

I-95 INTERCHANGE AT PIONEER TRAIL PD&E STUDY

LANDSCAPE OPPORTUNITY ANALYSIS

FDOT District 5
FPID: 436292-1-32-01
Project Manager: Heather Grubert



Civil Engineering—Transportation—CEI—Landscape Architecture
1370 North US Highway 1, Suite 204
Ormond Beach, FL 32174
(386) 872-7794
www.Newkirk-Engineering.com

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1230 N US HWY 1, SUITE 3, ORMOND BEACH, FLORIDA 32174 386-872-7794

LANDSCAPE OPPORTUNITY ANALYSIS FOR I-95 INTERCHANGE AT PIONEER TRAIL PD&E STUDY

EXISTING CONDITIONS AND PRESERVATION OPPORTUNITY ANALYSIS

The proposed interchange for I-95 at Pioneer Trail located in New Smyrna Beach has existing sandy soils and a high-water table. The existing vegetation is a combination of planted pines, bay trees, cypress trees, scattered water oaks, red maple and sable palm trees. The vegetation has tight spacing like timber harvesting areas and provides little opportunity for development of substantial canopy features typically desired for preservation. Further, the existing trees appear to be of a similar age and are smaller than Volusia County or New Smyrna Beach specimen tree criteria.




LiDAR, Soil Survey and Existing Floodplain maps are included to provide a detailed visualization of existing conditions. The ground is made up significantly of existing wetlands and typically consists of less than two percent slope throughout. The existing soils and drainage patterns will support a variety of tree and shrub plantings and the altered topography will provide planting locations with both shallow and deep water-table depths providing an opportunity for greater planting diversity following construction. The areas with greater depth should be planted with more drought tolerance species, where many of the ramp infield and border areas will have a shallower water-table and will be suitable for more water-intensive plantings.

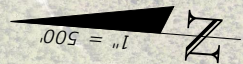
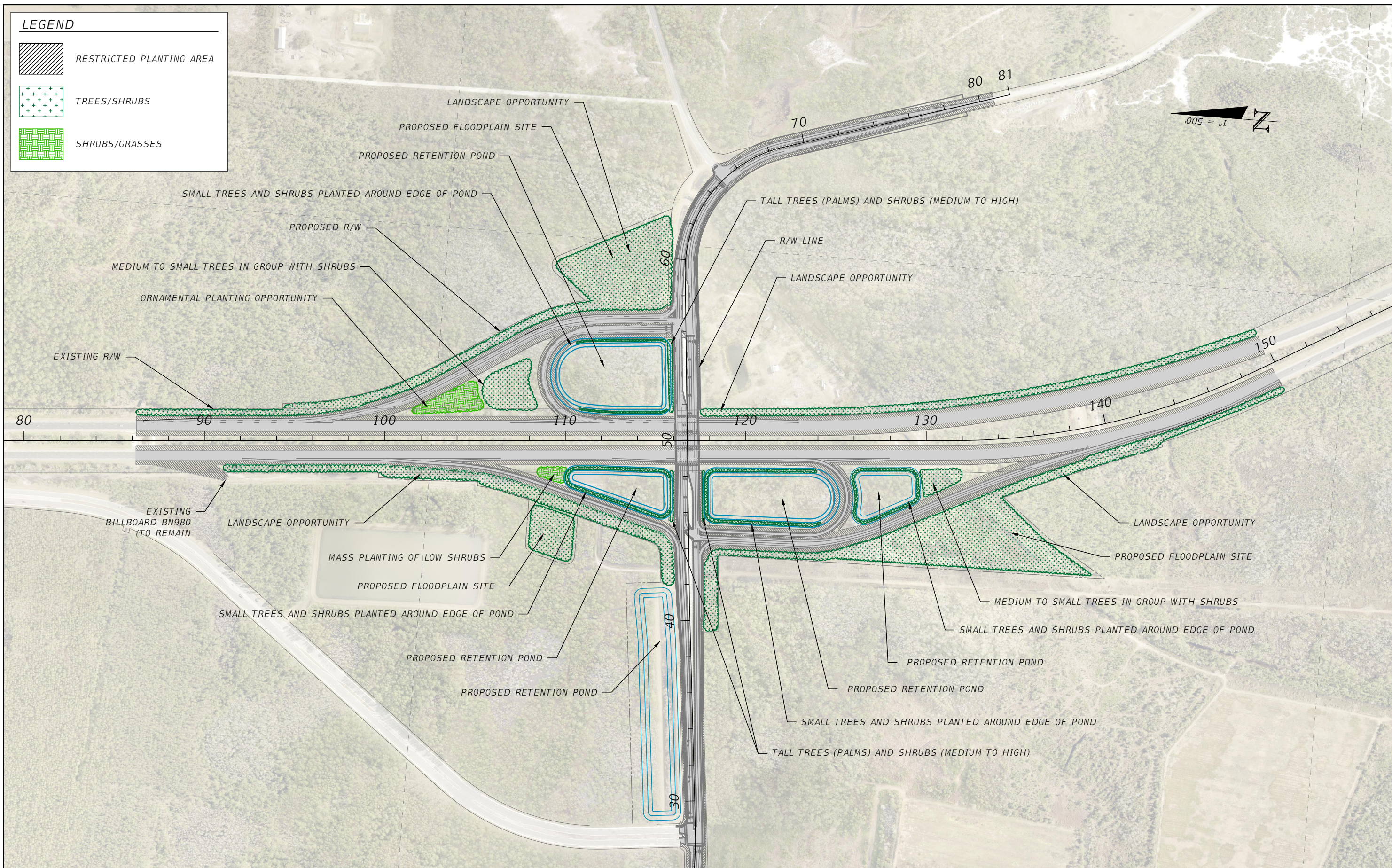
LANDSCAPE PLANTING OPPORTUNITY ANALYSIS

