LANDSCAPE AND SOD PART I - GENERAL

1.1 DESCRIPTION OF WORK

A. The work includes furnishing all plants, materials, equipment, and labor necessary for the procurement and installation of plant and materials indicated on the drawing(s); and \prime or in the specifications.

1.2 RELATED SECTIONS

A. Section 02110 - Site Clearing B. Section 02200 - Earthwork

C. Section 02810 - Exterior Irrigation Work

1.4 QUALITY ASSURANCE

A. The landscape contractor is to be regularly engaged in the installation of living plant material. Labor crews shall be controlled and directed by a landscape foreman well versed in landscape installation, plant materials, reading blueprints and coordination between the job and nursery. The landscape contractor shall carry any necessary insurance and protect the Owner against all liabilities claims or demands for injuries or damage to any person or property growing out of the performance of the work under this contract and all of his workers shall be covered by Workmen's Compensation Insurance.

B. The landscape contractor and irrigation contractor must coordinate scheduling and layout prior to commencement of material installation. If necessary, the landscape contractor and irrigation contractor may agree to minor adjustments in sprinkler layout, head type or quantity, in response to specific plant needs. The landscape architect must be notified 48 hours prior to commencing field changes in order to review and approve of any such changes.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

A. All plant materials shall be nursery grown unless otherwise noted. Abbreviations on plant list:

C W = clear wood GW = grey wood OA = overall heightCT = clear trunkSPR = spread OC = on centerHT = heightD = diameter

B. Quality and Size: Plants shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting. Requirements for measurements, branching grading, quality, balling and burlapping of plants in the plant list generally follow the code of standards currently recommended by the American Association of Nursery Stock. In all cases, plant materials shall be Florida Grade No. 1 or better (as defined by the February, 1998 edition of Grades and Standards). Plants that meet the requirements specified, but do not have normal balance of heights and spread typical for the respective plant, shall not be accepted. All plants shall be free of weeds or any other objectionable vegetation. All trees to have a single main leader, unless specified otherwise.

C. Quantities: All quantities indicated on the plant list are intended as a guide for the bidders and does not relieve the bidder of his responsibility to do a comprehensive plant take off. If a discrepancy occurs between the bidder's take off and the plant list quantity, the Landscape Architect is to be notified for clarification prior to the submittal of bid.

D. Substitution: Plant substitution requests by the Contractor will be considered by the Landscape Architect only upon submittal of conclusive proof that any plant is not obtainable in the type and size specified. The Landscape Architect shall determine the nearest equivalent replacement in an obtainable size and variety. The unit price of the substitute item shall not exceed the bid item replaced, without approval of the Owner.

1. Hurricane cut: All Sabal Palms, if designated on plant list to be hurricane cut, shall be dug and have all fronds removed as standard to good horticultural practices, within 24 hours or transporting to site or

2: Sabal Palms with fronds: All Sabal Palms, if designated on plant list to be installed with fronds, shall have the palm head trimmed up and have a minimum of seven (7) fronds per head. See specification

2.2 COMMERCIAL FERTILIZER

A. Commercial granular fertilizer shall be from LESCO ph.(561) 848-7122 as follows: 12-2-14 for ornamental trees, palms, shrubs and groundcover. Fertilizer will contain nitrogen, phosphoric acid and potash available plant food by weight. At least 70% percent of the nitrogen in the fertilizer shall be slow-release. Fertilizer shall be delivered to the site unopened in original containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer that becomes caked or otherwise damaged shall not be acceptable. Fertilizer shall be applied at the rate of 3 1/2 to 7 pounds per 1,000 sq, ft. to planting beds. Use a rotary spreader, chest spreader, or hand application method to apply the fertilizer. For new plantings, the fertilizer should be applied to the top of the soil around the plants after planting and before mulch is layed. For trees and larger shrubs, apply one pound of fertilizer per inch of trunk diameter. Spread evenly on the ground around the plant from the outer edge of the leaves inward to the trunk, or 1 to 1 1/2 pounds of fertilizer per 100 sq. ft. of ornamental bed area. Apply the fertilizer to dry foliage and water in soon after application. Wash or brush off walks and painted surfaces following application to avoid discoloration.

