

ITEM 805

TREES, PLANTS AND GROUND COVERS

PART 1 GENERAL

1.01 The requirements of Division 0, "Bidding Requirements, Contract Forms, And Conditions of the Contract", and Division 1, "General Requirements", shall apply to all work required by this Section.

1.02 **SECTION INCLUDES:**

The Contractor shall provide trees, plants and ground covers as shown and specified. The work includes:

- A. Soil preparation.
- B. Large specimen trees, small flowering trees, plants and ground covers.
- C. Planting mixes.
- D. Mulch and planting accessories.
- E. Existing tree care.
- F. Maintenance.
- G. Backfill for large and small trees.

1.03 **RELATED SECTIONS:**

Item 800 – Tree Survey
Item 801 – Tree and Landscape Protection
Item 802 – Tree Pruning, Soil Amending & Fertilization
Item 803 - Tree Transplanting
Item 804 – Sodding & Seeding

1.04 **QUALITY ASSURANCE:**

- A. Comply with Division 2 "Site Work".
- B. Plant names indicated comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. The Contractor shall provide stock true to botanical name and legibly tagged.
- C. The Contractor shall comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.
- D. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two (2) years.
- E. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost to the Owner, and providing that the larger

plants will not be cut back to sizes indicated. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated.

- F. The Contractor shall provide "specimen" plants with a special height, shape, or character of growth. Tag specimen trees or shrubs at the source of supply. The Engineer will inspect specimen selections at the source of supply for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.
- G. Plants may be inspected and approved at the place of growth, for compliance with specification requirements for quality, size and variety.

Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

1.05 **SUBMITTALS:**

- A. The Contractor shall submit the following materials certification: Topsoil source and pH value.
- B. The Contractor shall provide plant material record drawings:
 - 1. Legibly mark drawings to record actual construction.
 - 2. Indicate horizontal and vertical locations, referenced to permanent surface improvements.
 - 3. Identify field changes of dimension and detail and changes made by Change Order.

1.06 **DELIVERY, STORAGE AND HANDLING:**

- A. The Contractor shall take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Dig, pack, transport and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival, the certificate shall be filed with the Engineer. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Landscape Architect. Water heeled-in plantings daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches.
- B. The Contractor shall cover plants transported on open vehicles with a protective covering to prevent wind burn.
- C. The Contractor shall provide dry, loose friable topsoil for planting bed mixes. Frozen or muddy topsoil is not acceptable.

1.07 **PROJECT CONDITIONS:**

- A. Work notification: The Contractor shall notify Engineer at least seven (7) working days prior to installation of plant material.

- B. The Contractor shall protect existing utilities, paving and other facilities from damage caused by landscaping operations.
- C. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the plans. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern. It is the Contractor's responsibility to verify all quantities.
- D. The irrigation system will be installed prior to planting. The Contractor shall locate, protect and maintain the irrigation system during planting operations. Repair irrigation system components damaged during planting operations at the Contractor's expense.

1.08 WARRANTY:

- A. The Contractor shall warrant plant material to remain alive and be in healthy, vigorous condition for a period of one (1) year after completion and acceptance of entire project for operation and maintenance.

Inspection of plants will be made by the Landscape Architect at completion of planting.

- B. The Contractor shall replace, in accordance with the plans and specifications, all plants that are dead or, as determined by the Landscape Architect, are in an unhealthy or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the Contractor's negligence. Until issuance of the Certificate of Substantial Completion the Contractor shall replace all damage or loss to trees, plants or ground covers caused by fires, floods, freezing rains, lightning storms, or winds over 75 mph, winter kill caused by extreme cold and severe winter conditions, acts of vandalism or negligence. The cost of such replacement(s) is at the Contractor's expense. The Contractor shall warrant all replacement plants for one (1) year after completion and acceptance of the entire project for operation and maintenance.
- C. Warranty shall not include damage or loss to trees, plants or ground covers caused by fires, floods, freezing rains, lightning storms, or winds over 75 mph, winter kill caused by extreme cold and severe winter conditions not typical of planting area; acts of vandalism or negligence on the part of the Owner.
- D. The Contractor shall remove and immediately replace all plants, as determined by the Landscape Architect, to be unsatisfactory during the initial planting installation.

