30% SITE CONSTRUCTION PLANS FOR KINGFISH BOAT RAMP IMPROVEMENTS

752 MANATEE AVE W. HOLMES BEACH **COUNTY OF MANATEE, FLORIDA SECTION 28 - TOWNSHIP 34 SOUTH - RANGE 16 EAST PARCEL:** 21(PART-A)

CONSULTANTS

OWNER/DEVELOPER

MANATEE COUNTY PARKS AND RECREATION 5502 33RD AVENUE DRIVE WEST **BRADENTON, FLORIDA 34209** ATTN: CHARLIE HUNSICKER (941) 742-5923

ENGINEER

CPH. INC. 3277A FRUITVILLE ROAD SARASOTA, FLORIDA 34237 ATTN: JEFFREY M. SATFIELD. P.E. (941) 365-4771

SURVEYOR

CPH. INC. **500 WEST FULTON STREET** SANFORD, FLORIDA 32771 ATTN: THOMAS J. GALLOWAY, P.S.M. (407) 322-6841

COASTAL ENGINEER HUMISTON & MOORE ENGINEERS 5679 STRAND COURT NAPLES, FLORIDA 34110 ATTN: MARC DAMON, P.E. (239) 594-2021

UTILITY PROVIDERS

ELECTRIC

FLORDA POWER & LIGHT WHITFIELD SERVICE CENTER **1253 12TH STREET E** PALMETTO, FLORIDA 34221 ATTN: (941) 723-4421

TELEPHONE

FRONTIER COMMUNICATIONS **ATTN: TONI CANNON** (813) 875-1014

WATER

MANATEE COUNTY UTILITIES DEPARTMENT 4410 66TH STREET W **BRADENTON, FLORIDA 34210** ATTN: (941) 792-8811

SEWER

MANATEE COUNTY UTILITIES DEPARTMENT 4410 66TH STREET W **BRADENTON, FLORIDA 34210** ATTN: (941) 792-8811

GAS

TECO PEOPLES GAS - ST PETERSBURG 1920 9TH AVE N ST. PETERSBURG, FLORIDA 33713 ATTN: JOAN DOAMING (813) 275-3783

AP

CITY DEVELOP 5801 MAR

HOLMES E ATTN: ER (941) 708-

MAN MANATE

1112 MA BRADEN ATTN/: (941) 748

ARM TAMPA F

10117 PF TAMPA, (813) 769

FLOR OF EI **PRO**

(813) 470-5700

14000 STATE ROAD 64 ATTN:

NOTICE THE SIZE OF THESE PLANS MAY HAVE BEEN SLIGHTLY ALTERED BY REPRODUCTION PROCESSES, THIS MUST BE CONSIDERED WHEN SCALING ANY REPRODUCED PLANS FOR THE PURPOSE OF COLLECTING DATA.

PPROVAL AGENCIES	INDEX OF SHEETS						
OF HOLMES BEACH PMENT SERVICES DIRECTOR RINA DRIVE BEACH, FLORIDA 34217 RAN WASSERMAN 3-5800 IATEE COUNTY EE COUNTY PLANNING, DEVELOPMENT & ZONING ANATEE AVENUE WEST			OF HOLMES BEACH	EE COUNTY PUBLIC UTILITIES			
NTON, FLORIDA I8-4501			CITY O	MANATEE			
	SHEET NUMBER	SHEET TITLE					
	C0.1	COVER					
IY CORPS OF ENGINEERS	1-4	BOUNDARY & TOPOGRAPHIC SURVEY					
PERMITS SECTION	C0.2	GENERAL NOTES					
PRINCESS PALM AVENUE, SUITE 120	C0.3	GENERAL NOTES					
, FLORIDA 33610	C1.3	SITE DIMENSION PLAN					
69-7073	C1.4	GRADING AND STORM DRAINAGE PLAN					
	C1.5	COMPOSITE UTILITY PLAN					
RIDA DEPARTMENT	C5.1	CONSTRUCTION DETAILS SHEET					
	C5.3	AGENCY DETAILS SHEET					
	L-5.1	LANDSCAPE CONCEPT SHEET					
TECTION							

