

EVERGREEN TREE STAKING AND GUYING

MAINTENANCE DURING ESTABLISHMENT & WARRANTY PERIOD

- 1. IN GENERAL THE CONTRACTOR SHALL FURNISH ALL LABOR, SUPERVISION, EQUIPMENT, AND MATERIALS AS NECESSARY TO PROVIDE COMPLETE MAINTENANCE AND SUPPLEMENTAL IRRIGATION OF ALL SHRUBS, TREES, PALMS, GROUNDCOVER'S AND SHALL PROVIDE SUCH OTHER WORK AS MAY BE REQUIRED BY THESE SPECIFICATIONS, TO MAINTAIN THE LANDSCAPE IN AN ATTRACTIVE CONDITION THROUGHOUT THE WARRANTY PERIOD. THE SUPERVISOR SHALL HAVE EXPERIENCE IN ORNAMENTAL HORTICULTURE AND FLORIDA-FRIENDLY LANDSCAPING™ PROPER CULTURAL PRACTICES COUPLED WITH REGULAR INSPECTIONS FOR EARLY WARNING SIGNS OF PROBLEMS AND THE USE OF THE MOST ENVIRONMENTALLY FRIENDLY METHODS TO SOLVE THEM. CONTRACTOR SHALL REPLACE, AT HIS/HER EXPENSE, ANY TREES OR PLANTS THAT DETERIORATE OR DIE DUE TO HIS, OR HIS EMPLOYEES', ACTIONS. THIS DOES NOT INCLUDE LOSSES DUE TO DAMAGE FROM ACTS OF GOD, VANDALISM, OR HUMAN ABUSE OTHER THAN THAT CAUSED BY THE CONTRACTOR. THE WORK TO BE COMPLETED IN THIS SECTION INCLUDES THE FOLLOWING ITEMS AS LISTED HEREIN.
- 2. FERTILIZATION FOLLOW THE UNIVERSITY OF FLORIDA / INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES (UF/IFAS) GUIDELINES FOR FERTILIZATION. DO NOT FERTILIZE WHEN HEAVY RAIN IS EXPECTED. A "RING OF RESPONSIBILITY" WILL BE LEFT AROUND OR ALONG WATER BODIES THAT SHALL EXTEND AT LEAST 10 FEET FROM THE EDGE OF THE WATER DURING THE ESTABLISHMENT PHASE, SHRUBS, TREES, AND GROUND COVERS SHALL BE FERTILIZED WITH A SLOW-RELEASE FERTILIZER AT THE RATE OF NO MORE THAN ONE POUND OF NITROGEN PER 1,000 SQUARE FEET OF PLANTING AREA. THIS IS CALCULATED BY DIVIDING THE PERCENTAGE OF NITROGEN INTO 100. (EXAMPLE: IF THE RATIO 15-0-15 IS USED, THEN 6.6 POUNDS OF THE FERTILIZER WILL BE SPREAD OVER 1,000 SQUARE FEET OF LAWN AREA). THE FERTILIZER SHALL CONTAIN BOTH NITROGEN AND POTASSIUM, IN SLOW-RELEASE FORM. A SOIL TEST SHOULD BE ORDERED BY AND PROVIDED BY THE CONTRACTOR TO DETERMINE IF MAGNESIUM (MG), AND/OR OTHER MINOR ELEMENTS SUCH AS IRON AND MANGANESE ARE NEEDED. IF THE SOIL TEST INDICATES THAT THESE ELEMENTS ARE NEEDED, FERTILIZER SHOULD CONTAIN 3% - 5% MAGNESIUM (MG) AND 1% - 2% OF IRON AND MANGANESE. THE SOILS ANALYSIS SHOULD RECOMMEND THE RATE OF APPLICATION AND FERTILIZER RATIO TYPE REQUIRED.FERTILIZER TYPE DEPENDS ON SOIL CONDITIONS. NUTRITIONAL DEFICIENCIES MAY DEVELOP DUE TO SOIL CONDITIONS, SUCH AS ALKALINE PH OR COMPACTED SOILS, OR DAMAGED AND DISEASED ROOT SYSTEMS. DEFICIENCIES OF SPECIFIC NUTRIENTS SHALL BE TREATED WITH