

Plant Schedule



BOTANICAL NAME		QTY
ILEX VOMITORIA `PRIDE OF HOUSTON` 3" CAL., 8` HT. X 3` SPRD., (3) 1" TRNKS	PRIDE OF HOUSTON YAUPON	16
LAGERSTROEMIA X `MUSKOGEE` 3" CAL., 8` HT & 3` SPRD., MULTI.(3) -1" TRK`S	MUSKOGEE CREPE MYRTLE	7
QUERCUS VIRGINIANA 4" CAL., 14` HT., 6` SPRD., 5` CT	LIVE OAK	5
ILEX VOMITORIA `SHILLINGS` 24` HT. & 18` SPRD.	DWARF YAUPON HOLLY	71
VIBURNUM OBOVATUM `DENSA` 24" HT. MIN., FULL IN POT	DWARF WALTER`S VIBURNUM	51
ZAMIA FLORIDANA 5 GAL. MIN., FULL IN POT	COONTIE PALM	17
AGAPANTHUS AFRICANUS 1 GAL., 8" HT, FULL, 18" O.C.	LILY OF THE NILE	102
EVOLVULUS GLOMERATUS `BLUE DAZE` 1 GAL., FULL, 18" O.C.	BLUE DAZE	28
LIRIOPE MUSCARI `EMERALD GODDESS` 1 GAL., 14" HT, FULL, 18" O.C.	LIRIOPE	73

MULCH MIN. 2" DEPTH ALL PLANTINGS

PINE BARK NUGGETS

SEE DETAILS

Clay County Requirements

Planting Data

	iu iii					
TOTAL POINT	S PLANTED					
		TYPF	NATIVE	PTS PFR	ΡΤς ΤΟΤΑΙ	
5	4" Live Oak	Canopy	Ŷ	4.4	22	
7	3" Crene Myrtle	Non-Can	N	33	22 23 1	
, 16	3" Vaupon Holly	Non-Can	V	2.2	52.8	
10	5 Tadpon nony	Non-can	I	5.5	52.0	
5				TOTAL	97.9	
VUA POINTS	PLANTED					
QUANTITY		TYPE	NATIVE	PISPER	PISTOTAL	
/	3" Crepe Myrtle	Non-Can	N	3.3	23.1	
1	3" Yaupon Holly	Non-Can	Ŷ	3.3	3.3	
5	4" Live Oak	Canopy	Y	4.4		
18				TOTAL	48.4	
	Calculations					
					DERCENT	
F	Canany			2011013		
5	Canopy			22	45%	
δ	Understory			26.4	55%	
VUA Native C	Calculations					
	ТҮРЕ			POINTS	PERCENT	
6	Native			25.3	52%	
7	Non Native			23.1	48%	
ROW POINTS	NORTH				PTS	
8	3" Yaupon Holly	Non-Can	Y	3.3	26.4	
	E A CT					
ROW POINTS						
QUANTIY		ITPE Non Con	NATIVE	PISPER		
/	5 raupon nony	NUIFCall	I	5.5	23.1	
ROW Canopy	Calculations -Total					
	ТҮРЕ			POINTS	PERCENT	
N/A	Canopy					
16	Understory - Overhead	d Utility		52.8	100%	
ROW Native	Calculations -Total					
	ТҮРЕ			POINTS	PERCENT	
	Native			52.8	100%	
	Non Native			0	0%	
AREA CALCU	LATIONS				_	
Gross Area	2.15 A	cres				
Required Shad	le Coverage Point Calc	ulation				
2 15	acres x 16 r	ots/acre	34.4 nts			
2.15			51.1 pt5			
Minimum Size	Distribution Calculatio	on				
20% Small =	0.2 x 34.4 poir	nts required	6.9			
10% Medium =	0.2 x 34.4 poir	nts required	3.4			
10% Large =	0.2 x 34.4 poir	nts required	3.4			
Interior VUA	36018 SF					
Green Space: (36018 SF x 0	D.1)	= 3602	SF		
Tree Points: (3601.8 SF/ 1	L50) >	x 2 = 48.02	SF		
D. 1					 .	<u> </u>
Right of Way E	Buffer - North	-			Fire department r	equirement:
6 PTS/100 LF:	205 /100 LF >	(b	= 12.3	PIS DTC	no trees to be pla	ced in the
Overhead Utili	ty Dictates: Double Und	derstory	= 24.6	PTS	sight triangle from	n the
26.4 Pts Provid	ed		8 Unders	story Trees	building truck exit	
Dight of Mary	Ruffor - Foot					
A DTS /100 I EV	170 /100 E 🕔	<i>(</i> 6	- 10.2	DTC		
Overhead Utili	tv Dictates: Double Line	lerstony	- 10.2	PTS		
23.1 Pts Provid	ed	act story	7 Under	story Trees		
			. ender			