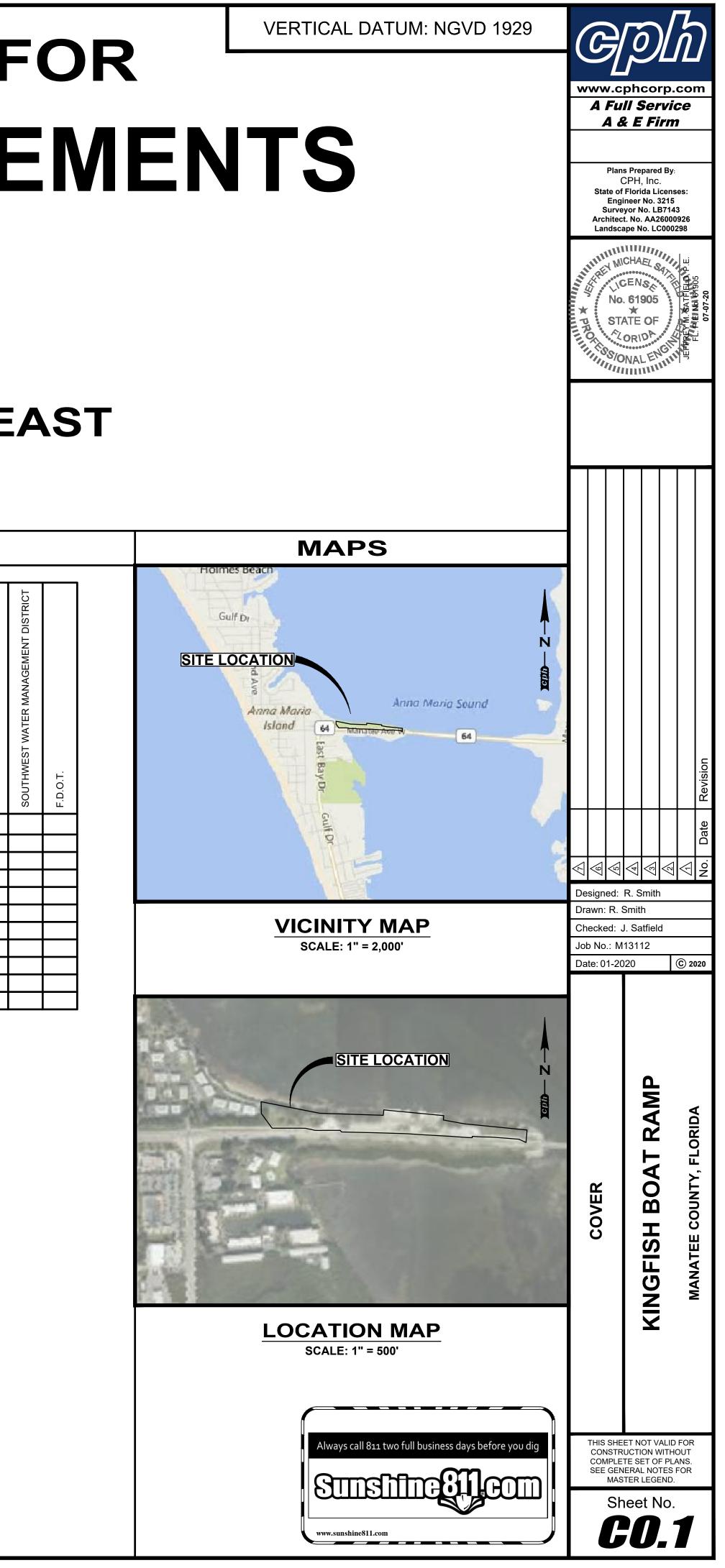
SOUTHWEST DISTRICT 13051 N TELECOM PKWY., STE. 101 **TEMPLE TERRACE, FLORIDA 33637**

