

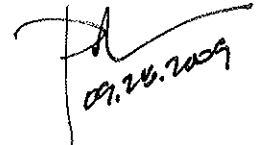
SECTION 02951

UTILITY EQUIPMENT LANDSCAPING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Furnishing trees and shrubs.
- B. Installation.
- C. Maintenance service.
- D. Warranty.



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1.02 REFERENCE STANDARDS

- A. Trees, Shrubs, and Plants: Provision of trees, shrubs, and plants of quantity, size, genus, species, variety shown and scheduled for landscape work shall comply with sizing and grading standards of the latest edition of Florida Grades and Standards for Nursery Plants (to order a copy, call 352.375.3505). All plant material shall be Florida Fancy or Florida #1. All other locations to follow recommendations and requirements of ANSI Z60.1 American Standard for Nursery Stock, Standardized Plant Names, latest edition, as adopted by the American Joint Committee on Horticultural Nomenclature, Principles and Practice of Planting Trees and Shrubs, latest edition.
- B. Provide healthy, vigorous stock, grown in recognized nursery in accordance with good horticultural practice and free of disease, insects, eggs, larvae, and defects such as knots, sun-scald, injuries, abrasions, or disfigurement.
- C. Trees with double leaders originating in the lower half of the tree shall be rejected.
- D. Plant material to be grown in the project area zone.

1.03 QUALITY ASSURANCE

- A. Installation of landscaping shall be by a contractor licensed in Charlotte County to perform landscaping work. Perform the work with personnel experienced in the work required of this Section under direction of a skilled foreman.
- B. The Contractor shall call for and satisfactorily obtain Landscaping, Tree and Zoning inspections in addition to other final inspections, prior to receiving a Certificate of Completion for the equipment site(s). Code Compliance (located in the Building Construction Services Department) conducts the Landscaping, Tree and Zoning inspections for utility sites. The landscape installation must be approved prior to the finalization of the building permit.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Plant Material: Provide plant material that is in "healthy, vigorous condition" such as live foliage out to the tips of all branches and stems, and a trunk caliper that is bigger, 12 months after planting, than at planting. Healthy, vigorous palms have new fronds developing with no necrosis or chlorosis and are green in color. Plant material shall be "Nursery-grown" in the nursery from liners or collected and then grown in a nursery not less than 2 years.

- B. Move plant materials with solid root balls wrapped in burlap.
- C. Deliver plant materials immediately prior to placement. Keep plant materials moist.
- D. Reject plants when root ball of earth surrounding roots has been cracked or broken preparatory to or during process of planting.
- E. Reject plants when burlap, staves, and ropes required in connection with transplanting have been displaced prior to acceptance.
- F. Plants shall be dug with root balls having minimum sizes as specified in ANSI 260.1.
- G. Plants shall be dug, transported and handled with the utmost care to insure against injury and to provide adequate protection against wind and sun. Plants shall be securely covered with tarpaulin, canvas or other cover to minimize wind whipping and drying. The plant shall be kept moist at all times until planted. Under no circumstances shall balled plants be dropped to the ground. A suitable method of handling shall be employed to preclude cracked or mushroomed root balls at the point of delivery. All plant material shall be protected from freezing at all times prior to transplanting.
- H. All plants shall have securely attached durable legible labels stating in weather resistant ink the correct botanical plant name.
- I. All plants shall be subject to inspection by the OWNER during digging operations and after planting. No plants shall be planted before inspection and approval by the OWNER. Any plants damaged by the CONTRACTOR'S operations shall be removed from the site immediately and replaced with acceptable plants without additional compensation.

1.05 WARRANTY

- A. Provide 90 day for plants and one year for trees from date of Project Completion.
- B. During the warranty period replace plant materials found dead, or not in a healthy growing condition. Replacement plant materials shall be of same species, with the 90 day warranty commencing on date of replacement.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Plants shall be of species and sizes called for on the Drawings and shall conform to all applicable provisions of the Horticultural Standards published by the American Association of Nurserymen. All plants shall have well developed and vigorous branch and root systems and shall be healthy and free of injury or any form of damage. All plant material will be subject to inspection and approval by the OWNER.
- B. Planting Soil: Topsoil mixed five (5) parts topsoil, one (1) part peat moss. Add fertilizer as required. Topsoil shall be loam or sandy loam with greater than 2% organic matter (not more than 20%) with pH between 6 and 7.
- C. Peat Moss: Horticultural grade Class A decomposed plant material, elastic and homogeneous. Free of decomposed colloidal residue, wood, sulphur, and iron; pH value of 5.9 to 7.0, 60% organic matter by weight, moisture content not exceeding 15% and water absorption capacity of not less than 300% by weight on oven dry basis.
- D. Mulching Material: Follow the recommendations in Sec. 3-5-400 Florida Friendly Landscaping, such as shredded pine straw, 3 – 4 inch lengths, intertwined matting effect. All pine straw shall be free from leaves, twigs, wood shavings, insects, wood or other deleterious material. Mulching

material shall be applied to all plants over the entire backfilled saucer area to a depth of 3 inches. A slight saucer made of soil shall be maintained around each plant for watering.