Planting Notes

- 1. ENSURE ALL UNDERGROUND PUBLIC AND PRIVATE UTILITIES ARE MARKED PRIOR TO WORK.
- 2. ALL PLANTINGS MUST BE FREE OF INSECTS, PESTS, DISEASE, WEEDS, ETC.
- 3. CONTAINER SIZES FOR PLANT MATERIAL ARE STATED AS THE MINIMUM. IF DIMENSIONS ARE NOT AVAILABLE WITHIN THE SPECIFIED CONTAINER IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE DIMENSIONED PLANT MATERIAL IN ANOTHER SIZE POT.
- 4. CONTRACTOR TO VERIFY ALL QUANTITIES AS SHOWN ON LANDSCAPE PLAN SHEETS.
- 5. ALL LANDSCAPE AREAS SHALL BE PROVIDED WITH 100% IRRIGATION COVERAGE. 6. ANY EXISTING TREE TO REMAIN WHICH IS DAMAGED OR REMOVED SHALL
- BE FULLY REPLACED BY MATCHING SIZE. PLANT MATERIAL SHALL CONFORM TO THE STANDARDS FOR FLORIDA #1 AS GIVEN IN THE LATEST "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II," FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES OR TO THE STANDARDS AS GIVEN IN THE LATEST "AMERICAN STANDARD FOR NURSERY STOCK," AMERICAN STANDARDS INSTITUTE.
- 7. MULCH: NON-CYPRESS AS SPECIFIED WILL BE PROVIDED A MINIMUM OF TWO TO THREE INCHES IN DEPTH AROUND ALL EXISTING AND NEWLY PLANTED LANDSCAPING. PROVIDE SAMPLES FOR APPROVAL.



9700 PHILIPS HWY, SUITE 101 JACKSONVILLE, FL 32256

MEP ENGINEER POWELL & HINKLE ENGINEERING, P.A. 1409 KINGSLEY AVENUE, BLDG 12A ORANGE PARK, FL 32073

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90% DOCUMENTS





- BOTTOM OF ROOT BALL SHALL BE SEATED DIRECTLY ON UNDISTURBED SUBGRADE.
- TOPMOST ROOT-ROOT FLARE SHALL BE MADE VISIBLE PRIOR TO PLANTING.
- ROOT DEFECTS INSPECT ROOT BALL FOR ROOT DEFECTS, CUT ROOTS WHERE THEY
- STAKE ABOVE FIRST STRONG BRANCHES TO PROVIDE FIRM SUPPORT.

TREE PLANTING - SINGLE TRUNK



- TOPMOST ROOT-ROOT FLARE SHALL BE MADE VISIBLE PRIOR TO PLANTING.
- ROOT DEFECTS INSPECT ROOT BALL FOR ROOT DEFECTS, CUT ROOTS WHERE THEY
- STAKE ABOVE FIRST STRONG BRANCHES TO PROVIDE FIRM SUPPORT.

MULTIPLE STEM TREE PLANTING

BEGIN TO KINK OR CIRCLE. ROOT BALL SHALL COMPLY WITH FLORIDA GRADES AND STANDARDS.

MATERIALS THAT WILL NOT DECOMPOSE, - EXISTING SUBGRADE

ELIMINATE TRIPPING HAZARD. ANCHORS MAY BE USED WITH 500 LB MIN. RATING, INSTALL 3 FT MIN. BELOW GRADE AT 45 ANGLE.

REMOVE TOP 1/3 OF BURLAP AND WIRE.

REMOVE SYNTHETIC MATERIALS AND OTHER

PREVENT STRAP FROM SLIPPING. BURY TO

FLEXIBLE NYLON STRAPPING MATERIAL TIED TO SAME TRUNK, 3 STRAPS MINIMUM SPACED EQUALLY AROUND TREE. PROVIDE ADDITIONAL STRAPS TO STABILIZE LARGER TREES. 2" x 4" x 30" WOOD STAKE- NOTCH TO

SHRUB PLANTING - NOT IN PLANTING BED

- ROOT DEFECTS INSPECT ROOT BALL FOR ROOT DEFECTS, CUT ROOTS WHERE THEY BEGIN TO KINK OR CIRCLE. ROOT BALL SHALL COMPLY WITH FLORIDA GRADES AND STANDARDS.
- TOPMOST ROOT-ROOT FLARE SHALL BE MADE VISIBLE PRIOR TO PLANTING.
- AIR POCKETS.
- PLANT TOP OF ROOT BALL 1" HIGHER THAN TOP OF COMPOST LAYER. • 6" MIN. BACKFILL AROUND SIDES OF ROOT BALL, 3" ON BOTTOM. WATER AND TAMP TO REMOVE
- NOTES:



BEGIN TO KINK OR CIRCLE. ROOT BALL SHALL COMPLY WITH FLORIDA GRADES AND STANDARDS.