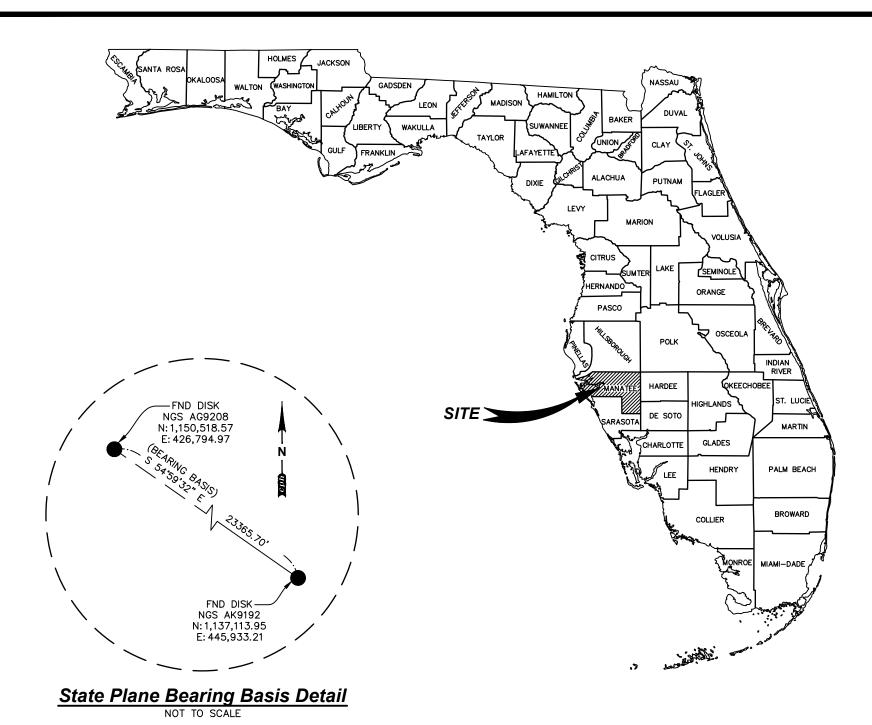
FLORIDA DEPARTMENT

OF TRANSPORTATION MANATEE COUNTY OPERATIONS CENTER

BRADENTON, FLORIDA 34212

PHONE: (941) 708-4400





	Abbreviation L	egend:		
(A) A/C	– ACTUAL – AIR CONDITIONER	MBX MES MH	– MAILBOX – MITERED END SECTION	
ACSM ADA	 AMERICAN CONGRESS ON SURVEYING & MAPPING AMERICANS WITH DISABILITIES ACT 	мн MLP	– MANHOLE – METAL LIGHT POLE	
ALTA	 AMERICAN LAND TITLE ASSOCIATION 	MPH MPP	- MILES PER HOUR	
APPROX ARV	– APPROXIMATE – AIR RELEASE VALVE	N/A	– METAL POWER POLE – NOT APPLICABLE	
AVE	– AVENUE	NÁVD	– NORTH AMERICAN VERTICAL DATUM	
AVG (BB)	– AVERAGE – BEARING BASIS	NAD NG	– NORTH AMERICAN DATUM – NATURAL GROUND	
BFP	- BACK FLOW PREVENTER	NGS	 NATIONAL GEODETIC SURVEY 	
BLK	- BLOCK	NGVD N & D	 NATIONAL GEODETIC VERTICAL DATUM NAIL AND DISK 	
BLDG BLVD	– BUILDING – BOULEVARD	NO.	– NUMBER	
BM	– BENCH MARK	NR NSPS	- NON-RADIAL	
BOC BOW	– BACK OF CURB – BACK OF WALK	N5P5	 NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS 	
BSL	– BUILDING SETBACK LINE	NT	– NON–TANGENT	- 1 —
BWF C-X	 BARBED WIRE FENCE DENOTES SHEET NUMBERING FOR ENGINEERING PLANS 	NTS OD	– NOT TO SCALE – OUTSIDE DIAMETER – – –	-5—
(C)	- CALCULATED	ORB	– OFFICIAL RECORDS BOOK	
C CATV	– CHORD – CABLE TELEVISION RISER	OR OUL	– OFFICIAL RECORDS – OVERHEAD UTILITY LINES – – ×–	,
CB	– CHORD BEARING	OTL	 OVERHEAD TRAFFIC LINES 	-1
CBS C.C.R.	 CONCRETE BLOCK STRUCTURE CERTIFIED CORNER RECORD 	(P) PB	– PLAT – PLAT BOOK –––	UC
C&G	– CURB & GUTTER	PC	- POINT OF CURVATURE	UCTV
CI	- CATCH INLET	PCC PCP	– POINT OF COMPOUND CURVATURE – PERMANENT CONTROL POINT	UE
C/L CLF	– CENTERLINE – CHAIN LINK FENCE	PFF		UFO
СМ	- CONCRETE MONUMENT	PG PGS	– PAGE	UG
CMP CO	– CORRUGATED METAL PIPE – CLEANOUT	PI	– POINT OF INTERSECTION	URW
CONC	- CONCRETE	PIV PK	– POST INDICATOR VALVE	SAN
COR CRPP	– CORNER – CORRUGATED PLASTIC PIPE	POB	– POINT OF BEGINNING	FM
CUE	 COUNTY UTILITY EASEMENT 	POC POL	- POINT OF COMMENCEMENT	тс
CVS CVS&T	– CAN'T VERIFY SIZE – CAN'T VERIFY SIZE & TYPE	PP		UT
CWS	- CROSSWALK SIGNAL	PRC PRM	 POINT OF REVERSE CURVATURE 	UW
Δ (D)		PSM	– PROFESSIONAL SURVEYOR & MAPPER	