A landscape opportunity diagram is included and has been developed around proposed roadway and drainage plans. The landscape opportunity diagram displays the restricted planting areas for outdoor advertising view zones, intersection site distance, and recoverable terrain (clear zone) with a cross hatch. Planting areas are identified in light green for shrubs and ornamental grasses, and dark green for areas where trees and larger ornamental plantings can occur. The proposed floodplain sites are shown, and there is an existing billboard to remain just north of the proposed southbound offramp, tag number BN980. It is suggested that plantings end just south of this view zone.

A recommended plant list was developed in keeping with the local preferences of Volusia County and the City of NSB. In addition to the appearance and size of the planting material, a focus was placed on the maintenance level, disease resistance, and overall hardiness of each material, specifically the abilities to withstand elements such as drought, high salinity, pH level, and high water table.

LEGEND

-  RESTRICTED PLANTING AREA
-  TREES/SHRUBS
-  SHRUBS/GRASSES



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**LANDSCAPE OPPORTUNITY
DIAGRAM**

SHEET NO.
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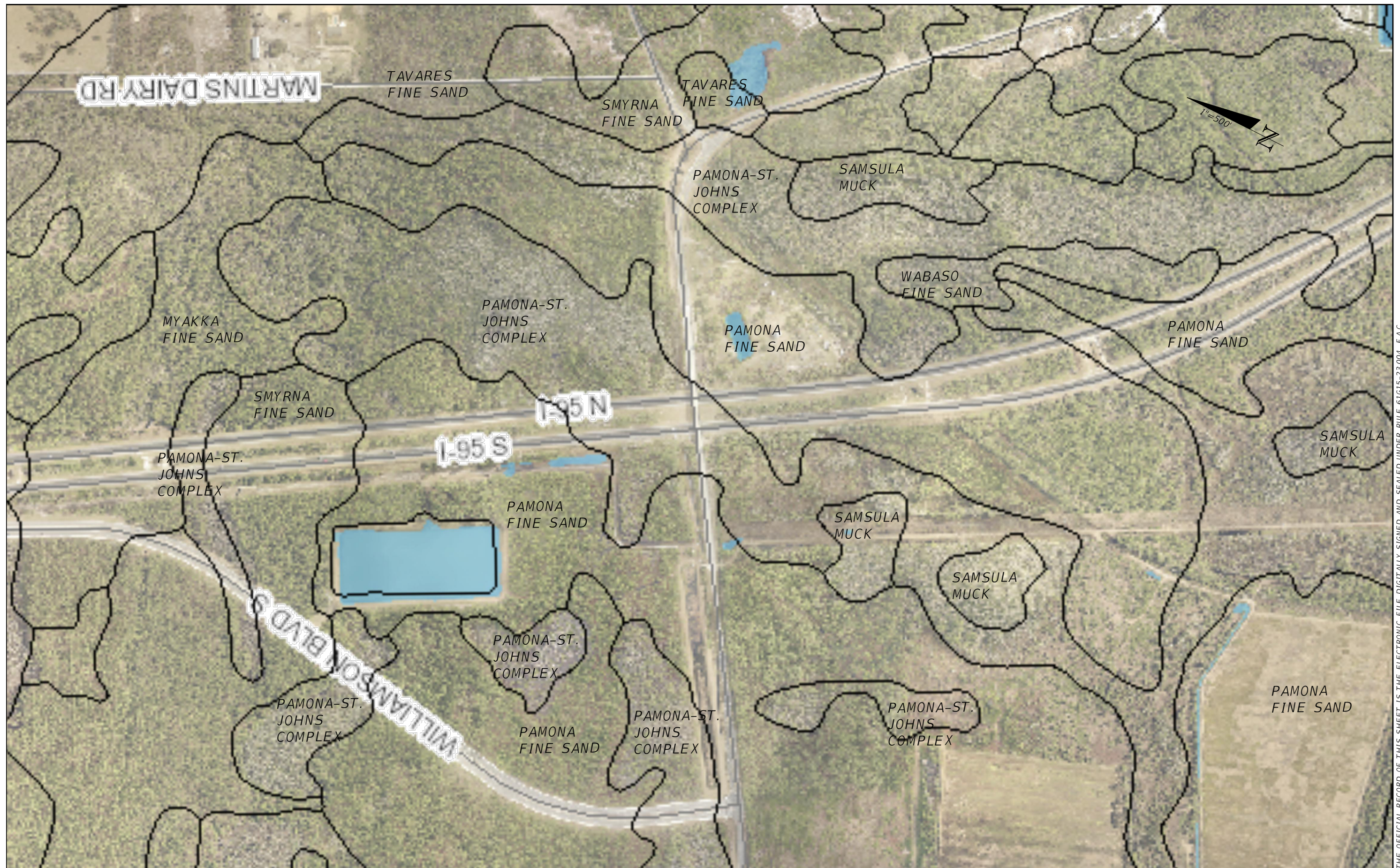
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LIDAR ELEVATION DIAGRAM

