**SECTION 6.4**

**TECHNICAL SPECIFICATION FOR**

**TREE PLANTING**

**PART 1: GENERAL**

**1.1 Scope of Work**

Furnish all materials, transportation, labor, equipment, tools, supervision and required incidental for tree planting, complete in accordance with these specifications. All miscellaneous items such as wrapping materials, tree stakes, peat moss, fertilizer, manure, sharp sand, and topsoil required for planting trees shall be included in the scope with no separate pay item.

**PART 2: QUALITY ASSURANCE**

**2.1 Reference Standards**

Latest editions or revisions of following documents are applicable:

* American Standard for Nursery Stock, Current Edition as published by the American Association of Nurseryman. (ANSI Z60.1)
* American Joint Committee on Horticulture Nomenclature, 1942 Edition of Standardized Plant Names.

**PART 3: PRODUCTS AND MATERIALS**

**3.1 Plant Material**

Provide plant material grown in a recognized nursery in accordance with good horticultural practice, with healthy root systems developed by transplanting or root pruning. Provide only healthy stock free of disease, insects, eggs, larvae and defects such as knots, sun scald, injuries, abrasions or disfigurement. Trunks will be centered in the root ball. Fresh pruning cuts larger than 1/2”can be cause for rejection of plant material.

3.1.1 Size:

Provide plant material of the sizes indicated in planting list and in accordance with dimensional relationship requirements of ANSI Z60.1 for kind and type of plant material required. Plant material of larger size than specified may be used if acceptable

to the Owner; in which case, increase size of root balls proportionately and at no additional cost to the Owner. It is the Contractor’s responsibility to verify plant quantities.

3.1.2 Deciduous Trees

Provide trees of height and caliper indicated (2” caliper for trees). Where shade trees are required, provide single stem trees with straight trunk and intact leader.

Where small trees of upright or spreading type are required, provide trees with

single stem, branched or pruned naturally according to species and type, and with relationship of caliper and branching recommended by ANSI Z60.1, unless otherwise indicated.

3.1.3 Requirements for Balled and Burlapped (B&B) Stock

Where indicated to be balled and burlapped (B&B), provide trees dug with firm, natural ball of earth in which they are grown. Provide freshly dug trees to the greatest extent possible. Provide ball size of not less than diameter and depth recommended by ANSI Z60.1 for type and size of tree required. Increase ball size or modify ratio of depth to diameter as required to encompass fibrous and feeding root system necessary for full recovery of trees subject to unusual or non-typical conditions of growth, soil conditions or horticultural practice. Wrap and tie earth ball as recommended by ANSI Z60.1 for size of balls required. Drum-lace balls with a diameter of 30” or greater.

3.1.4 Requirements for Container Grown Stock

Provide healthy, vigorous, well-rooted plant materials established in container in which they are sold. Provide balled and burlapped (B&B) stock, when required trees exceed maximum size recommended by ANSI Z60.1 for container grown stock. Established container stock is defined as a tree grown in or transplanted into a container and grown in the container for a length of time sufficient to develop new fibrous roots, so that root mass will retain its shape and hold together when removed from container.

Use rigid containers that will hold ball shape and protect rootmass during shipping. Provide trees established in containers of not less than minimum sizes recommended by ANSI X60.1 for kind, type, and size of trees required.

**3.2 Miscellaneous Materials**

3.2.1 Mulch

Provide shredded cypress bark mulch or hardwood bark mulch to a depth of at least 3” in the planting basin to cover root ball. Do not place mulch directly against the trunk of the tree.

3.2.2 Stakes and Guys

Unless specified otherwise by the Owner, stake trees as shown on planting detail sheets. Provide 2” x 2” untreated wood stakes to secure tree root ball. All other materials not specifically described but required for a complete and proper installation may be selected by the Contractor subject to the approval of the City of Dallas.

* + 1. Post Emergent Herbicide

“Round Up” or approved equal may be utilized in the planting basin to control weeds until final acceptance of the project. All chemicals must be applied by a Licensed Chemical Applicator.

* Tree shall have normal, well-developed branches and a vigorous root system. They shall be healthy, vigorous plants free from defects, decay, disfiguring growth habits, sun-scald injuries, abrasions of the bark, plant diseases, insect nests and eggs, borers and all forms of infestations or objectionable disfigurements.
* Tree may be inspected by the Owner's representative at the grower's nursery at the site of collections. Approval of plants at the source does not alter the right of rejection at the project site.
* The Owner reserves the right to inspect backfill material and to take test samples as deemed necessary. The Owner may arrange to have an independent testing laboratory conduct tests to verify the quality of the backfill materials. Backfill materials which fail to meet the requirements of these specifications may be rejected and the Contractor shall immediately remove rejected materials from the premises.