(D) DB	– DESCRIPTION – DEED BOOK	PT PVC		
DBH	- DIAMETER AT BREAST HEIGHT IN INCHES	PVC PVMT	– POLYVINYL CHLORIDE PIPE ––––––––– – PAVEMENT	(
DE DEPT	 DRAINAGE EASEMENT DEPARTMENT 	R16E	- RANGE 16 EAST	
DIP	– DUCTILE IRON PIPE	R RAD	– RADIUS	
DR D/U	– DRIVE – DRAINAGE AND UTILITY EASEMENT	RCP REC	- REINFORCED CONCRETE PIPE	EOW
(Ė)	– ENGINEERING PLAN	REV	– RECOVERED – REVISION	
EJB EL	 ELECTRIC JUNCTION BOX UNDERGROUND ELECTRICAL LINES 	RP		
ELEC	- ELECTRIC	R/W RLS	– RIGHT–OF–WAY – REGISTERED LAND SURVEYOR	
ELEV ELLIP	– ELEVATION – ELLIPTICAL	RP	– RADIUS POINT –	FW —
EOI	- END OF INFORMATION	RWL RWM	– UNDERGROUND RECLAIM WATER LINE	нพ
EOP FB	– EDGE OF PAVEMENT – FIELD BOOK	SE SEC 28		IRR
FDC	 FIRE DEPARTMENT CONNECTION 	SEC 28 SMH	– SECTION 28 – SANITARY SEWER MANHOLE	otl -
FDOT FF	 FLORIDA DEPARTMENT OF TRANSPORTATION FINISH FLOOR 	(SP)	– STATE PLANE –	OHU
FGI	– FLAT GRATE INLET	SQ SQ FT	– SQUARE – SQUARE FEET +++	++
FGLP FHYD	– FIBERGLASS LIGHT POLE – FIRE HYDRANT	ST	– STREET	
FM	- FORCE MAIN	STMH S/W	– STORM DRAINAGE MANHOLE – SIDEWALK	
FND FP&L	– FOUND – FLORIDA POWER AND LIGHT	Τ̈́B	– TANGENT BEARING 🛛 🗠	∞
FS	– FLORIDA STATUTES	T34S TELE	– TOWNSHIP 34 SOUTH	тов
(G) GL	– GRID (STATE PLANE) – UNDERGROUND GAS LINES	TL	– OVERHEAD TRAFFIC SIGNAL LINES ––––	TOE
GOV'T	- GOVERNMENT	TOB TOE	– TOP OF BANK – TOE OF SLOPE	L
GPR GTMH	– GROUND PENETRATING RADAR – GREASE TRAP MANHOLE	TR	– TELEPHONE RISER	TRAV
HDPE	- HIGH DENSITY POLYETHYLENE PIPE	TRANS TSB	– TRANSFORMER – TRAFFIC SIGNAL BOX	UNK
H WF ID	– HOG WIRE FENCE – IDENTIFICATION	TSSP	- TRAFFIC SIGNAL SUPPORT POLE	·//—
ICV	 IRRIGATION CONTROL VALVE 	TVL (TYP)	– UNDERGROUND CABLE TV LINES	(
INFO INV	– INFORMATION – INVERT	ÙΕ	– UTILITY EASEMENT –	· -
IP	– IRON PIPE	UNK UTL	– UNKNOWN – UNDERGROUND TELEPHONE LINES	OP
IP&C IR	– IRON PIPE & CAP – IRON ROD	W/	– WITH —	GP
IR&C	– IRON REBAR & CAP	WÍF WL	– WROUGHT IRON FENCE – UNDERGROUND WATER LINE	RP
IRR L	– IRRIGATION – ARC LENGTH	WLP	- WOOD LIGHT POLE	WP
LB#	- LICENSED BUSINESS NUMBER	WM WP		PP
LP		WPF	- WOOD POST FENCE	BP
(M) MB	– MEASURED – MAP BOOK	WPP WV	– WOOD POWER POLE	ΥP
		** *		