- UNDISTURBED SUBGRADE

- REMOVE TOP 1/3 OF BURLAP AND WIRE. REMOVE SYNTHETIC MATERIALS AND OTHER MATERIALS THAT WILL NOT DECOMPOSE.

NOTCH TO PREVENT STRAP FROM SLIPPING. BURY AS TO ELIMINATE TRIPPING HAZARD

2" x 4" x 30" WOOD STAKE-

1" MAX. LAYER OVER ROOTBALL BACKFILL ------UTILIZE SOIL REMOVED FROM EXCAVATION, INTERMIXED WITH COMPOST SOIL MIX LAYER.

UNDISTURBED SUBGRADE

NOTES:

MULCH -3" LAYER OUTSIDE OF ROOTBALL

TRIANGULAR SPACING N.T.S.



• PLANT TOP OF ROOT BALL 1" HIGHER THAN TOP OF COMPOST LAYER.

• TOPMOST ROOT SHALL BE MADE VISIBLE PRIOR TO PLANTING.



 GROUND COVER PLANTS SHALL BE SPACED AS INDICATED ON PROJECT PLANS. • 6" MIN. BACKFILL AROUND SIDES OF ROOT BALL, 3" ON BOTTOM. WATER AND TAMP TO REMOVE AIR POCKETS.

• ROOT DEFECTS - INSPECT ROOT BALL FOR ROOT DEFECTS, CUT ROOTS WHERE THEY BEGIN TO KINK OR CIRCLE. ROOT BALL SHALL COMPLY WITH FLORIDA GRADES AND STANDARDS.

1X

SHRUB AND GROUNDCOVER PLANTING BED N.T.S.



BACKFILL

UTILIZE SOIL REMOVED FROM EXCAVATION, INTERMIXED WITH COMPOST MIX LAYER.

N.T.S.

DASHER HURST ARCHITECTS 1022 PARK STREET, SUITE 208 JACKSONVILLE, FLORIDA 32204 PHONE: 904.425.1190

FL LICENSE NUMBER AA26002165 W.W.W.DASHERHURST.COM STRUCTURAL ENGINEER G.M. HILL ENGINEERING,

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#	DATE	DESCRIPTION
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DA	ΓE:	11/10/202
LA DE	NDSC ETAILS	CAPE S

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PART 1- GENERAL

1.1 GENERAL NOTES

Contractor shall comply with applicable laws, ordinances and codes; obtain required permits, inspections; pay required fees.

B. Prior to preparing and submitting cost proposal, Bidder shall visit and inspect the project site to become familiar with existing conditions.

C. This contract includes providing and installing plant and landscape materials as described within the contract documents.

D. Contractor shall perform fine grading to establish finish grades in landscape areas. Fine grading shall include only minor grading to correct random or infrequent grade irregularities to 1" or less

E. Grading-Berming labeled on the project plans shall be the responsibility of the landscape contractor to construct. Landscape contractor shall provide fill and grading for these areas and coordinate fill requirements with general contractor prior to bidding.

F. Bidder-Contractor shall verify all plant quantities shown on plans. Notify Landscape Architect-Owner's Representative of discrepancies.

G. Plant size noted in plant schedule shall be the minimum acceptable size. Container gallon size are minimum. Contractor shall provide the plant material in container size needed to meet plant size specified.

1.2 DEFINITIONS

Finish Grade: Top of surface soil and top of planting bed after plant installation.

B. Topsoil: Native or imported surface soil modified with soil amendments per recommendations

from commercial soil-testing laboratory. C. Compost Mix: Homogeneously blended organic material, see Part 2 - Products.

D. Subgrade: Soil below finish grade and soil below finish grade remaining after completing excavation.

E. Final Acceptance: Shall mean that point in time when requirements of contract documents are completed, including punch-list items, to the satisfaction of the Landscape Architect-Owner's Representative. Contractor will be notified in writing of final acceptance by Landscape Architect-Owner's Representative.

F. Warranty Period: Shall begin after notification of final acceptance, continuing for the duration of the specified period.

G. Final Warranty Inspection; Shall occur near the end of the warranty period.

H. Contract Documents: Project plan set, technical specifications and documentation issued during project bidding, award and installation.

1.3 SUBMITTALS

A. Product Data: Each type of product utilized

Samples: Mulch

C. Product certificates, confirmation letter that the Contractor has procured all plant materials and products to complete the project plans.