- E. Fertilizer shall be 5-10-10 delivered in standard manufacturer's bags, showing the weight, chemical analysis of the contents and the name of the manufacturer. At least 50% of the nitrogen in the fertilizer shall be from natural organic sources. Fertilizer shall be carefully stored and shall be dry and free-flowing at the time of application.
- F. Bone meal shall be commercial steamed bone meal, finely ground with a minimum of 2.0% nitrogen and a minimum of 20% phosphoric acid, delivered in standard packages of the manufacturer, showing weight, analysis and name of manufacturer.
- G. Tree wrap shall be burlap or special crepe weatherproof tree wrapping tape in 2 to 8 inch width rolls.
- H. Anti-desiccant emulsion for tree spraying shall be anti-transparent wax or similar concentrate specifically manufactured for horticultural use. It shall be delivered in manufacturer's original containers and mixed and applied according to manufacturer's label directions.
- I. Support Stakes: Shall be wood.
- J. Cables, Wire, Eye Bolts, and Turnbuckles: Shall be non-corrosive and of sufficient strength to withstand wind pressure.

PART 3 EXECUTION

3.01 PREPARATION

- A. Verify topsoil is ready to receive the work of this Section.
- B. Prepare topsoil to receive plant materials.

3.02 INSTALLATION

- A. Place plant materials for review and final orientation by OWNER prior to installation.
- B. Excavations for all plant material shall allow a minimum of 1 foot clearance around the sides of the root ball and 6 inches below the root ball to receive the backfill material.
- C. All plants shall stand plumb and after settlement shall be at the same ground level at which they were growing before digging. Burlap and twine shall be cut away from the upper half of all root balls and the remaining burlap adjusted to prevent the formation of air pockets. Exposed and curled roots shall be spread in a natural position.
- D. Backfill around plant balls shall be planting soil as specified. The plant ball shall be placed on a compacted planting base of the prepared planting soil with a minimum depth of 6 inches. Bonemeal as specified shall be mixed in the compacted base soil mixture at the rate of one cup per diameter inch for trees and one-half cup per shrub. Planting soil shall be backfilled in 6-inch layers, firmly tamping and watering each layer. Excess topsoil shall be used to form a berm approximately 4 inches high around the pit planting area to provide a saucer for watering.
- E. Fertilizer as specified shall be evenly distributed on the surface of the backfilled saucer area at the rate of one (1) pound per tree before mulching.
- F. Pruning shall be done with sharp tools which make a clean cut. Care shall be taken to preserve the natural appearance of the plant. Pruning shall consist of removal of selected small branches rather than a general cutting back of all branches. The pruning shall be limited to removal of

damaged branches and cutting back of longer lateral branches. The central leader shall not be cut under any circumstances.

- G. Mulching material as specified shall be applied to all plants over the entire backfilled saucer area and planting bed to a depth of 3 inches. A slight saucer shall be maintained around each plant for watering.
- H. All stems and leaves of plant materials shall be uniformly covered with an anti-desiccant emulsion, using an approved low pressure power sprayer to apply an adequate film over trunks, branches, twigs and/or foliage. The spray material shall not be applied at temperatures below 32 degrees F. and shall be protected from freezing at all times.
- I. All plants shall be carefully and thoroughly watered during planting and as often as necessary thereafter to provide the best growing conditions until acceptance of the Work.

3.03 PLANT SUPPORT AND WRAPPING

- A. All stakes or guying shall be done immediately after planting and stakes and wire maintained. Plants shall stand plumb after staking.
- B. Brace plants upright in position by guy wires with turnbuckles or stakes according to the following schedule:

<u>Tree Caliper</u>	<u>Tree Support Method</u>
1 inch	1 stake with one tie
1 - 2 inches	2 stakes with two ties
2 - 4 inches	3 guy wires
over 4 inches	4 guy wires

- C. Promptly after planting and inspection, the trunks of all deciduous trees are to be spirally wrapped starting at the base with burlap or approved tree wrap. The wrap shall overlap half the width of the tape and be securely tied around the tree stem at two foot intervals. The wrapping shall cover the entire surface of the trunk to a height of 6 feet or the first main branches.

3.04 MAINTENANCE SERVICE

- A. The contractor shall begin maintenance of plant materials immediately after planting and continue until termination of the warranty period as shown on the Landscape Plan.
- B. Maintenance shall include measures necessary to establish and maintain plants in a vigorous and healthy growing condition. Including the following:
 - 1. Cultivating and weeding plant beds and tree pits. When herbicides are used for weed control, apply in accordance with manufacturer's instructions. Remedy damage resulting from use of herbicides.
 - 2. Watering sufficient to saturate root system and at a frequency to establish healthy trees and shrubs as specified by the supplying nursery.
 - 3. Pruning, including removal of dead or broken branches, and treatment of pruning wounds.
 - 4. Disease and insect control.
 - 5. Maintaining wrappings, guys, turnbuckles, and stakes. Adjust turnbuckles to keep guy wires tight. Repair or replace accessories when required.

- C. The Final Maintenance Inspection shall occur at the end of the Warranty Period.

END OF SECTION