B. Planting tablets shall be tightly compressed, long lasting, slow release Agriform fertilizer tablets weighing 21 grams, with a potential acidity of not more than 5% by weight and having an analysis of 20-10-5, respectively.

2.3 PEAT

A. Peat shall be horticultural peat composed of not less than 60% decomposed organic matter by weights, on any oven-dried basin. Peat shall be delivered to the site in a workable condition free from lumps. 2.4 PLANTING SOIL

A. Planting soil shall be 1/3 clean sand, 1/3 peat, 1/3 topsoil (by volume). Planting soil shall be free of clay, stones, plants, roots, and other foreign materials which might be a hindrance to planting operations or be detrimental to good plant growth. Soil shall be delivered in a loose friable condition and applied in accordance with the Planting Specifications.

2.5 MULCH

A. Fibrous Mulch: All mulch material shall be a fibrous, non-floating, shredded Grade 'A' Eucalyptus mulch or as per plant and materials list on plans if listed differently, installed 3" deep (prior to compacting), and moistened at installation to prevent wind dispersement.

B. Mulches shall not contain sticks larger that 1/2 inch in diameter or 3" long, stones, or other foreign material that will prevent the eventual decay of the mulch necessary for its complete effectiveness.

A. Water for planting will be available at the site and will be provided by the Owner. Landscape Contractor shall not assume that the irrigation system will be operational at the time of planting. It is the responsibility of the Landscape Contractor to provide all the required water necessary to maintain the plant material in a healthy growing condition. The watering may include deep watering of trees and the watering of shrub and ground cover areas. Any plant materials that die or that are not in a healthy growing condition due to lack of water shall be replaced at no addition cost to the Owner.

B. If water is not available on site, the Landscape Contractor will coordinate with the owner to determine who will provide the water. The Landscape Contractor will apply the water to all planting areas using a water truck. (Note: Landscape Contractor shall comply with all State, County \$ Municipal codes for traffic safety, etc.) It is the responsibility of the Landscape Contractor to apply all the required water necessary to maintain the plant material in a healthy growing condition. The watering includes deep watering of trees, palms, shrubs, ground covers and sod. Any plant material that die or that are not in a healthy growing condition due to lack of water shall be replaced at no additional cost to Owner. Minimum watering schedule for the first year by watering truck is: three(3) times per week for months I \$ 2, two(2) times per week for month 3 through month 12. NOTE: Contractor is to observe all code restrictions, if applicable, pertaining to watering of new plantings and advise the Owner/Landscape

PART 3 - EXECUTION

3.1 PROTECTION OF PLANTS:

Architect of any concerns for the plant material in advance.

A. Root Protection:

I. Balled and Burlapped Plants: Plants designated "B & B" (balled and burlap) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass to fibrous and feeding root system, necessary for full recovery of plant. Balls shall be firmly wrapped with natural burlap or similar materials and bound with twine, cord, or wire mesh. All collected plants shall be balled and burlap.

2. Container Grown Plants: Plants grown in containers will be accepted as "B & B", providing that all other specified requirements are met. Container grown plants shall meet plant sizes as specified on the plant list and on the Drawings, and shall not be governed by container sizes. Minimum root balls of container grown material shall be no more than 25% less proportionately in size than that stated in "Grades & Standards" for nursery plants. These plants shall have been grown in the container for a maximum of two years prior to installation and shall exhibit a fully developed root system when removed from the container.

B. Protection During Transporting: All plant material shall be protected from possible bark injury on breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying, or damage to plants.

C. Protection After Delivery: Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch, or other protection from drying by wind and/or sun exposure. All plants shall be watered as necessary until planted. Plant storage period shall not exceed forty-eight (48)

D. Protection of Palms (If Applicable): Only a minimum of fronds shall be removed from the crown of the palm trees to facilitate moving and handling, except for "Hurricane Cut" Sabal Palms, if specified.

E. Clear trunk shall be as specified after the minimum of fronds have been removed. Clear trunk shall be measured from the top of root ball to where the mature trunk joins the immature or green portions of the trunk. All palms shall have a sufficient ball size for rapid growth and acclimation. All palm trunks shall straight and true unless otherwise specified, and be free of damage and scars. Sabal Palms shall have no burn marks on trunks. Sabal Palm designated to have fronds at installation shall be tied with a biodegradable twine to be left in place until the tree is well established at which time the Contractor is to remove the twine if necessary.