D. Planting Schedule: Indicating anticipated installation dates.

Maintenance Instructions: Provide prior to final acceptance.

Agronomic Soil Tests for Topsoil and Compost Mix: Soil testing and recommendations shall be performed by a commercial soil-testing laboratory. Areas to be installed with plants and lawn areas shall be tested. Tests shall include a fertility test, pH factor, percentage of organic matter and a suitability analysis. The suitability analysis shall include percolation tests and evaluation of soil composition to determine the soil's suitability to sustain the project's plant materials and to bring the soil to a pH rating between 5.5 to 6.5. Submit copy to Landscape Architect-Owner's Representative of soil tests, written recommendations for soil suitability, soil amendments, fertilizer, chemical conditioner application rates for soil preparation, and a maintenance fertilization program.

G. Manufacturer's Data: Include physical characteristics, application, installation instructions and recommendations to be utilized.

- a. Fertilizer
- b. Each soil amendment to be used
- c. Herbicide
- d. Super absorbent, if to be utilized Pre-emergent herbicide
- Materials identified in contract documents
- Written plant guarantee

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Prior to purchase and delivery of plants, Contractor shall provide the Landscape

Architect-Owner's Representative with photos of proposed plant materials and coordinate nursery

1.4 QUALITY ASSURANCE

A. Landscape Contractor Qualifications: The Landscape Contractor (Contractor) shall have previous experience installing projects of equal or greater size to the project plans. The Contractor shall have a full-time supervisor with a minimum of 5 years of experience that is on-site during installation process.

B. Soil Analysis: Contractor shall provide soil analysis of the existing surface soil and compost mix. Agronomic soil testing shall be performed by a commercial soil-testing laboratory. C. Provide guality, size, genus, species, and variety of plants indicated, complying with "Florida Number 1" or better classification in "Grades and Standards for Nursery Plants," latest edition, published by Florida Department of Agriculture, Division of Plant Industry, Gainesville, Florida. To evaluate plants not specifically listed in the "Grades and Standards for Nursery Plants," use the appropriate matrix type.

D. Pre-Installation Conference: Prior to beginning plant installations, conduct conference at project site.

E. Substitutions:

1. If a plant material or product is not available, the Contractor shall submit to the Landscape Architect-Owner's Representative for approval, proof of non-availability with a recommendation for an equivalent material. When authorized, adjustment of contract amount may be made. No substitutions will otherwise be allowed.

F. Inspection: Landscape Architect-Owner's Representative may inspect plants at nursery and project site prior to planting, for compliance with plans. The Landscape Architect-Owner's Representative may inspect plants at any time for size and condition of balls, root systems, insects, injuries, latent defects, and reject plant materials at any time during progress of work. Contractor shall remove rejected plants from project site. The Landscape Architect-Owner's Representative's preliminary inspection is not to be construed as acceptance until such time as a written final acceptance inspection is received.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Prior to materials being shipped from supplier, Landscape Architect-Owner's Representative may inspect materials on-site or through the submission of photographs. Refer to the plant

schedule within the project plan set for specific plants requiring on-site tagging-inspection. B. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during delivery. Do not drop plant materials.

C. Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set plants trees in shade, protect from weather and mechanical damage, and keep roots moist.

1.6 WARRANTY

A. Warranty: Contractor shall warrant plants for the warranty period indicated against defects including death and unsatisfactory growth. Contractor will not be responsible for defects resulting from lack of adequate maintenance, abuse by Owner, winds of tropical storm speed per Saffir–Simpson Hurricane Scale or higher winds, or acts of God.

1. Warranty Period for Plant Materials: 1 year from date of final acceptance

2. Warranty Period for Sod: 6 months from date of final acceptance

1.7 MAINTENANCE

A. Plant Materials: Maintain until final acceptance by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, tightening and repairing stakes and supports, resetting plants to proper grades, vertical position, as required to establish healthy, viable plantings. Spray insecticides to keep plants free of insects and disease. B. Protect plant materials from damage due to landscape operations, operations by other contractors and others. Maintain protection during installation and final acceptance. Treat, repair, and replace damaged plantings at no additional cost to the Owner.

C. Maintenance of sod areas: The Contractor shall maintain until final acceptance by protecting sod areas against traffic or other use by warning signs and barricades, as approved by the Landscape Architect-Owner's Representative. Damaged sod shall be repaired by re-grading, then re-sod. Contractor shall mow, water and otherwise maintain sod areas in a satisfactory condition until final acceptance of the work.