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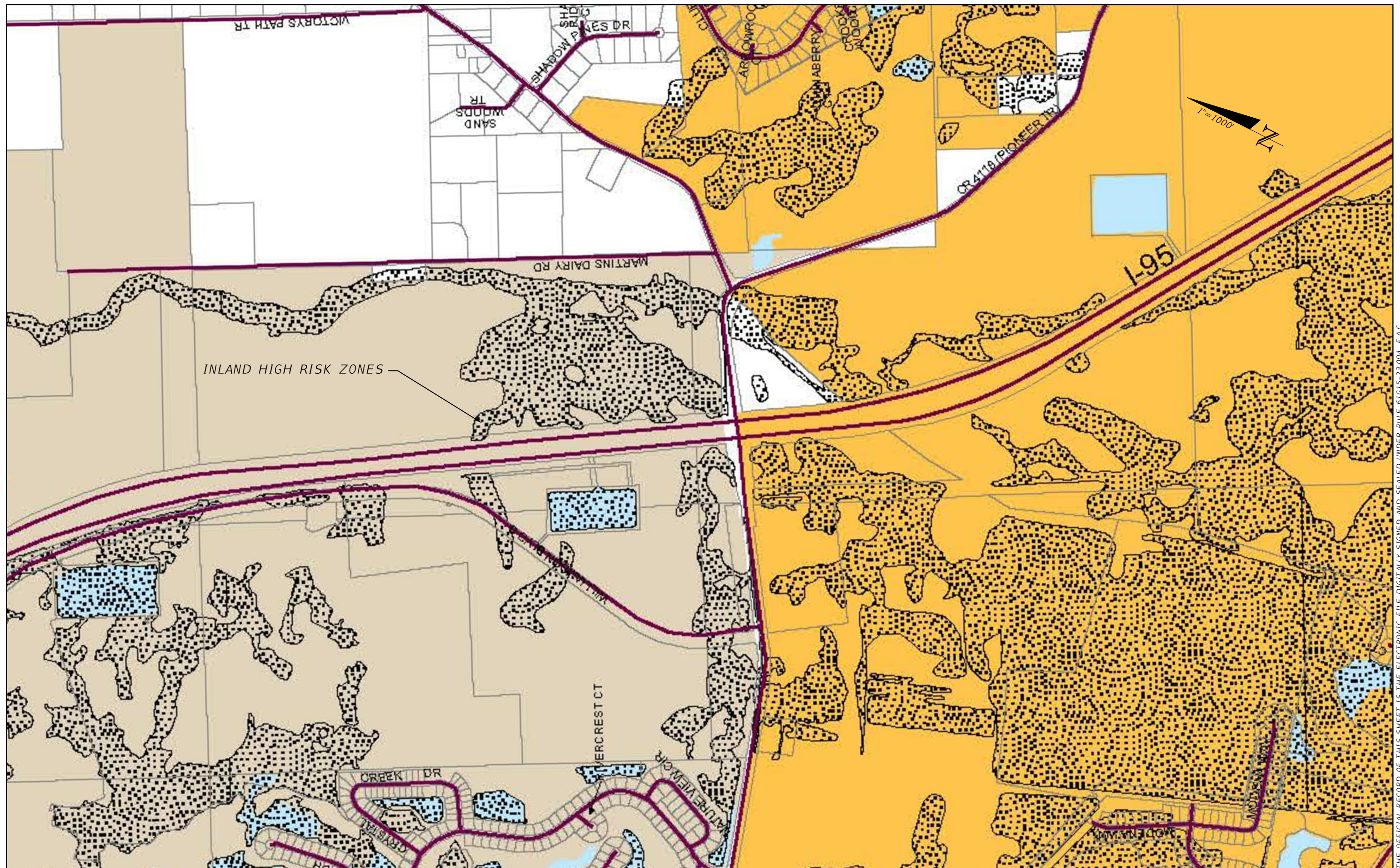
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SOIL SURVEY DIAGRAM

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EXISTING FLOODPLAIN DIAGRAM

SHEET NO.
6

PLANTING MATERIALS LIST

TYPE	BOTANICAL NAME	COMMON NAME	DROUGHT TOLERANT	HEIGHT RANGE	GROWTH RATE	HARD ZONE	SALT TOLERANT	PLANT TYPE	FLOWER COLOR	WATER TOLERANT	NUTRITION	PH TOLERANT	REGENERATION	LIGHT	MAINTENANCE	REMARKS
SHRUB	<i>ILEX VOMITORIA</i>	YAUPON HOLLY	H	S	M	NCS	M	E	I	M	L	W	M	W	L	EXCELLENT FOR MEDIANS OR UNDER UTILITIES. BLACK BERRIES.
SHRUB	<i>JUNIPERUS CHINENSIS 'BLUE VASE'</i>	BLUE VASE JUNIPER	H	L	M	NCS	H	C	.	L	L	W	M	H	L	
SHRUB	<i>LEUCOPHYLLUM FRUTESCENS</i>	TEXAS SAGE	H	M	M	NCS	M	E	L	L	L	W	M	H	L	
SHRUB	<i>LIGUSTRUM JAPONICUM</i>	JAPANESE PRIVET	M	L	F	NCS	M	E	W	L	L	W	M	W	L	