F. Protection During Planting: Trees and palms moved by chain, strap, winch, or crane shall be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wood battens or other approved methods. Trees and palms with damaged or girdled trunks will be rejected and will be replaced as per specified prior to final acceptance by the Owner/Landscape Architect.

A. Layout: Location for plants and outline of areas to be planted are indicated on the Drawings. All plant locations shall be staked in the field by the Contractor, to the satisfaction of the Landscape Architect. Where construction or utilities below around or overhead are encountered, or where changes have been made in the construction, necessary adjustments will be approved by the Landscape Architect.

B. Soil Preparation: Apply two (2) applications of an approved pre-planting environmentally safe systemic herbicide. Soil used shall be as herein before specified under "Planting Soil", thoroughly mixed with peat to produce 33 % peat, by volume. The soil should be in a relatively dry state and mixed thoroughly by hand or rotary mixer. All planting areas shall be treated with an approved pre-emergent environmentally safe herbicide, according to the manufacturer's specifications. All chemicals used are subject to safe environmental applications based on industry standards by licensed professionals using all safety precautions

C. Excavation for Planting: Excavation of plant pits shall be circular in outline and shall extend to the required subgrades as specified hereunder. The minimum depth of plant pits specified below shall be measured from the finish grade. Mass planting beds shall be stripped of all vegetation prior to planting. Use acceptable excess excavated topsoil to form 6" height 3' diameter watering berms around plants; use 25% of the excavated material and mix with topsoil for Backfill. Remove all excess material to dump site as directed by Owner. If an on site dump area has not been designated by the Owner, remove excess material off-site. Excavated material in excess of the 6" temporary water berm above is not to mounded around the base of each plant. The 6" water berm material is to be removed from site and the resulting area is to be mulched/sodded as required after the transplant acclimation period is complete to form a 3' diameter circular mulch ring centered around the base of the plant.

D. Balled and Burlapped Plants: After final pit preparation, loosen burlap wrapping and fold burlap down exposing the top 1/3 of the root ball, leaving the ball unbroken. Remove excessive amount of burlap to eliminate voids which may be caused upon decomposition. Remove all twine, rope, wire, etc., at the base of trunk upon installation to prevent the choking or girdling of the root system as the plant matures.

E. Container Grown Plants: Container grown plants shall, when delivered, have sufficient growth to hold earth intact when removed from container and shall not be root bound. Plant pits for container materials shall be formed flat on the bottom and compacted to avoid air pockets at the bottom of root balls and container shall be removed carefully to prevent damage to plant or root system. Plants with circular root systems will not be accepted and will be replaced by Contractor prior to final acceptance.

F. Testing for Drainage: Test fill all tree pits with water before planting to assure proper drainage

percolation is available. Pits which are found not to be adequately draining shall be excavated to a depth sufficient for drainage and backfilling with gravel or crushed rock. No allowances will be made for lost plants due to improper drainage.

G. Pit Sizes: Minimum diameter (width) and depth of planting pits for balled and burlapped, and container grown plants, shall be as follows:

1. Diameter - Trees \$ Palms: 18"-24" greater than diameter of ball or spread of roots. 2. Diameter - Shrubs: 8"-12" greater than diameter of ball or spread of roots.

3. Depth - Trees and Palms: The center of each pit shall be dug to the depth of the root ball. The root ball shall sit tilled to existing subgrade.* The perimeter of each pit shall be 6" greater than depth of ball to provide 6" of planting soil backfill to enhance downward growth of roots. Also see 3.2 | \$ 3.2

* (If subgrade soils at the bottom of each pit are detrimental to plant growth, each pit is to be dug 6" deeper than root balls and the root ball is to sit on 6" of properly compacted specified planting soil mix

4. Depth – Shrubs: The center of each pit shall be dug to the depth of the root ball. The root ball shall sit on tilled existing subgrade.* The perimeter of each pit shall be 4" greater in depth than the root ball to provide 4" of planting soil backfill to enhance downward root growth.* Also see 4.1.

5. Depth - Vine Ground covers: Pits shall conform to accepted nursery practice for the particular species and equal the plant pot depth plus three (3) inches.