J: \M13112\Survey\M13112\M13112.dwg, 7/7/2020 11:06:30 AM, Katrek, Paul, CPH SURVEY FULLSIZE.ctb

Line Legend NOT TO SCALE

NOT	TO SCALE
<u> </u>	= 1 FOOT CONTOURS
-5	= 5 FOOT CONTOURS
	= ADJOINER PROPERTY LINES
- x x	= BARBED WIRE FENCE
/	= BROKEN LINE
- uc	= BURIED CABLE
– UCTV ——	= BURIED CABLE TELEVISION
- UE ——	= BURIED ELECTRIC
- UFO	= BURIED FIBER OPTICS
- UG	= BURIED GAS
- URW	= BURIED RECLAIMED WATER LINE
- SAN	= BURIED SANITARY LINES
– FM ——	= BURIED SANITARY SEWER FORCE MAIN
- тс	= BURIED TRAFFIC CONTROL
- UT —	= BURIED TELEPHONE LINE
- UW ——	= BURIED WATER LINES
	= CENTER LINE R/W
-oo	= CHAIN LINK FENCE
	= EASEMENT LINES (EXISTING)
	= EASEMENT LINES (PROPOSED)
	= EDGE OF WATER LINES
	= EXISTING DRAINAGE PIPES
	= EXISTING DRAINAGE PIPES
	(TERMINUS & ANGLE UNKNOWN)
FW	= FIRE WATER MAIN LINES
	= HOT WATER SUPPLY LINES
	= IRRIGATION LINES
	= OVERHEAD TRAFFIC LINES
	= OVERHEAD UTILITY LINES
	= RAILROAD TRACKS
	= RIGHT-OF-WAY LINES
	= SECTION LINES
	= STONE WALL LINES
	= TOP OF BANK LINES
	= TOE OF SLOPE LINES
	= TREE LINES
	= TRAVERSE LINES
	= UNKNOWN BURIED LINES
	= VINYL FENCE
	= WOOD FENCE
	= WETLAND LINE
	= ORANGE PAINT LINE
	= GREEN PAINT LINE
	= RED PAINT LINE
	= WHITE PAINT LINE
	= PURPLE PAINT LINE
	· · · _ · · · · · · · · · · · · · · · ·
- BP	= BLUE PAINT LINE