SHRUB	<i>MYRICA CERIFERA</i>	SOUTHERN WAX MYRTLE *	H	L	F	NCS	H	E	I	H	L	W	H	H	L	DISEASE PRONE; NURSERY-GROWN PREFERRED; GOOD BUFFER. MEDIAN OR UTILITY PLANTING
SHRUB	<i>NERIUM OLEANDER</i>	OLEANDER +	H	L	F	CS	H	E	PRWY	M	L	W	H	H	L	
SHRUB	<i>PRUNUS ANGUSTIFOLIA</i>	CHICKASAW PLUM *	H	VL	M	NC	N	D	WF	M	L	W	M	H	L	SMALL EDIBLE FRUITS AND SOME THORNS. MEDIAN AND UTILITY LINES
SHRUB	<i>PYRACANTHA COCCINEA</i>	SCARLET FIRETHORN	M	L	F	NCS	M	E	W	L	L	W	M	W	L	
SHRUB	<i>RHAPHIOLEPIS INDICA</i>	INDIA HAWTHORN +	H	S	M	NCS	H	E	WF	L	L	W	M	W	L	
SHRUB	<i>SABAL MINOR</i>	DWARF PALMETTO + *	H	M	S	NCS	H	E	W	H	L	W	L	W	L	FIRE DAMAGED FOLIAGE, REGROWS QUICKLY
SHRUB	<i>SERENOA REPENS</i>	SAW PALMETTO +	H	M	S	NCS	H	P	W	H	L	W	L	W	L	
SHRUB	<i>SEVERINIA BUXIFOLIA</i>	BOXTHORN +	H	M	M	NCS	H	E	I	M	L	W	M	W	L	
SHRUB	<i>SPARTINA BAKERI</i>	SAND CORDGRASS *	H	S	M	CS	H	E	I	H	L	W	M	H	L	
SHRUB	<i>ZAMIA PUMILA</i>	COONTIE+	H	M	S	NCS	H	P	W	H	L	W	L	W	L	