1. Maintain sod areas until final acceptance by watering, weeding, mowing, applications of herbicides, fungicides, insecticides, fertilization and re-seeding until a full, uniform stand of grass free of weeds, undesirable grass species, disease, and insects is achieved and accepted by the Landscape Architect-Owner's Representative. a. Repair, re-work, and re-sod all areas that have washed out, eroded, or are not a

healthy stand of grass.

b. Mow sod areas when top growth reaches a height where no more than a third of the leaf blade will be removed at any single mowing. Repeat mowing to maintain specified height per recommendations of local agricultural extension agency.

1.8 REPLACEMENTS AND CONDITIONS

A. Promptly remove and replace plant materials that are dead, unhealthy condition, fallen below acceptable quality. Prior to the end of the warranty period, a final warranty inspection of the work may be made by the Landscape Architect-Owner's Representative. The Contractor shall remove and replace plant materials and sod areas found to not be in compliance with contract requirements. Replacement plant material size and species shall be as noted in the project plans. A new warranty period shall commence on each plant replaced during the warranty period, contractor shall maintain plant warranty log.

1.9 FINAL INSPECTION AND ACCEPTANCE A. Final Inspection: Upon completion of landscape installation, the Contractor shall notify the Landscape Architect-Owner's Representative in writing 10 days prior to requested inspection date. Landscape Architect-Owner's Representative will make an inspection to determine compliance with contract documents. When inspected landscape work does not comply with contract documents, the Contractor shall remove and replace rejected work and continue maintenance. Contractor shall provide 48 hour notice to Landscape Architect-Owner's Representative requesting re-inspection. Plant Materials:

a. Replace plant materials not in healthy condition, fails below quality requirements B. Lawns:

a. At the time of final warranty inspection, sod areas shall be healthy, well-rooted even colored, lawn is established, weed free without open joints and bare areas.

PART 2 - PRODUCTS

2.1 PLANTS

A. Tree and Shrub Material: Provide nursery-grown tree and shrub materials complying with plant quality requirements, Part 1-General. Provide well-shaped, fully branched, healthy, vigorous plants free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Ground Cover: Provide ground cover species indicated, established and well rooted in pots or similar containers, and complying with plant quality requirements, Part 1-General. C. Annuals: Provide healthy, disease-free plants of species and variety shown or approved, complying with plant quality requirements, Part 1-General. Provide plants acclimated to the

conditions they are to be installed on the project and are in bud with few, if any blooms. D. Perennials: Provide healthy plants from a commercial nursery, of species and variety shown or approved, complying with plant quality requirements, Part 1-General. E. Sod: Sod shall be species and locations in the project plans. Sod shall be freshly cut in pads (or rolls with prior approval). Sod shall be derived from an area having a soil type similar to the soil on which it is to be laid. Sod shall be healthy, free of weeds and insects including ground pearls and spittle bugs, in naturally green condition, and shall have an abundance of roots contained within a mat of topsoil derived in the harvesting process from the area where grown. Brown, dry, irregularly smooth, and/or un-fresh sod will be rejected.

2.2 PLANTING MATERIALS

A. Topsoil: pH range of 5.5 to 6.5, a minimum of 6 percent organic material content; free of stones 1 inch or larger in any dimension and extraneous materials harmful to plant growth. 1. Topoil Source: Amend existing surface soils according to recommendations from soil tests analyzed by commercial soil testing laboratory, see Part-1 General. B. Soil Amendments: Following are soil amendments that may be utilized to modify existing surface soil according to recommendations from agronomic soil testing analysis.

a. Lime: Natural dolomitic limestone containing not less than 85 percent of total carbonates with a minimum of 30 percent magnesium carbonates, ground so that not less than 90 percent passes a 10-mesh sieve and not less than 50 percent passes a 100-mesh sieve.

- b. Aluminum Sulfate: Commercial grade. other extraneous or toxic matter harmful to plant growth. Florida Muck shall be subject to approval by the Owner.
- d. Bonemeal: Commercial, raw, finely ground; 4 percent nitrogen and 20 percent phosphoric acid
- other debris. Sand shall conform to ASTM C3 for five aggregates.
- Perlite: Conforming to National Bureau of Standards PS 23. Vermiculite: Horticultural grade, free of toxic substances.
- Sawdust: Rotted sawdust, free of chips, stones, sticks, soil, or toxic substances and with 7.5 pounds of nitrogen uniformly mixed into each cubic yard of sawdust.
- Manure: Well rotted, unleached stable or cattle manure containing not more than 25 percent ingredients harmful to plants.
- Mulch: Organic mulch shall be uniform in size, shape, texture and free from deleterious following (see plan for mulch type):

and other debris.

percent magnesium and all micro-nutrients

from weeds, moss, sticks and other debris. 3. "Shredded hardwood mulch" shall be non-cypress and of a color and texture approved by the owner or Landscape Architect: submit samples,