APPLICATIONS OF THE NEEDED NUTRIENT IN ACCORDANCE WITH UF/IFAS RECOMMENDATIONS UNTIL DEFICIENCIES ARE CORRECTED. FERTILIZER SHALL BE BROADCAST AROUND PLANTS UNIFORMLY, BUT WILL NEVER DIRECTLY CONTACT STEMS AND TRUNKS. FERTILIZERS SHALL BE SPREAD EVENLY UNDER TREE CANOPIES (FROM THE OUTER EDGE DRIP LINE INWARD).THE CONTRACTOR SHOULD PROVIDE AN ANNUAL SCHEDULE TO MAINTAIN THE CORRECT NUTRIENT MIXTURES THROUGHOUT THE GROWING SEASON NOT TO EXCEED THE RECOMMENDATIONS FROM THE UF/IFAS EXTENSION SERVICE, AND SHOULD COMPLY WITH THE GREEN INDUSTRIES BEST MANAGEMENT PRACTICES, STATE AND LOCAL ORDINANCES. LOCAL FERTILIZER REGULATIONS MAY PROHIBIT THE USE OF NITROGEN FERTILIZERS DURING THE SUMMER MONTHS.
- 3. INSECT AND DISEASE CONTROL THE CONTRACTOR SHALL USE AN INTEGRATED PEST MANAGEMENT (IPM) APPROACH FOR INSECT, DISEASE, AND WEED CONTROL. THE DECISION TO APPLY A PESTICIDE MUST BE SUPPORTED BY MONITORING RECORDS (IPM FIELD REPORTS). APPLICATIONS OF INSECTICIDES AND FUNGICIDES SHOULD BE COORDINATED WITH THE SUPPLEMENTAL IRRIGATION SCHEDULE.PESTICIDES MAY ONLY BE APPLIED BY A LICENSED PESTICIDE APPLICATOR OR TRAINED TECHNICIAN UNDER LICENSEE'S SUPERVISION, AND MUST FOLLOW LAWS AND RULES UNDER FLORIDA STRUCTURAL PEST CONTROL ACT, CHAPTER 482 UNDER FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.
- 4. WEED CONTROL WEEDS ARE OFTEN THE RESULT OF THIN, INADEQUATE MULCH BEDS. CULTURAL PRACTICES THAT ENCOURAGE DEEP, HEALTHY ROOTS COMBINED WITH PROPER FERTILIZATION AND SUPPLEMENTAL IRRIGATION DURING ESTABLISHMENT MAY ALLEVIATE THIS PROBLEM. HOWEVER, TREATMENTS WITH A PRE- OR POST-EMERGENCE HERBICIDE MAY BE NECESSARY. WHERE CONTROL OF SEDGE GROWTH AND/OR OTHER INVASIVE EXOTICS IS NOT MAINTAINED IN THE PLANT BEDS HAND REMOVAL SHALL BE PROVIDED ALL AREAS AROUND TREESAND SHRUBS MUST BE MULCHED AND MAINTAINED WEED FREE. DURING MONTHS OF ACTIVE GROWTH, WEED CONTROL MUST BE ACCOMPLISHED EVERY WEEK.THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ORNAMENTAL PLANTS KILLED OR DAMAGED BY HERBICIDE APPLICATION OR MECHANICAL EQUIPMENT.
- 5. PRUNING PRUNING SHALL INCLUDE THE SELECTIVE REMOVAL OF PLANT PARTS AND BRANCHES TO IMPROVE HEALTH, CONTROL GROWTH, OR ENHANCE FRUITING, FLOWERING, OR APPEARANCE. CORRECTIVE PRUNING SHALL BE DONE TO MAINTAIN THE NATURAL SHAPE AND CHARACTERISTICS OF THE SPECIES INSTALLED. SHRUBS SHALL BE LIGHTLY PRUNED BASED ON THE NEED OF EACH SPECIES. FOR FLOWERING SHRUBS SELECT SPECIFIC TIMES WHEN THEY SHOULD OR SHOULD NOT BE PRUNED TO AVOID IMPACT ON THE NATURAL FLOWERING