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PLANTING MATERIALS LIST

TYPE	BOTANICAL NAME	COMMON NAME	DROUGHT TOLERANT	HEIGHT RANGE	GROWTH RATE	HARD ZONE	SALT TOLERANT	PLANT TYPE	FLOWER COLOR	WATER TOLERANT	NUTRITION	PH TOLERANT	REGENERATION	LIGHT	MAINTENANCE	REMARKS
TREE	COCOLOBA UVIFERA	SEAGRAPE *	H	S	M	S	H	E	I	M	M	W	H	H	L	FRUIT AND FLOWERS. MEDIANS AND UTILITY LINERS
TREE	CORNUS FLORIDA	DOGWOOD *	M	S	M	NC	L	D	W	L	M	W	L	W	M	BORERS, ANTHRACNOSE. RED/ORANGE FALL CALOR
TREE	GORDONIA LASIANTHUS	LOBLOLLY BAY *	L	M	M	NC	N	E	W	H	M	AC	H	H	M	IS TOLERANT OF POOR ENVIRONMENTS. SCALE INSECTS MAY BE A PROBLEM
TREE	HEX CASSINE	DAHOON HOLLY	L	M	M	NCS	M	E	F							
TREE	ILEX VOMITORIA 'PENDULA'	WEeping HOLY *	H	S	M	NCS	H	E	F	M	M	W	H	W	M	INTERESTING WEeping HABIT. VERY DISTINCTIVE IN MEDIANS, OTHER.
TREE	JUNIPERUS SILICICOLA	SOUTHERN RED CEDAR *	H	M	F	NCS	H	C	I	M	M	W	L	H	M	SOME FUNGAL PROBLEMS. TRANSPLANTS WELL. EXCELLENT BUFFER.
TREE	LAGERSTROEMIA INDICA	CRAPE MYRTLE	H	S	F	NCS	L	D	LFW	L	M	W	H	H	M	EXCELLENT FOR MEDIANS OR UTILITIES. NAT. ARBORETUM VARIETIES BEST.
TREE	LIVISTONA CHINENSIS	CHINESE FAN PALM	H	M	M	CS	M	P	I	M	M	W	L	H	L	
TREE	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA *	M	L	M	NC	M	E	W	M	M	W	L	W	M	LARGE LEATHERY LEAVES MAY BE A PROBLEM
TREE	MAGNOLIA VIRGINIANA	SWEETBAY *	M	M	M	NCS	N	SW	W	H	M	AC	H	W	M	SILVERY-BACKED LEAVES. SMOOTH BARK.
TREE	PHOENIX SYLVESTRIS	WILD DATE PALM	H	M	S	CS	M	P	I							
TREE	PINUS PALUSTRIS	LONGLEAF PINE *	H	VL	M	NCS	N	C	I	M	M	AC	L	H	M	EXCELLENT NATIVE PINE
TREE	QUERCUS SHUMARDII	SHUMARD OAK *	H	VL	F	NC	N	D	I	L	M	W	L	W	L	COMPACT ROUND FORM. GOOD RED FALL COLOR. LARGE SCORNS.
TREE	QUERCUS VIRGINIANA	LIVE OAK *	H	L	M	NCS	M	SD	I	M	M	W	L	W	L	EXCELLENT URBAN TREE
TREE	SABAL PALMETTO	CABBAGE PALM *	H	L	S	NCS	H	P	Y	M	M	W	L	H	L	FLORIDA STATE TREE
TREE	TAXODIUM DISTICHUM	BALD CYPRESS *	M	L	M	NCS	M	D	I	H	M	W	H	H	L	MAY HAVE 'KNEES' IN WET, POORLY AERATED OR SHALLOW SOIL
TREE	TRACHYCARPUS FORTUNEI	WINDMILL PALM	M	S	S	NCS	M	P	I	L	M	W	L	H	L	MEDIANS AND UTILITY LINES
TREE	ULMUS ALATA	WINGED ELM *	M	M	M	NC	M	D	I	L	M	W	L	H	L	INTERETING WINGED BARK ON BRANCHES. GOOD FOR MEDIANS
TREE	ULMUS PARVIFOLIA	CHINESE ELM	H	M	F	NC	N	SD	I	M	M	W	L	W	L	EXCELLENT FOR MEDIANS AND SOME UTILITIES. GOOD URBAN TREE.
TREE	WASHINGTONIA ROBUSTA	WASHINGTON PALM	H	VL	F	NCS	M	P	I	M	M	W	L	W	L	