---- = BLUE PAINT LINE

____ = YELLOW PAINT LINE

BOUNDARY & TOPOGRAPHIC SURVEY FOR

MANATEE COUNTY

KING FISH BOATRAMP LYING IN

SECTION 28-TOWNSHIP 34 SOUTH-RANGE 16 EAST CITY OF HOLMES BEACH, MANATEE COUNTY, FLORIDA

Legal Description: (PER ATTACHMENT D, LEASE AGREEMENT AND RESOLUTION NO. R-09-132, DATED 9/8/2009, PROVIDED BY CLIENT)

PARCEL 21 (PART-A)

THAT PORTION OF SECTION 28, TOWNSHIP 34 SOUTH, RANGE 16 EAST, MANATEE COUNTY, FLORIDA. BEING DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF U.S. GOVERNMENT LOT 2 OF SECTION 28, TOWNSHIP 34 SOUTH, RANGE 16 EAST. MANATEE COUNTY, FLORIDA: THENCE SOUTH 00'40'14" EAST ALONG THE EAST LINE OF SAID LOT 2. A DISTANCE OF 503.47 FEET TO AN INTERSECTION WITH THE CENTERLINE OF STATE ROAD NO. 64 (SECTION 1315-175 & 13150-2524); THENCE ALONG SAID CENTERLINE THE FOLLOWING TWO COURSES: (1) NORTH 89'10'46" EAST A DISTANCE OF 840.90 FEET TO THE POINT OF CURVATURE OF A CURVE TO THE RIGHT HAVING A RADIUS OF 17188.73 FEET; (2) EASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 00°22'54 WITH A CHORD BEARING NORTH 89°22'13" EAST A DISTANCE OF 114.50 FEET TO AN INTERSECTION WITH THE GOVERNMENT MEANDER LINE PLOTTED FROM THE TOWNSHIP MAP PREPARED FROM FIELD NOTES OF J. P. APTHORP DATED JANUARY 1876; THENCE ALONG SAID MEANDER LINE THE FOLLOWING TWO COURSES (1) NORTH 36'04'39" WEST A DISTANCE OF 63.58 FEET TO THE POINT OF BEGINNING; (2) CONTINUE NORTH 36'04'39" WEST A DISTANCE OF 133.99 FEET TO AN INTERSECTION WITH THE EAST LINE OF WESTBAY COVE CONDOMINIUM I AS PER PLAT THEREOF RECORDED IN CONDOMINIUM BOOK 3, PAGE 66 OF THE PUBLIC RECORDS OF MANATEE COUNTY, FLORIDA; THENCE NORTH 00°48'58" WEST ALONG SAID EAST LINE A DISTANCE OF 83.72 FEET TO POINT "A"; THENCE SOUTHEASTERLY ALONG THE APPROXIMATE MEAN HIGH WATER LINE OF ANNA MARIA SOUND A DISTANCE OF 433 FEET MORE OR LESS TO POINT "B" WHOSE CLOSING LINE BEARS SOUTH 78'46'58" EAST A DISTANCE OF 432.13 FEET TO SAID POINT "A"; THENCE CONTINUE SOUTHEASTERLY ALONG SAID APPROXIMATE MEAN HIGH WATER LINE A DISTANCE OF 462 FEET MORE OR LESS TO AN INTERSECTION WITH THE FACE OF A SEAWALL AND POINT "C" WHOSE CLOSING LINE BEARS SOUTH 88'04'53" EAST A DISTANCE OF 460.90 FEET TO SAID POINT "B"; THENCE