CYCLE. THE CENTRAL LEADERS (TRUNKS) OF ALL TREES SHALL BE MAINTAINED (NO TOPPING, HAT-RACKING, OR "LOLLIPOP" SHAPES). INTERFERING OR CROSSED LIMBS SHALL BE REMOVED. ALL BRANCHES SHALL BE REMOVED USING "COLLAR CUTS." SUCKER GROWTH AT THE BASE OF TREES SHALL BE REMOVED BY HAND. HERBICIDES SHALL NOT BE USED FOR THIS PURPOSE. AESTHETIC PRUNING SHALL CONSIST OF THE REMOVAL OF DEAD OR BROKEN BRANCHES AS OFTEN AS NECESSARY TO HAVE TREES APPEAR NEAT AT
- 6. MULCH MULCHING AND THE MAINTENANCE OF IT IN THE PLANTING AREAS REDUCES SOIL AND WATER RUN-OFF, HOLDS MOISTURE IN THE ROOT ZONE AND INHIBITS WEEDS. MULCH SHALL BE MAINTAINED AT A DEPTH OF AT LEAST THREE (3) INCHES. WHEN ADDITIONAL MULCH IS NECESSARY THROUGH THE WARRANTY PERIOD, THE CONTRACTOR SHOULD PROVIDE IT AT NO ADDITIONAL COST. THE MULCH INCLUDE THOSE MADE FROM SUSTAINABLE MATERIALS SUCH AS RECYCLED HARDWOOD MULCH, MELALEUCA (PUNK) TREES, EUCALYPTUS, PINE NEEDLES/STRAW. CYPRESS MULCHES MADE FROM WHOLE TREE WOOD ARE NOT PERMITTED. A 2-INCH SPACE SHOULD BE LEFT BETWEEN THE TRUNKS OF PLANTS AND THE MULCH.
- 7. LITTER AND DEBRIS REMOVAL CONTRACTOR SHALL PICK UP ALL DEBRIS GENERATED (WITH THE EXCEPTION OF GRASS CLIPPINGS AND FALLEN LEAVES) WHILE MAINTAINING THE PROPERTY IN THE LIMITS OF WORK. THIS SHOULD BE DONE ON A SCHEDULE BASIS CONCURRENT WITH THE SUPPLEMENTAL WATERING REQUIREMENTS. OTHER DEBRIS FROM HURRICANES, FREEZES, AND/OR OTHER NATURAL EVENTS FALL OUTSIDE THIS REQUIREMENT AS WELL.
- 8. SUPPLEMENTAL IRRIGATION FOR THIS PROJECT A SUPPLEMENTAL WATERING STRATEGY SHALL BE REQUIRED DURING THE WARRANTY AND ESTABLISHMENT PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION TO INSURE THE NEWLY INSTALLED PLANT MATERIALS BECOME ESTABLISHED AND WILL FLOURISH. THIS IRRIGATION CAN BE PROVIDED BY SCHEDULED WATERING TRUCK(S), A TEMPORARY 'ON-SURFACE' IRRIGATION SYSTEM, OR AN ALTERNATE MEANS AS SUBMITTED AN APPROVED. IT IS INTENDED THAT THIS 'SUPPLEMENTAL IRRIGATION' SHOULD BE USED ONLY WHEN NECESSARY, TO AUGMENT NATURAL PRECIPITATION WHEN WEATHER CONDITIONS DO NOT RESULT IN AT LEAST 1" PER WEEK OF RAINFALL AT THE SITE, OR HIGH HEAT CONDITION CAUSE EXTREME EVAPOTRANSPIRATION RATES THAT COULD DAMAGE THE NEW PLANT MATERIALS. WHATEVER IRRIGATION METHOD IS EMPLOYED, IT MUST BE PROVIDED/OPERATED IN AN EFFICIENT MANNER THAT MINIMIZES RUN-OFF AND PERCOLATION BEYOND THE ROOT ZONE OF THE NEW PLANTS. DURING THE ESTABLISHMENT PERIOD THE SOIL MOISTURE CONTENT IN THE TREE & SHRUB ROOT ZONES MUST BE KEPT NEAR SOIL CAPACITY FOR THE SPECIFIC SOIL TYPE.