H. Backfilling: When the plant pit has been excavated as specified above and the plant has been set, the pit shall be backfilled with planting soil at the following minimum rates:

One-quarter cubic yard per one (1) tree One cubic yard per twenty-five (25) - 7G (1erio cans / equal)

One cubic yard per fifty (50) - 3G shrubs One cubic yard per one hundred (100) - 1G (ground covers, etc.)

1. Setting Trees and Shrubs: Unless otherwise specified, all trees and shrubs shall be planted in pits, centered, and set on existing tilled subgrade soil* to such depths that the finished grade level of the plant shall be the same as that at which the plant was grown. They shall be planted upright and faced to give the best appearance or relationship to adjacent structures. No burlap shall be pulled out from under the balls and the burlap shall be folded down to expose the top 1/3 of ball. Platforms, wire, and surplus binding from top and sides of the balls, shall be removed. All broken or fraved roots shall be cut off cleanly. Planting Soil mix (1/3 clean sand, 1/3 peat, 1/3 topsoil) shall be placed and compacted thoroughly, avoiding injury and shall be settled by watering. No filling around trunks will be permitted. After the ground settles, additional soil shall be filled in the level of the finished grade allowing for three inches (3") of mulch after the granular fertilizer has been applied. All air pockets will be removed by alternately watering and adding soil as required. Form a shallow saucer around each plant by placing a berm of soil along the edge of the plant pit. This berm shall be six inches (6") high for all trees and three inches (3") high for all shrubs.

J. Setting Palms: All palms shall be planted in pits, centered, and set on existing tilled subgrade soil* to such depths that the finished grade level of the palm is the same as it was grown. They shall be planted upright (unless specified to lean), and faced to give the best appearance or relationship to adjacent structures or views. All broken or frayed roots shall be cut off cleanly. Except for Sabal Palms which are to be backfilled with sand, thoroughly washed in during planting operations, all palms shall be backfilled with planting soil mix of 1/3 clean sand, 1/3 peat, 1/3 topsoil, placed and compacted thoroughly avoiding injury and shall be settled by watering. After settling, additional planting soil shall be used to fill in to finished grade allowing three inches (3") for mulch to be applied after granular fertilizer has been applied. A shallow saucer shall be formed around each palm by placing a berm of soil along the edge of each planting pit. This berm is to be a minimum of six (6") inches high.

K. Fertilizing: When setting trees, palms and shrubs placed in each plant hole with Agriform Planting Tablets, 20-10-5 formula, 21 gram, according to the following:

I gallon container plant - 3 gallon container plant ..2 tablets

7 -15 gallon container plant. ..4 tablets B & B Shrubs and Trees.. ...I tablet for every 20" around circumference of root ball above middle of ball.

Granular application: Application of granular fertilizer by LESCO will be as per LESCO application rate

Correct Placement of Tablets: Position the plant in the hole and backfill no higher than halfway up the root ball. Place the recommended number of tablets evenly spaced around the perimeter of, and immediately adjacent to, the root ball at the depth which is between the middle and the bottom of the root ball. Complete backfilling as described above under setting trees, palms and shrubs.

L. Pruning: Remove dead and broken branches from all plant material. Prune to retain typical growth habit of individual species with as much height and spread as is practical. Make all pruning cuts with a sharp instrument flush with trunk or adjacent branch, in such a manner as to ensure elimination of stubs. "Head back" cuts, right angle to line of growth, will not be permitted and trees will not be poled or topped. Paint all cuts 1/2" in diameter and larger with approved waterproof antiseptic tree paint and remove trimmings from site. Trees and palms incorrectly pruned will be rejected.

1. Guy all large trees 1" to 4 1/2" in caliper in three (3) directions with double strands of No. 12 galvanized wire attached to approved wood braces equally spaced and driven below grade per details. When securina wires to trees, cover all wires which may come in contact with any part of tree with new 2-ply reinforced rubber or plastic hose of $3/4^{\parallel}$ in diameter or greater. Place guys not less than 1/3 of the heights of tree above finished grade and above first substantial branches. All hoses shall be interlocked around tree trunk. Place anchors so that guys are equally spaced.

2. Guy all SMALL TREES (less then 2 1/2" in caliper) as indicated above and stake with three (3) - 2" x 2" x 7' wood braces, equally spaced, 18" to 24" from trunk, pounded 24" below grade.