I. Fertilizer: 1. Fertilizer: Pelletized fertilizer with nitrogen, phosphorous and potassium in 100 percent slow release form, with the following composition: a. Composition: 8 percent nitrogen, 2 percent phosphorous, 12 percent potassium + 4

c. Peat Humus: Finely divided peat, completely decomposed and free of fibers to eliminate its biological identity. Provide in granular form, free of hard lumps and with pH range suitable for intended use or Florida Muck with a texture and pH range suited for the intended use. Florida Muck shall be delivered in a non-muddy state, reasonably free of clay, roots and litter and

Superphosphate: Soluble mixture of treated minerals; 20 percent available phosphoric acid. Sand: Clean, washed builder's sand, free of toxic materials, free of salt, weeds, sticks and

by volume of straw, sawdust, or other bedding materials and containing no chemicals or

materials and suitable for top dressing of trees, shrubs, or plants and consisting of one of the

1. Medium-sized (Mini-sized) pine bark chips, clean, bright and free from weeds, moss, sticks

2. Areas indicated as "pine straw mulch" shall include mulch that is clean, bright and free

- Compost Mix: Manufactured mix that is weed and disease free, pasteurized composed of: a. 34% Aged Pine Bark
- 33% Finished Organic Compost b.
- 33% Composted Cow Manure C.

B. Compost mix shall be sent to an approved agronomic soil-testing laboratory to provide the requirements noted Part 1-General.

C. Seed:

1. Seed: All seed shall be furnished from a certified seed dealer or certified seed grower; meet the requirements of the Florida Department of Agriculture regulations; be labeled in accordance therewith. Seed shall be free of noxious weeds.

D. Sprigging: Sprigs shall be certified to genetic purity, free of pests and disease, delivered in a timely fashion and consist of stems, leaves and stolons. The sprigs shall come from a certified supplier, approved by the Owner's Representative. After being harvested, the sprigs shall be delivered to the planting site within 24 hours. The stock shall contain no weeds, soil, or other debris and shall not be dried out at the time of planting.

Sprigs shall be harvested to facilitate separation and distribution. Sprigs shall average four to six inches in length and carry at least four nodes. Sprigs shall be planted within twenty- four hours after removal from the certified supplier. It shall be the Contractor's responsibility to protect the stolons, keeping them moist and out of the sunlight before and during the planting operation.

PART 3 - EXECUTION

3.1 PLANTING

1. Prior to installing plant materials, Contractor shall perform drainage test excavations one per acre of site planting areas or submit plan of locations for Landscape Architect approval, a minimum of 250 ft on center throughout the planting and sod areas. Test excavations shall be a minimum of 12"dia. and 12" deeper than the largest proposed plant rootball. Test excavations shall be filled with water to finish grade, then monitored to verify excavations have completely drained within a 3 hour period. Landscape Contractor shall notify the Landscape Architect-Owner's Representative of any excavations which fail this test, prior to proceeding with plant installations. Corrective actions may be required, such as but not limited to over-excavation to break sub-surface

soil conditions which shall be the Contractor's responsibility and may be considered additional work. Contractor shall seek and obtain approval from Owner's Representative prior to proceeding. 2. Unsuitable Soil Conditions: Absolutely no plastic or clayey soil is to be used in landscape areas. If such a condition is found, the area is to be back-filled with material of suitable sandy

gradation which is porous and percolates well with reasonable compaction. If any planting or sod area has a plastic or clayey soil condition which prevents proper drainage, then a system of underdraining, turf drain or other means of releasing underground standing water must be incorporated under the direction of the Landscape Architect-Owner's representative.

3. Upon completion of landscape installation the finish grade of planting beds and lawn areas shall be minimum 6 inches below adjacent structures and slope away from existing structures per the Florida Building Code. Verify compliance with Florida Building Code with General Contractor prior to beginning work. Parking lot islands shall slope at 3% from center of island to curb. Finish grade shall be below sidewalks, curbs and walking surfaces to allow for mulch thickness and sod.

4. Upon completion of landscape installation, the Contractor shall notify the Landscape Architect-Owner's Representative in writing 10 days prior to requested inspection date. Landscape Architect-Owner's Representative will make an inspection to determine compliance with Contract Documents.

5. The Contractor shall be responsible for stability and plumb conditions of all plant materials, be legally liable for damage caused by instability of plant materials. Proper staking and guying is the Contractor's responsibility. Contractor shall under their own discretion provide additional staking and guying above and beyond the requirements of the project plans at no additional expense to the Owner

A. Plant Material Installation and Planting Bed Preparation:

1. Topsoil shall be modified according to recommendations from agronomic soil-testing laboratory, prior to installation of plants. 2. Spread on top of topsoil a 3 inch layer of compost mix prior to planting. Mix shall be

incorporated in planting holes during installation. 3. Do not spread compost mix if topsoil is frozen, muddy, or excessively wet.