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DROUGHT TOLERANCE INDICATORS				
H = HIGH	M = MODERATE	L = LOW	N = NONE	
HEIGHT RANGE - GROUND COVERS				
S = SMALL	6" OR UNDER			
M = MEDIUM	6" - 12"			
L = LARGE	12" - 20"			
VL = VERY LARGE	20" OR GREATER			
HEIGHT RANGE - SHRUBS				
S = SMALL	1.5' - 3.25'			
M = MEDIUM	3.25' - 6.5'			
L = LARGE	6.5' - 13'			
VL = VERY LARGE	13' OR GREATER			
HEIGHT RANGE - TREES				
S = SMALL	25' OR UNDER			
M = MEDIUM	25' - 40'			
L = LARGE	40' - 60'			
VL = VERY LARGE	60' OR GREATER			
GROWTH RATE				
F = FAST	M = MODERATE	S = SLOW		
HARDINESS ZONE				
N = NORTH	C = CENTRAL	S = SOUTH		
SALT TOLERANCE				
H = HIGH	M = MODERATE	L = LOW	N = NONE	
PLANT TYPE				
D = DECIDUOUS	C = CONIFER	SD = SEMI-DECIDUOUS	P = PALM	E = EVERGREEN
E = EVERGREEN	P = PALM			

FLOWER COLOR/FRUIT				
B = BLUE	I = INCONSPICUOUS	P = PINK	W = WHITE	Y = YELLOW
F = FRUIT	L = LAVENDER	U = PURPLE	G = GREEN	O = ORANGE
STANDING WATER TOLERANCE				
H = HIGH	(TOLERATES SURFACE WATER TABLE)			
M = MEDIUM	(TOLERATES INTERMITTENT SURFACE WATER TABLE)			
L = LOW	(LOW TOLERANCE OF SURFACE WATER TABLE)			
NUTRITIONAL REQUIREMENT				
H = HIGH	M = MODERATE	L = LOW		
PH TOLERANCE				
AK = ALKALINE (HIGH PH PREFERRED)	AC = ACID (LOW PH PREFERRED)	W = WIDE TOLERANCE		
ABILITY TO REGENERATE (AFTER DAMAGE OR PRUNING)				
H = HIGH	M = MODERATE	L = LOW		
LIGHT REQUIREMENT				
H = HIGH	L = LOW	W = WIDE TOLERANCE		
MAINTENANCE REQUIREMENT				
H = HIGH	M = MODERATE	L = LOW		
SYMBOL KEY				
+ = MOST DESIRABLE	* = NATIVE			

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