WATER SHALL BE APPLIED AT THE FOLLOWING MINIMUM RATES DURING THIS PERIOD:

5 GALLONS EACH PER WATERING 3 GALLON SIZE CONTAINER PLANTS 7 GALLON SIZE CONTAINER PLANTS 8 GALLONS EACH PER WATERING 15 GALLON SIZE CONTAINER PLANTS 15 GALLONS EACH PER WATERING 25-30 GALLON SIZE CONTAINER PLANTS 20 GALLONS EACH PER WATERING

 FG OR GB SIZE TREE 25 GALLONS EACH PER WATERING

DURING THE ESTABLISHMENT PERIOD THE MINIMUM WATER SCHEDULE THAT SHALL BE FOLLOWED IS:

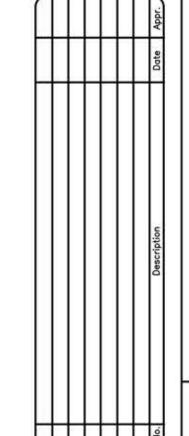
 1ST 6 WEEKS AFTER SUBSTANTIAL COMPLETION 3 WATERINGS PER WEEK 2ND 6 WEEKS 2 WATERINGS PER WEEK REMAINDER OF ESTABLISHMENT PERIOD 1 WATERING PER WEEK

WATERING AT THESE MINIMUM RATES SHALL BE CONTINUED AND DOCUMENTED VIA A LOG BOOK THROUGHOUT THE ESTABLISHMENT PERIOD, AND CAN ONLY BE ADJUSTED WHEN PROOF OF RAINFALL VIA AN ON-SITE GAUGE OR SOIL MOISTURE READINGS ARE DOCUMENTED THAT PERMIT A DECREASED FREQUENCY. WATERING SHOULD BE APPLIED SUCH THAT THE FORCE FROM THE DELIVERY METHOD WILL NOT DAMAGE PLANTS OR DESTROY THE MULCH BED AROUND EACH PLANT.