4. Planting Pits and Trenches: Excavate circular planting pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further

disturb base. Scarify sides of plant pit smeared or smoothed during excavation. 5. Topmost Root: Topmost root-root flare shall be visible prior to planting - Find the topmost

root and remove excess soil to expose topmost root-root flare. 6. Root Defects: Inspect root ball for root defects, cut roots at the point where they begin to kink or circle. Root ball shall comply with Florida Grades & Standards.

7. Remove rocks, sticks or other deleterious material greater than 1 inch in any 1 direction prior to backfill process.

8. Set tree, palm and shrubs plumb and in center of tree planting pit or trench with top of root ball 2 inches above finish grade.

a. Container Grown: Carefully remove root ball from container without damaging root ball or plant.

b. Ball and Burlaped Root ball: Do not use plant materials if root ball is cracked or broken before or during planting operation. Do not lift plants by the trunk. Remove rope, synthetic burlap, plastic and materials that will not decompose. Remove top 1/3 of wire basket.

c. Backfill planting excavation incorporating compost mix. Work soil around roots eliminate voids and air pockets. When planting pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill.

d. Repeat watering until no more water is absorbed. After planting, remove excess soil and rake plant beds to a smooth even surface conforming to required finish grades.

e. Upon completion of plant installations, fertilize according to specifications. f. Tree pits in non-irrigated areas shall be installed with super absorbent, according to manufacturer's recommendations.

9. Water thoroughly after planting, taking care not to cover plant crowns with wet soil. 10. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

11. Finish Grading: Level planting area to a smooth, uniform surface with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades. 12. Upon completion of plant installations, fertilize according to specifications.

13. Tree and Shrub Pruning: Prune, trees and shrubs according to International Society of Arboriculture standards. Contractor shall prune trees and shrubs to comply with Florida Grades and Standards. Prune plants to retain natural character.

B. Sod:

1. Topsoil shall be modified according to recommendations from agronomic soil-testing laboratory, prior to installation of sod, see Part 1-General.

2. Remove rocks, sticks or other deleterious material greater than 1 inch in any 1 direction prior to sod installation.

3. Finish grade to receive sod shall be uniformly graded and irrigated prior to sod installation. Sod shall be laid end-to-end and side-to-side to form a uniform layer of un-broken, un-gapped turf. All uneven edges shall be squarely trimmed to allow close and firm fitting of each piece. All gaps or spaces shall be filled to a smooth level with topsoil as specified herein. Edges shall be "heeled-in" and finished smoothly without uneven exposure. Place sod with staggered joints closely butted, tamped or rolled to an even surface to the required finished grade. Avoid continuous seam along line of water flow in swales. Place sod in rows at right angles to slope. Peg sod on slopes greater than 3:1.

4. Upon completion of sod installation, sod areas shall be watered to provide a healthy growing condition. Watering shall be monitored and adjusted by the Contractor to prevent over or under watering.

- C. Seed:
- 1. Seed: All seed shall be furnished from an established seed dealer or certified seed grower; shall meet the requirements of the Florida Department of Agriculture regulations; and shall be labeled in accordance therewith. Seed shall be free of noxious weeds.
- 2. Seed Planting: At a minimum the contractor shall test the soil to verify conditions are acceptable for turf growth.
- 2.1. Submit agronomic soil tests for existing soil. Tests shall be performed by an approved agronomic soils testing laboratory and shall include a fertility test with the pH factor and the percentage of organic matter and a suitability analysis. The suitability analysis will include percolation tests and evaluation of soil composition to determine the soil's suitability to sustain healthy turf. Submit written recommendations for soil suitability and all necessary soil amendments, fertilizer and chemical conditioner application rates for soil preparation, and a post maintenance fertilization program. Submit recommendations to bring the soil to a pH rating between 5.5 to 6.5 and to supply necessary nutrients to satisfactory level for planting and sustaining vigorous turf growth. Submit a copy of soil tests with suitability analysis and recommendations to Owner's Representative prior to any planting.
- 2.2 At a minimum apply 100 lbs/acre of scarified, chemically treated Bahia Seed. Apply by hand, cyclone seeder, drill or hydro-seeding. The final result shall place the seeds $\frac{1}{4}$ - $\frac{1}{2}$ " below the soil.
- 2.3. At a minimum apply an additional 30 lbs/acre of quick growing rye grass over the entire
- 2.4. Contractor is responsible for utilizing the best application method to prevent erosion of soil during seed growth. 2.5. At a minimum apply mulch (straw, hay, wood, etc.) at a rate of 2.5 tons per acre during
- seeding. 2.6. At a minimum apply fertilizer during seeding at a rate of 250lbs/acre using a 12-6-8 fertilizer or other ratio recommending by the soil testing. An additive of 4% magnesium is
- also required and should be verified with soil testing. 2.7. Contractor is responsible for dust control and measure should be taken to minimize
- movement of dust in addition to seeding and mulching.
- 3. Watering: At a minimum apply 3/4" to 1" of water each week to the newly seeded areas to help germination until the grass is fully established. The contractor is responsible to monitor rainfall quantities and supplement with watering as necessary. The contractor shall record all watering information and furnish to the Owner's Representative when requested.
- 3.1. During the maintenance period the contractor shall supplement the rain water amount with hand watering as necessary to maintain an average of 1/2" of water weekly. At any time the owner's representative may require an immediate watering of areas they find suffering from a lack of water. The contractor will have 2 days to water these areas.
- 4. Maintenance: At a minimum the contractor shall be responsible for mowing the new established Bahia grass at four (4) different times throughout the 12 month warranty period. The timing of mowing shall be coordinated and approved by the owner's representative.
- 4.1. At a minimum the contractor shall implement a fertilization program that will adequately assist the continued health of the turfgrass. This should include a spring, summer, and fall fertilization treatment unless proper soil sample analysis is supplied to the owner's representative that warrants no treatment required. The owner's representative shall make the final decision.
- 4.2. At the request of the owner's representative, at any given time, any area of the project that has not properly been covered by turfgrass, that is undernourished, underwatered, eroded, or in any other way not acceptable to the owner's representative, the contractor will have seven (7) days to fully correct the problem at the contractor's expense.