1.09 MEASUREMENT AND PAYMENT:

Measurement and payment will be as outlined in Section "Measurement and Payment" of Part 1, General Provisions.

PART 2 PRODUCTS

2.01 MATERIALS:

- A. Plants: The Contractor shall provide plants typical of their species or variety; with normal, densely-developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sun scald injuries, frost cracks, abrasions of the bark, plant diseases, insect

eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces. Plants held in storage will be rejected if they show signs of growth during storage.

1. The Contractor shall dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable. All trees shall be nursery grown.
2. Container-grown stock: Plants shall be grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
 - a. No plants shall be loose in the container.
 - b. Container stock shall not be pot bound.
3. The Contractor shall provide tree species that mature at heights over 25'-0" with a single main trunk unless multitrunks are specified. Trees that have the main trunk forming a "Y" shape are not acceptable.
4. Plants planted in rows shall be matched in form.
5. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.

If the use of larger plants is acceptable, increase the spread of roots or root ball in proportion to the size of the plant.
6. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list.
7. Shrubs and small plants shall meet the requirements for spread and height indicated in the plant list.
 - a. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
 - b. Single stemmed or thin plants will not be accepted.
 - c. Side branches shall be generous, well twigged, and the plant as a whole well-bushed to the ground.
 - d. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.

2.02 ACCESSORIES:

- A. A minimum of six (6) inches of topsoil, after settling occurs, shall be furnished in all shrub beds and raised planters shall be filled with good friable topsoil as

called for on the plans. Topsoil furnished shall be natural, fertile, friable soil, possessing characteristics of representative productive soils in the vicinity. It shall be obtained from naturally well drained areas. Topsoil shall be without admixture of sub-soil and free from nut grass (*Cyperus rotundus*) and other objectionable grass, weeds and toxic substances. Topsoil shall be approved by the Landscape Architect.

- B. Commercial fertilizer shall be Carefree, Vertagreen, or approved equal, organic fertilizer containing the following minimum percentages of available plant food by weight: 15-5-5 or 16-8-8 Nitrogen-Phosphorus. Mixed Nitrogen, not less than 50% from organic source. Inorganic chemical nitrogen shall not be derived from the sodium form of nitrate or from the ammonia nitrate. It shall be delivered to the site in unopened containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted.
- C. Soil conditioner shall be two (2") inches of compost or approved equivalent as provided by Garden-Ville/Horticultural Products, Route 3, Box 210 TA, San Antonio, Texas 78218, (210) 651-6115 or Landscape Architect approved equal. Compost is to be worked into the first four (4") inches of topsoil.
- D. Sand shall be sharp, clean sand.
- E. Mulch shall be four (4) inches of native bark for surface dressing of shrub beds as provided by Garden-Ville/Horticultural Products, Route 3, Box 210 TA, San Antonio, Texas 78218, (210) 651-6115 or Landscape Architect approved equal or that shall be furnished from the onsite stockpile.
- F. Water shall be free of substances harmful to plant growth. Hoses or other methods of transportation furnished by Contractor.
- G. Backfill shall be provided for each new large specimen tree and small tree as called out on the planting plan and shall be landscape Garden Mix as provided by Curlex Erosion Control Matting or equivalent as provided by Garden-Ville/Horticultural Products, Route 3, box 210 TA, San Antonio, Texas 78218, (210) 651-6115 or Landscape Architect approved equal.
- H. Edging shall be Shawtown Root Barrier Panels by NDS or equivalent to be provided on all sides of Bamboo Planting. For more information call (800) 726-1994.