3.2.4 Fertilizer

Fertilizer shall be organic base, uniform in composition, dry and free-flowing. Deliver fertilizer to site in original unopened containers, each bearing manufacturer's guaranteed statement of analysis. Fertilizer shall contain 12% nitrogen, 12% phosphoric acid, and 6% potash.

3.2.5 Wrapping Materials

Materials used in wrapping tree trunks shall be waterproof crepe paper or burlap strips as made and sold for this purpose.

**PART 4: EXECUTION**

**4.1 Tree Pits and Planting**

* Excavate tree pits to a depth of six (6) inches greater than the depth of the ball and 2' -0" greater than the diameter of the ball as shown in **Exhibit 1** below.
* Soil for use in back-filling tree pits shall be the excavated soil from the planting pit unless otherwise specified by the City of Dallas.
* Existing topsoil shall be free of all rocks and rock chips over *¾* in diameter, as well as all trash, vegetation, and other debris.
* Before backfilling, clean soil off roots, plants, sod, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth, and dispose of offsite. Use only existing soil from the site as back-fill.
* Set balled and burlapped stock on undisturbed soil, plumb and in center of pit or trench with top of ball 1”-2” above finished landscape grades. Remove burlap from top of root-ball but do not remove from sides or under root-ball. Completely remove any nylon, plastic, or wire materials from the top half of the root-ball. Remove pallets, if any, before setting. Do not use stock if ball is cracked or broken before or during planting operation. When set, place back-fill (existing native soil) around base and sides of ball, and work each layer to settle back-fill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill.
* Repeat watering until no more is absorbed. Water again after placing final layer or back-fill.
* Place the trees and backfill with the soil mixture hereinbefore specified. The tree shall have the same relationship to finish grade in this new location as it bore to finish grade in the previous location.
* Provide a 4" watering ring and 1" depth of pine bark mulch and thoroughly water to insure saturation of the root system.



 **EXHIBIT 1**

**4.2 Pruning**

* Each tree shall be pruned in accordance with the American Association of Nurserymen standards to preserve the natural character of the plants.
* All dead wood or suckers and all broken or badly bruised branches shall be removed. In addition, one-fourth to one-third of the wood shall be removed, after planting, to compensate for the loss of roots as a result of transplanting operations.
* Pruning shall be done with clean, sharp tools, and in a manner as not to change the natural habit or shape of the plants. All cuts shall be made flush, not leaving cut stubs over 3/4" in diameter shall be painted with an approved tree paint. Scars on the bark shall be traced back to living tissue and removed in a manner that wounds shall be smoothed and shaped so as not to retain water. Flowering trees shall be pruned only to remove dead or broken branches or branches that rub. Paint shall cover all exposed cambium, as well as other exposed living tissue.

**4.3 Fertilizer**

The contractor shall fertilize, at time of planting, each tree at the rate of 3 pounds per inch of tree trunk caliper.

**4.4 Tree Wrapping**

Wrap all trees. Extend wrapping from ground to a point immediately below lowest branches of each tree as directed. Spirally wrap from bottom up when trees are being planted. Securely fasten wrapping material in place, to itself, with tacks or staples so that the wrapping will remain in place for two years

**PART 5: MAINTENACE AND WARRANTY PERIOD**

**5.1 Maintenances of Planting Materials**

The Contractor shall maintain all plant materials until final acceptance. Such maintenance shall include pruning, spraying, weeding, cultivation, fertilizing, watering, disease and insect control, application of antidesicants, tightening and repairing stakes and guys, resetting and straightening plants to proper grade and vertical position, replacing damaged wrapping, restoring plant saucers, replenishment to levels specified of any soil mixture or mulch that has been lost to erosion or settling, replacement of any and all unacceptable materials, plus any procedures consistent with good horticultural practice necessary to insure normal, vigorous and healthy growth.

**5.2 Warranty Period and Replacement**

* Warranty period for all plant material shall be for one (1) year. Warranty period begins at the date of final acceptance of the project by the Owner. Trees not meeting standards stated in this specification shall be immediately removed and replaced-as directed by DWU.
* Replace, without cost to the Owner, and as soon as weather conditions permit, all dead plants and all plants not in a vigorous and thriving condition, as determined by the Owner during and at the end of Warranty Period.
* Plants shall be free of dead or dying branches and branch tips, and shall bear foliage of a normal density, size, and color. Replacement shall closely match adjacent specimens of the same species and shall be subject to all requirements of this specification.

**PART 5: METHOD OF MEASUREMENT AND PAYMENT**

Method of Measurement and Payment for the work included in this section will be in accordance with the payment schedule in the Bid Proposal.

**\*\*END OF SECTION\*\***