D. Fertilization, Pre-Emergent and Mulching:

1. Prior to mulching, apply fertilizer specified in Part 2-Products to tree, palm, shrub, groundcover and sod areas at the rate of 1.5 pounds of actual fertilizer per 100 square feet. Fertilizer application shall be witnessed by Landscape Architect-Owner's Representative.

E. Mulching and Pre-Emergent Herbicide:

1. Apply pre-emergent herbicide to tree, palm, shrub, and groundcover areas according to manufacturer's recommendations. Pre-emergent application shall be witnessed by Landscape Architect-Owner's Representative.

2. Mulch surfaces of tree, palm, shrub and groundcover areas. Apply 3 inch depth of settled mulch, level with adjacent finish grades, sidewalks, curbs and sod. Mulch over root ball of plants shall be 1 inch maximum

F. Plant Protection:

1. Protect plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods, as approved by Landscape Architect-Owner's Representative. Treat, repair, or replace damaged plant materials.

G. Clean Up:

1. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose off Owner's property.

H. Sprigging:

1. The Contractor shall carefully coordinate the sprigging operation being careful not to sprig an area too large or move so swiftly that a reasonable watering operation could not follow. Carelessness on the part of the Contractor, as mentioned above, shall result in the Contractor being liable for the cost of additional sprigs and the replanting of same.

2. A successful planting shall be defined as the insertion of 12 live sprigs per square foot. 3. An automatic planting machine shall be used, the machine shall insert live sprigs at 1-1/2 to 2 inch centers and roll the surface smooth on one pass. A minimum rate for sports field shall be 400 bushels per acre and sprigs shall be "cut in" mechanically.

4. After planting, sprigs must be watered to avoid drying out. Watering must be maintained until the sprigs tack down, about 14 days, then reduced to keep the sprigs well irrigated until complete coverage is obtained. Insects such as army worms are the biggest insect threat and can completely destroy a stand of immature sprigs overnight, it is the Contractors responsibility to monitor and treat all infestations as may be required.

5. The sprigs must be properly fertilized until completely grown in (about 12 weeks in optimum season - do not attempt to sprig past August 1). Apply 1 lb of nitrogen/1,000 square feet per week, applied in 2, 1/2 lb applications for 12 weeks. The nitrogen source shall be 75% water soluble and 25% water insoluble. Test soil and apply lime as needed to meet, then apply a pre-plant "complete" fertilizer, 10-10-10 at least 2lb/M which needs to be lightly incorporated into the soil prior to sprigging.

6. Contractor shall be responsible for the planting and grow-in of all sprigged areas. The grow-in responsibilities shall include all mowing, fertilization monitoring, watering and any additional activities required to produce a weed-free dense turf. The grow-in and maintenance period shall be considered complete when a healthy, well-rooted, even-colored, viable lawn has been established, free of weeds, surface irregularities and no bare areas greater than 2-1/2 square inch/10 square feet, with no bare area greater than 1 sq in each. Contractor shall notify the Landscape Architect-Owner's Representative in writing requesting an inspection with 48 hours notice to determine final acceptance of all the sprigged areas.



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