ALONG THE FACE OF SAID SEAWALL THE FOLLOWING THREE COURSES: (1) NORTH 06'05'28" EAST A DISTANCE OF 38.81 FEET; (2) SOUTH 84'25'48" EAST A DISTANCE OF 436.40 FEET; (3) SOUTH 04'45'12" WEST A DISTANCE OF 31.60 FEET TO POINT "D"; THENCE SOUTHEASTERLY ALONG SAID APPROXIMATE MEAN HIGH WATER LINE A DISTANCE OF 170 FEET MORE OR LESS TO POINT "E" WHOSE CLOSING LINE BEARS SOUTH 79°34'42" EAST A DISTANCE OF 154.83 FEET TO SAID POINT "D"; THENCE CONTINUE SOUTHEASTERLY ALONG SAID APPROXIMATE MEAN HIGH WATER LINE A DISTANCE OF 465 FEET MORE OR LESS TO POINT "F" WHOSE CLOSING LINE BEARS SOUTH 8416'09" EAST A DISTANCE OF 455.45 FEET TO SAID POINT "E"; THENCE SOUTH 04*49'00" WEST A DISTANCE OF 89.77 FEET; THENCE NORTH 65*33'19" WEST A DISTANCE OF 56.45 FEET; THENCE NORTH 85°45'05" WEST A DISTANCE OF 52.12 FEET; THENCE NORTH 85°36'08" WEST A DISTANCE OF 51.91 FEET; THENCE NORTH 85*45'04" WEST A DISTANCE OF 104.22 FEET; THENCE NORTH 88*40'54" WEST A DISTANCE OF 58.61 FEET; THENCE NORTH 86°24'46" WEST A DISTANCE OF 71.54 FEET; THENCE SOUTH 03°43'58" WEST A DISTANCE OF 10.64 FEET; THENCE NORTH 86'32'47" WEST A DISTANCE OF 37.22 FEET; THENCE NORTH 86'07'32" WEST A DISTANCE OF 117.16 FEET; THENCE NORTH 86'25'12" WEST A DISTANCE OF 162.53 FEET; THENCE NORTH 86'49'42" WEST A DISTANCE OF 45.27 FEET; THENCE NORTH 86'18'06" WEST A DISTANCE OF 111.97 FEET; THENCE NORTH 88'11'20" WEST A DISTANCE OF 220.34 FEET; THENCE NORTH 88'38'04" WEST A DISTANCE OF 145.17 FEET; THENCE NORTH 88°28'28" WEST A DISTANCE OF 105.47 FEET TO A POINT ON THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS NORTH 38"26'25" EAST AT A DISTANCE OF 50.00 FEET; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 18"14'01" WITH A CHORD BEARING NORTH 42°26'35" WEST A DISTANCE OF 15.91 FEET: THENCE NORTH 90°00'00" WEST A DISTANCE OF 126.92 FEET; THENCE SOUTH 89'29'43" WEST A DISTANCE OF 12.41 FEET; THENCE NORTH 89'14'11" WEST A DISTANCE OF 42.67 FEET; THENCE NORTH 77°37'41" WEST A DISTANCE OF 70.15 FEET; THENCE NORTH 88'41'34" WEST A DISTANCE OF 39.42 FEET; THENCE NORTH 89'56'16" WEST A DISTANCE OF 203.81 FEET TO THE POINT OF BEGINNING. LYING AND BEING IN SECTION 28, TOWNSHIP 34 SOUTH, RANGE 16 EAST, MANATEE COUNTY, FLORIDA.

