and Insects: shall be free of diseases, nematodes and soil-borne insects. Specific nursery and/or plant materials laws may require that all sod entering inter-state commerce be inspected and approved for sale. The inspections and approval must be made by the appropriate government representative of the agriculture department or office of entomologist.

12. Weeds: Field Grown sod shall be 100% free of all noxious weeds. Field shall be considered free of grassy and broad leaf weeds. Sod containing common nutgrass, dandelion, or other deleterious weeds will not be accepted.

B. Water: Free of substance harmful to turf growth. Furnish hoses or other methods of transportation as required.

C. Import Topsoil

1. Composition of topsoil shall be as follows:

   Silt: 20-30%
   Clay: 20-30%
   Sand: 40-45%

   Organic material (natural or otherwise): 2% maximum
pH: 6.5-8.0
Soluble salts: less than 700 ppm.
Nutrients: enough to bring to levels of acceptable plant growth

2. Topsoil 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. Topsoil must also be free of viable plants or plant parts of common bermudagrass, quackgrass, johnsongrass, nutsedge, poison ivy, thistles, or others as may be specified. All topsoil shall be tested by a reputable laboratory for pH and soluble salts. If needed, pH correction material shall be applied at a rate sufficient to correct the pH to a range of 6.5 to 7.5. Soluble salts shall not be higher than 700 parts per million.

3. No sod shall be placed on soil which has been chemically treated until sufficient time has elapsed to permit dissipation of all harmful materials (see manufacturers recommendations for re-entry date calculation). The general contractor shall assume full responsibility for any loss or damage to Bermuda ‘Celebration’ or Zoysia ‘Palasaides’ arising from improper use of chemicals or due to his failure to allow sufficient time to permit dissipation of chemical residues, whether or not such materials are specified herein.

4. Submit to UT Landscape Services proposed source or sources of topsoil at least 15 working days prior to delivery. Obtain soil samples from his intended topsoil source and have soil analysis performed by soil testing laboratory to ensure conformity with specification. Do not deliver topsoil to site prior to approval by UT Landscape Services.

5. Percolation rate: between 3 to 4 inches per hour.

D. Commercial Grade Fertilizer – AS REQUESTED BY UT REPRESENTATIVE BASED ON SOIL ANALYSIS
   1. Fertilizer:
      i. Organic by The Natural Gardener (8-2-4) or approved equal

E. Soil Amendments – AS REQUESTED BY UT REPRESENTATIVE BASED ON SOIL ANALYSIS

F. Pre-emergent herbicide – AS REQUESTED BY UT REPRESENTATIVE. Notify UT Landscape Services of proposed pre-emergent herbicide prior to application.

PART 3 - EXECUTION

3.1 INSPECTION
   A. Examine finish surfaces, grades, topsoil quality, and depth. Do not start sod installation until unsatisfactory conditions are corrected.

3.2 PREPARATION
   A. Limit preparation to areas that will be immediately planted.
   B. Scarify existing soil surface and cultivate to minimum 8-inch depth to alleviate compaction from site excavation work. Remove debris, stones over ½-inch in diameter, sticks, roots, rubbish, and other extraneous materials and dispose of off site. Rototill to thoroughly incorporate following soil amendments into top 6-inches of scarified soil:

Design & Construction Standards, April 2016
1. Soil conditioner/compost (as defined in Section 2.2 E) - 2 inches deep, (approx. 6 cubic yards / 1,000 SF)

2. Fertilizer (as defined in Section 2.2 D) –
   I. Microlife 6-2-4
   II. Ladybug 8-2-4
   III. Humates 0-0-4 (Microlife) Carbon

3. Fine grade

C. The topsoil shall be uniformly distributed on the designated area(s) and it shall be a minimum of 6 inches (75 mm) deep after firming. Spreading shall be performed in such a manner that sod installation can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoil removal or other operations shall be corrected in order to prevent the formation of depressions or water pockets. Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading or proposed for turfgrass sod installation.

D. A licensed chemical applicator shall treat lawn areas with ‘Round Up’ by Monsanto, or approved equal, per label directions as required to kill existing vegetation at least 30 days prior to turf installation.

E. Grade turf area to smooth, even surface with loose, uniformly fine texture. Roll, water settle, rake to remove ridges and fill depressions to meet final grade.

F. Restore prepared area to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to installation of turf.

G. Weeds shall be removed by hand throughout the duration of warranty period or until project is turned over to UT Landscape Services.

3.3 INSTALLATION

A. Sod Installation

1. Transplant sod when temperatures are above 65 degrees F.

2. Lawn areas should be weed free, smoothly raked seedbed.

3. Time Limitations: Sod shall be transplanted/installed as soon as possible following delivery, unless a suitable preservation method is approved prior to delivery. Sod not transplanted shortly after delivery shall be inspected and approved by the Landscape Architect prior to its installation.

4. Transplanting:
   a. Moistening the Soil: After all unevenness in the soil surface has been corrected, the soil shall be lightly moistened immediately prior to installation of sod.
   b. Starter Strip: The first row of sod shall be laid in a straight line, with subsequent rows placed parallel to and tightly against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Care shall be exercised to insure that the pieces are not stretched or overlapped and that all joints are butted tightly to prevent voids that would cause air drying of the roots.
   c. Sloping Surfaces: On 3:1 or greater slopes, traditional size (1 sq yd / 1 sq m) Sod shall be laid across the angle of the slope (perpendicular), with staggered joints and secured by tamping, pegging, stapling or other approved methods of temporarily securing each piece. Large-roll sod shall be laid in the direction of the slope, with temporary securing being at the discretion of the installation contractor.
d. Swales and Intermittent Waterways: The installation of turfgrass sod within drainways or intermittent waterways shall be determined after considering maximum channel velocities for storms of a designated intensity. Traditional size sod shall be laid perpendicular to the direction of flow and pegged to resist washout during the establishment period, while large-roll pieces shall be laid in the direction of the flow, with temporary securing being at the discretion of the installation contractor.

e. Watering and Rolling: The installation contractor shall water the sod immediately after transplanting to prevent excessive drying during progress of the work. As sodding is completed in any one section, the entire area shall be lightly rolled in (2) different directions to ensure good contact with subgrade. It shall then be thoroughly watered to a depth sufficient that the underside of the new sod pad and soil immediately below the pad are thoroughly wet.

3.5 MAINTENANCE AND PROTECTION

A. See Section 32 01 90 Operation and Maintenance of Planting.

3.6 ACCEPTANCE

A. See Section 32 01 90 Operation and Maintenance of Planting.

3.7 CLEANING

A. Perform cleaning during installation and upon completion of work. Remove excess materials, debris, and equipment. Repair damage resulting from turf installation.

END OF SECTION 32 92 00