3. Guy all MEDIUM TREES (2 1/2" to 4 1/2" in caliper) as addressed above and stake with 3-2" \times 4" \times 8' wood braces, equally spaced around tree, pounded 36" below grade. Each guy wire shall angle from tree at a 45' angles to horizontal. Keep guys tight until project completion by the use of a galv. steel turnbuckle placed midway between trunk and ground. Each wire shall have a yellow or white surveyor's tape located just above the turnbuckle. Each wood braced to have a 1/2" notch and the guy wire wrapped around the brace 3 times at the notch to prevent slipping.

N. In staking palms and large broadleaf trees (4 3/4" caliper and up) no nails or other fasteners will directly penetrate the trunks. Wood 2 x 4 battens, 12 inches (12") long, separated by a minimum of five (5) layers of burlap can be attached to the trunk of the palms/trees with metal banding. Stakes can only be nailed to the wooden battens. Stakes are to be sized according to to the size, weight, and exposure of the tree/palm with a minimum of 2×4 's up to 6×6 's or greater members as required. Stakes are to be removed by the Contractor when appropriate after maintenance period is complete subject species, root formation, and the Contractor's acceptance of the stability of tree/palm. All trees and palms which lean or fall during the guarantee period will be straightened and properly reset at no charge to the Owner.

O. Mulching: All trees and shrub beds shall be mulched immediately after planting, to a three inch (3") depth, with the mulch as specied in the plant and materials list or as per these specifications. Prevent wind displacement of mulch by thoroughly wetting the mulch down.

P. Excess Excavated Soil: Excess excavated soil shall be disposed of off site by the Contractor at no additional expense to the Owner. If the excavated soil is clean and free of debris, it may be used for other on site earthwork if needed, unless specified otherwise. See 2.B.

3.3 SOD and SEED (When Applicable)

A. Soil: The Contractor shall submit a unit price per cubic yard for the supply and distribution of planting soil as herein before specified, to be applied at a compacted depth of one inch (1") to all areas receiving sod. (The use of this item in the Contract shall be at the discretion of the Landscape Architect after evaluation of the existing soil on the site.) Payment for this item will be determined by a square foot in place measurement of the installed sod area after sod installation is complete, multiplied by the specified depth of one inch (1^{\parallel}), to determine cubic yards of soil used.

B. Grades: It shall be the responsibility of the Contractor to finish (fine) grade all landscape areas, eliminating all bumps, depressions, sticks, stones and other debris to the satisfaction of the Landscape Architect, prior to the application of sod. If supplemental topsoil is to be spread, no sod shall be laid until the depth of this soil has been approved.

C. The sod shall be as called for on the Landscape Drawings. Sod shall be of firm tough texture having a compact growth of grass with good root development, and shall contain only the species of grasses specified, and no weeds or any other objectionable vegetation. The soil embedded in the sod shall be 2" of good earth, free from stones and debris and all sod shall be free from fungus, vermin and other

D. Before being cut and lifted, the sod shall have been mowed at least three times with a lawn mover, with the final mowing not more than seven (7) days before the sod is cut. The sod shall be carefully

E. Solid sod shall be laid by the Contractor with closely abutting joints with a tamped or rolled, even surface. It shall be the responsibility of the Contractor to bring the sod edge in a neat, clean manner in straight lines or smooth radii as per plans to the edge of all paying, buildings, trees, palms, shrubs, etc. and bed areas or mulch rings. Sod installation, if subcontracted, is to be supervised by the Contractor to insure proper laying and proper bed lines per plans. Improper sod installations will be removed and relaid as necessary. Sod is to be "cut-in" to match the elevation of adjacent areas to develop a finished appearance and to avoid unevenness or tripping hazards. If, in the opinion of the Landscape Architect, top-dressing is necessary after rolling, clean sand will be evenly applied over the entire surface and thoroughly washed in at no additional cost to the Owner.

F. Seed (if applicable)

l. Landscape Contractor shall remove all rocks larger than one inch (1") in dia. and all vegetation from the areas to be seeded, scarify the area, then apply 10-10-10 fertilizer at a rate of 500 lbs. per acre. 2. Application: Argentine Bahia grass seed shall be applied at a rate of 80 lbs. per acre, mixed with common Hulled Bermuda Seed - 20 lbs. per acre, and 30 lbs. per acre of suitable cover crop (millet seed or winter rye seed) depending upon the season of installation.