PART 3 EXECUTION

3.01 INSPECTION:

- A. The Contractor shall examine proposed planting areas and conditions of installation. The Contractor shall not start planting work until unsatisfactory conditions are corrected.
- B. Any ground cover or shrub plantings that are having existing infestation of nut grass, Bermuda grass, Johnson grass or other objectionable grasses or weeds shall be first treated with "round up" as manufactured by Monsanto, or Landscape Architect approved equal. Treatment shall be in strict accordance to manufacturer's specifications and shall be accomplished to allow sufficient time

for a complete kill prior to starting any soil preparation and planting in treated planting areas.

- C. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.
- D. Locate plants as indicated or as approved in the field after staking by the Contractor. If obstructions are encountered that are not shown on the plans, do not proceed with planting operations until alternate plant locations have been selected.
- E. The Contractor shall excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide shrub pits at least 12" greater than the diameter of the root system and 24" greater for trees. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 4". Remove excavated materials from the site.
- F. Soil Preparation: Soil used in planting shall be topsoil as hereinbefore specified, or suitable existing soil either of which shall be thoroughly mixed with the following materials and in the proper proportions: 1 cu. yd. topsoil; 6 cu. ft. shredded pine bark; 1/4 cu. yd. sand; 3 lbs sulphur; 6 lbs. fertilizer, as specified.

3.02 **INSTALLATION:**

- A. The Contractor shall set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. No filling will be permitted around trunks or stems. Backfill the pit with planting mixture. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

- B. After balled and burlapped plants are set, muddle planting soil mixture around bases of balls and fill all voids.

Remove all burlap, ropes and wires from the tops of balls.

- C. The planting beds for ground cover areas, outline of which are shown on the plans, shall be prepared in the following manner. Apply 6 lbs. of hereinbefore specified fertilizer per 100 sq. ft. area, 2" sand, 2" shredded native bark and then thoroughly till the area to a depth of 8" using a roto tiller or similar equipment that will thoroughly pulverize the soil and evenly mix in the fertilizer. Roots, stones, grade stakes or other objects 1" in maximum dimension or larger shall be removed from the beds and disposed of off the site.

The Contractor shall space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of the trunks of trees and shrubs within planting bed and to within 6" of edge of bed.

- D. Mulching:

- 1. The Contractor shall mulch existing trees, new trees and shrub planting pits and shrub beds with required mulching material three (3) inches deep immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

2. The Contractor shall mulch ground cover beds with required pine bark material 2" deep immediately after planting.

E. Pruning:

The Contractor shall prune branches of deciduous stock, after planting, to balance the loss of roots and preserve the natural character appropriate to the particular plant requirements. In general, remove 1/4 to 1/3 of the leaf bearing buds, proportion in all cases shall be acceptable to the Landscape Architect. Remove or cut back broken, damaged, and unsymmetrical growth of new wood.

F. Care of Existing Trees:

Item 801 – Tree & Landscape Protection
Item 802 – Tree Pruning, Soil Amending & Fertilization

3.03 **MAINTENANCE:**

- A. The Contractor shall maintain plantings until completion and acceptance of the entire project.
- B. Maintenance shall include pruning, cultivating, weeding, watering and application of appropriate insecticides and fungicides necessary to maintain plants free of insects and disease.
 1. The Contractor shall re-set settled plants to proper grade and position. Restore planting saucer and adjacent material and remove dead material.
 2. The Contractor shall tighten and repair guy wires and stakes as required.
 3. The Contractor shall correct defective work as soon as possible after deficiencies become apparent and weather and season permit.
 4. The Contractor shall water trees, plants and ground cover beds within the first twenty four (24) hours of initial planting, and not less than twice per week until final acceptance for operation and maintenance.

3.04 **ACCEPTANCE:**

- A. Site visit to determine acceptance of planted areas will be made by the Landscape Architect, upon the Contractor's request. **Provide notification at least ten (10) working days before requested inspection date.**

Planted areas will be accepted provided all requirements, including maintenance, have been complied with and plant materials are alive and in a healthy, vigorous condition.

- B. Upon acceptance, the Owner will assume plant maintenance.

3.05 **CLEANING:**

- A. The Contractor shall perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris and equipment. Repair damage resulting from planting operations.

END OF SECTION