LANDSCAPE NOTES AND SPECIFICATIONS

- 1. THE PERFORMANCE CRITERIA PROVIDED BELOW OUTLINE GENERAL STANDARDS AND SCOPE, AND THE LANDSCAPE CONTRACTOR'S (CONTRACTOR) SPECIFIC ACTIVITIES REQUIRED TO INSTALL AND WARRANTY THE AREAS OF TURF, GROUNDCOVER'S, SHRUBS AND TREES AS ILLUSTRATED ON THESE LANDSCAPE PLANS, INCLUDING NECESSARY MAINTENANCE, LITTER REMOVAL AND CLEANUP.
- 2. CONTRACTORS' PRICE SHALL INCLUDE ALL LABOR & MATERIALS NECESSARY TO COMPLETE THE PROJECT, AND FULFILL THE WARRANTY AND MAINTENANCE PERIODS, INCLUDING BUT NOT LIMITED TO PLANTS, MULCH, SOIL, STAKING, TEMPORARY WATERING, PEST AND DISEASE CONTROL, DISPOSAL, STORAGE, PERMITS AND FEES.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL MATERIAL QUANTITIES SHOWN ON THESE DRAWINGS BEFORE BIDDING. THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIALS IN QUANTITIES, NO MATTER THOSE ESTIMATED ON THE PLAN, IN SUFFICIENT QUANTITY TO COMPLETE THE PLANTING LAYOUTS AS SHOWN. THE PLANT QUANTITIES PROVIDED IN THE PLANT LIST ON THE PLANS ARE FOR CONVENIENCE ONLY.
- 4. ALL NEW PLANT MATERIAL SHALL BE GRADED 'FLORIDA NO. 1' OR BETTER AND CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, THE MOST CURRENT EDITION AS PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE.
- 5. ALL PLANTS SHALL BE SUPPLIED AT A MINIMUM IN THE CONTAINER, GROW BAG, OR BOX SIZE FOR EACH LISTED ITEM, UNLESS OTHERWISE NOTED ON THE PLANT LIST. FIELD GROWN (FG) STOCK SHALL BE PROVIDED WITH ROOT BALLS MEETING THE MINIMUM CRITERIA ESTABLISHED BY THE FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS FOR THE SIZE OF PLANT MATERIAL BEING PROVIDED. ALL SIZE DIMENSION SPECIFICATIONS ARE CONSIDERED AS A MINIMUM AND ALL SHOULD BE MET FOR EACH PLANT TYPE SUPPLIED. IF A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM, AND NOT LESS THAN 50% SHALL BE AS LARGE AS THE MAXIMUM.
- 6. ALL PLANTS MUST BE HEALTHY, VIGOROUS, FREE OF DISEASES, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN-SCALD, OLD WOUNDS, ABRASIONS OR DISFIGUREMENT.
- 7. THE CONTRACTOR SHALL WARRANTY ALL NEW PLANT MATERIALS FOR A PERIOD OF ONE (1) YEAR COMMENCING AT THE APPROVED OF SUBSTANTIAL COMPLETION.
- 8. THE CONTRACTOR SHALL PROMPTLY REMOVE FROM THE SITE AND MAKE REPLACEMENTS ANY PLANT MATERIAL WHICH IS DISEASED, DIES, BROWNS, DEFOLIATES, PEST-INFECTED OR IS DAMAGED PRIOR TO SUBSTANTIAL COMPLETION AND DURING THE WARRANTY PERIOD. REPLACEMENTS SHALL BE OF THE SAME SPECIES, SIZE, QUANTITY AND FORM MEETING ALL THE ORIGINAL PLANT SPECIFICATIONS.
- 9. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES AND LOCATIONS IN THE IMMEDIATE WORK AND STAGING AREAS PRIOR TO ANY DIGGING AND PLANTING. ANY APPARENT CONFLICTS WITH THE PLANTING PLAN SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL MAINTAIN THE SAFETY AND SECURITY OF EXISTING UTILITIES AND STRUCTURES, PROTECT AGAINST DAMAGE DURING LANDSCAPE CONSTRUCTION, AND SHALL RESPONSIBLE FOR REPAIR TO ANY DAMAGES INCURRED AS RELATED TO THE LANDSCAPE CONSTRUCTION.
- 10. ANY TREES THAT ARE LOCATED WITHIN 5' OF AN EXISTING UTILITY LINE OR STRUCTURE MUST BE HAND DUG.
- 11. WATER SUPPLY FOR WATERING DURING TRANSPORT, DELIVERY, STORAGE AND INSTALLATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 12. ALL PLANTS ARE SUBJECT TO ON-GOING REVIEW BY THE LANDSCAPE ARCHITECT AND/OR OWNER/OWNER'S REPRESENTATIVE BEFORE, DURING AND AFTER INSTALLATION, THROUGH SUBSTANTIAL COMPLETION FOLLOWED BY THE SPECIFIED WARRANTY PERIOD AND MAINTENANCE PERIODS AS SPECIFIED.
- 13. THE LANDSCAPE ARCHITECT AND/OR OWNER/OWNER'S REPRESENTATIVE WILL APPROVE THE STAKED LOCATION OF ALL TREES AND SHRUB BED LIMITS PRIOR TO INSTALLATION.
- 14. ALL PLANTING HOLES SHALL BE EXCAVATED TO A MINIMUM OF 2 TIMES (2X) THE DIAMETER OF THE ROOTBALL OR CONTAINER SIZE AND BACKFILLED WITH 'PLANTING SOIL' DURING INSTALLATION. ALL PLANTING AREAS IN PREVIOUS ROADWAY OR PARKING LOTS SHALL HAVE THE LIMEROCK BASE THAT REMAINS EXCAVATED TO A DEPTH OF 36", AND BACKFILLED WITH PLANTING SOIL AMENDED WITH A BIOLOGICALLY ACTIVE SOIL CONDITIONER THAT CONTAINS MYCHRORRIZAL FUNGI, AND SHALL BE MIXED INTO THE UPPER 12" OF SOIL BACKFILL. THE PLANTING SOIL UTILIZED SHALL CONFORM WITH FDOT STANDARD SPECIFICATIONS SECTION 987 AND BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO DELIVERY. THE BACKFILL PROCESS SHALL MIX AT A 50% - 50% RATIO THE NATIVE EXCAVATED SOILS WITH THE NEW IMPORTED PLANTING SOIL.
- 15.ALL PLANTING AREAS MUST BE COMPLETELY MULCHED TO A 3" DEPTH IMMEDIATELY AFTER INSTALLATION, WITH THE MULCH DEPTHS MAINTAINED THROUGHOUT THE WARRANTY PERIOD. EUCALYPTUS, MELALEUCA, PINE STRAW OR OTHER INERT NON-NATIVE MULCH MATERIAL IS ACCEPTABLE; NO CYPRESS MULCH WILL BE ALLOWED OR ACCEPTED.
- 16. ANY AREAS OUTSIDE THE LIMITS OF WORK AND STAGING THAT ARE DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL CONDITIONS AT NO ADDITIONAL COST.





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