3. Roll immediately after seeding with a minimum 500-pound roller avoiding damage to site utilities and improvements by surveying and marking them as necessary. Then apply straw mulch at a rate of 2.5

4. Apply approved fertilizer at the rate of 150 pounds per acre, 45 days after seeding. 3.4 CLEAN UP

A. Any soil, peat or similar material which has been brought onto any paved areas shall be removed promptly keeping these areas clean as the work progresses. Upon completion of the planting, all excess soil, stones and debris which has not been previously cleaned up shall be removed from the site.

A. Maintenance shall begin immediately after each plant is planted and shall continue durina installation and until all planting has passed final inspection and acceptance. Maintenance shall include watering, weeding, cultivating, removal of dead materials, resetting plants to proper grades or upright positions and restoration of the planting sauces and any other necessary operations. Proper protection to lawn areas shall be provided and any damage resulting from planting operations shall be repaired promptly.

B. All trees shall be deep watered for a period of 90 days after planting. Saucer berms shall be removed on all plant material 30 days after acceptance, except for all replacement materials.

C. In the event of the threat of serious damage resulting from insects or disease prior to final acceptance, the plants shall be treated by preventative or remedial measures approved for good horticultural practice at no additional cost to the Owner.

D. The Contractor shall furnish the Owner with a written and detailed description for the care and maintenance of all plant material at the time of final inspection. The Owner agrees to execute the instructions for such care and maintenance.

3.6 INSPECTION AND ACCEPTANCE

A. Inspection: Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Owner and/or Landscape Architect at the conclusion of all planting and at the written request of the Contractor.

B. Acceptance: After inspection, the Contractor will be notified by the Owner and/or Landscape Architect of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to quarantee.

3.7 GUARANTEE AND REPLACEMENT

A. Guarantee: The Contractor, as part of this Contract, shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of one (1) year from the time of completion and acceptance. All plant materials shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. Where vandalism is agreed by the Landscape Architect as the cause for replacement, the Contractor shall not be responsible for replacement during the one (1) year guarantee after final acceptance.

B. Sod shall be guaranteed for a two month period dating from final acceptance and any lawn care which becomes necessary during the completion period will be the responsibility of the Owner to ensure a vigorous stand of grass.

3.8 TREE PROTECTION (When Applicable)

A. Protection and care of existing trees, palms, shrubs, and ground cover to remain, to include all aspects of protection, fertilization and watering.

B. Tree, palms, shrubs, and ground cover to remain are designated on the drawings or as directed by the Landscape Architect.

C. Snow fence detail, when included in plans, will be installed prior to beginning construction activity on project site as part of base bid for contract.

3.9 TREE RELOCATION (When Applicable)

protection, fertilization and watering. 1. Trees and palms to be relocated on site are designated on the drawings or as directed by the

2. Diameter used herein shall mean diameter measured at breast high (DBH) of dicot or a conifer tree as measured four and one half feet (4 1/2) above ground. The diameter of a monocot is measured at one foot (1') above ground.

A. Prepare and relocate trees and palms designated for relocation to include all aspects of preparation,

3. All dicot trees, specifically Quercus Virginiana (Native Florida Live Oaks), shall be root pruned between 90-120 days before being relocated.

4. All monocot trees shall be dug with a vermeer or similar type tree spade equipment and moved to its permanent location in one move. Monocots shall be watered before the move, installed with a complete watering system and maintained under full irrigation for a period adequate to establish the tree.

5. Plans are not complete for bid or construction unless accompanied by written letter/plan format C.S.I landscape specifications.

1. Excavate the total circumference of the root zone with a minimum eighty (80") inch diameter ball, cut to a depth of not less than thirty (30") depth and one foot wide, to get all roots that are necessary to the support of the tree in relocation. The cut trench shall be backfilled with loose friable soil (1/3, 1/3, 1/3 mix) - and Eucalytus mulch (unless otherwise specified in plant and materials list on plans) and should be placed under constant watering until the time of the move. The tree shall be watered before the move, installed with a complete watering system and maintained under full irrigation for a sufficient period of time adequate to establish the tree.

2. At the time of root pruning, the oak trees shall also have their canopies selectively trimmed out to form a well shaped tree with a broad spread and a high canopy. Thin out all interior branches and cut the perimeter branches back to the (1") one inch diameter 1imb size. The intent is to reduce the foliar mass but keep plenty of small limbs and branches so that the new growth will emerge in the spring that the root system can support. Cut no limbs larger than I" diameter except interior branches to be

3. Six months after the tree is established in its new location, remove stakes, bands, and battons unless they are still needed for bracing tree.

4. Coordinate the orientation of trees before they are set and as they are being set to avoid conflict with branch structure of trees adjacent to either the other trees, the building walls and any other

5. Excavate holes in scale with root ball of tree as it is dug so tree will be set to grow at the same grade as it was originally growing.

1. This contract includes the responsibility to provide a constant supply of water to the tree to be relocated, from the day they are root pruned, throughout the holding period, to the new locations when they are moved, and for the final locations shown on plans. Coordinate with the irrigation installer and the Contractor to utilize the existing water source(s) and the new irrigation water meter(s), so no period of the time occurs that water is not always available to the trees to avoid stress or loss of trees.

2. While hand watering, keep all upper branches moistened. Continue any selective pruning that may be needed to adjust to the new planting locations.

3. Maintain supplementary hand watering throughout all phases of construction.

4. Form and maintain tree well for water retention in the root zone.

1. Brace with 2×4 , 4×4 , or 6×6 wooden stakes depending on the tree size or at the landscape contractor's discretion after root pruning in place and after tree relocation. The landscape contractor is fully responsible to reset trees at no additional cost if required. All work, care, and follow up is to be

included in base bid. 2. Burlap, battons and bands shall be used to protect bark from damage while rigging to lift trees by

E. Utilities 1. The installing contractor shall be responsible to coordinate with all construction plans and schedules, and all appropriate utility location service companies in the project area and the local agencies to provide

locations for all overhead and underground utilities.

I. The installing contractor shall be responsible to coordinate with all construction plans and provide mulch to minimum 3" depth and incorporate the tree(s) with the rest of the new plantings.

2. Root hormones, fungicide and similar chemicals may be applied at the contractor's discretion.

1. Backfill the trees with a 1/3, 1/3 mix of planting soil. Construct a tree well unless curbing or planter areas provide necessary well requirements.

H. Fertilization

1. Fertilize tree with agriform tablets outside the root zone to encourage root growth.

1. Equivalent replacement. A tree (or trees) which due to its classification (based on the table of tree evaluation established by the International Society of Arboriculture) in the case of dicat or conifer condition size, and location, its determined by the city/county/state Landscape Architect/Urban Forester to be the equivalent to the tree (or trees) which it replaces. In making this determination, the city/county/state Landscape Architect/Urban Forester shall be guided by the standards established by the International Society of Arboriculture.

2. Equivalent value is an amount of money, which reflects the cost of replacing a dicot or conifer tree, determined by multiplying the cross sectional diameter of the tree (measured in square inches) by the values (based on the cost of obtaining an equivalent replacement according to the classifications of tree as listed in the table of tree evaluation established by the International Society of Arboriculture. 3. Any tree or palm that dies or is deemed in unacceptable condition for one (1) year following relocation shall be removed by the Contractor including root ball, and backfilling of pit, at no cost to the Owner and the tree will be replaced with a new tree or palm of the same size and species, and installed to meet these specifications.

survival of trees and palms if it is deemed by the Landscape Architect or Owner that all possible measures have been taken by the Contractor to insure the tree(s) survivability. If, however, it is deemed by the Landscape Architect or Owner that the tree or palm mortality is a product of negligence by the Contractor or failure to follow these specifications, the Contractor shall provide and install at no additional cost to the Owner a tree or palm of same size and species.

4. Acknowledging the nature of tree and palm relocation, the Contractor shall not be responsible for

END OF SECTION 02490

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PLANTING SPECIFICATIONS

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Architect: AA 0002541 andscape Architect: WV 0000694 STATE

OF

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Revisions

ssues of Drawings Date 06.15.16 100% CD - PERMIT SET Checked:

Revisions of Drawings

PLANTING **SPECIFICATIONS**

WDA Proj. No.: 1526-01 Owner Proj. No.: 1"=20' Scale:

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