CONTAINING 5.48 ACRES, MORE OR LESS.

Symbol Legend:

			NOT TO SCALE	<u>u.</u>		
	ARV	_	AIR RELEASE VALVE		_	LIGHT POLE (TRIPLE)
	•	_	BORING HOLE LOCATION			LIGHT POLE (QUAD)
	HAA	_	BRICK PAVERS	-		MAILBOX
	CTV	_	CABLE TV RISER	O MW		MONITOR WELLS
	Δ	_	CENTRAL ANGLE			NAIL & DISC (AS NOTED)
	CO o	_	CLEAN OUT	2		PARKING SPACES (2)
	Ô	_	COMMUNICATION MANHOLE			POST INDICATOR VALVE
		—	CONCRETE			
	*	-	CONCRETE LIGHT POLE	-		PULL BOX (AS NOTED)
		-	CONCRETE LIGHT POLE (DUAL)	RWM		REVISION NUMBER (3)
		_	CONCRETE LIGHT POLE (TRIPLE)	RWV		RECLAIMED WATER METER
LINE	□∯□	_	CONCRETE LIGHT POLE (QUAD)			RECLAIMED WATER VALVE
		_	CONCRETE MITERED END SECTION	× S		ROOF DRAIN SANITARY SEWER MANHOLE
	-3887+	_	CONCRETE PAVERS	sv X		SANITARY SEWER VALVE
	+ 24	_	CONCRETE RIP RAP	(8)		TITLE OR REPORT ITEM NUMBER
	2	-	CONCRETE UTILITY POLE	-xtx-		SECTION CORNER
	41	—	COUNTY ROAD SYMBOL	×Ц× ⊡		4" X 4" CM LB #7143
		-	CROSSWALK SIGNAL POLE	•		5/8" IR&C LB #7143
		—	DETECTABLE WARNING AREA			SIGN
			DUAL SUPPORT SIGN	•		SITE BENCH MARK
	E em		ELECTRICAL MANHOLE	D		STORM SEWER MANHOLE
	⊠ EJB		ELECTRIC METER	Ť		STRIPING (DIRECTIONAL)
	E0		ELECTRICAL JUNCTION BOX	T		TELEPHONE CABLE RISER
	E			T.		TELEPHONE MANHOLE
				(TELE)		TELEPHONE LINE MARKER
	[UFO] [FDO]		FIBER OPTIC MARKER FIRE DEPARTMENT CONNECTION			TELEPHONE JUNCTION BOX
			FIRE HYDRANT			TEST HOLE
	% <u>₹</u> 0		FLOOD LIGHT	TSB	_	TRAFFIC SIGNAL BOX
			FOUND CONCRETE MONUMENT (AS NOTED)) ©	_	TRAFFIC SIGNAL SUPPORT POLE
			FOUND IRON PIPE (AS NOTED)	″ ()	_	UNKNOWN MANHOLE
					-	UNKNOWN UTILITY MARKER
			FOUND IRON REBAR (AS NOTED)		_	UNKNOWN RISER
			FOUND/SET NAIL (AS NOTED)		-	UNKNOWN VALVE
	Ø [GAS]		GARBAGE CAN	\geq	_	UTILITY FLAG (AS NOTED)
	GV		GAS MARKER	150 -	_	VENT (AS NOTED)
	~		GAS VALVE	WM	_	WATER METER
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		GOPHER TORTOISE HOLE GRATE INLET	H20	-	WATER RISER
			GRAVEL/DIRT	WS	-	WATER SERVICE
			GREASE TRAP MANHOLE		-	WATER SPIGOT
	G		GROUND LIGHT	WS		WATER SPRINKLER
	$\leftarrow$		GUY ANCHOR	ŴV		WATER VALVE
			HANDICAP PARKING SPACE			WELL
	<u> </u>		INTERSTATE SYMBOL	$\triangle$		WETLAND FLAG
			IRRIGATION CONTROL VALVE	$\mathcal{O}$		WOOD UTILITY POLE
	Å Å		LIGHT POLE	[H20]		WATER LINE MARKER
			LIGHT POLE (DUAL)	$\left(1\right)$	-	WIRE HEIGHTS (SEE CHART)
	~		· -··-/			

# Reference Material

1) WESTBAY COVE CONDOMINIUM I AS PER PLAT THEREOF RECORDED IN CONDOMINIUM BOOK 3, PAGE 66 OF THE PUBLIC RECORDS OF MANATEE COUNTY, FLORIDA.

2) FDOT RIGHT-OF-WAY MAP SECTION NO. 13150-2524 STATE ROAD NO. 64, MANATEE AVENUE WEST DATED 4/1/09.

3) FDOT RIGHT-OF-WAY MAP SECTION NO. 1315-175 STATE ROAD NO. 64, MANATEE AVENUE WEST REVISED 3/8/61.

4) ATTACHMENT D, LEASE AGREEMENT AND RESOLUTION NO. R-09-132, DATED 9/8/2009.

Sign	Le	egend:
NOT	TO	SCALE

(R1)		ROW NUMBER SIGN
(B)		BUS STOP SIGN
(DE)		DEAD END SIGN
(DNE)		DO NOT ENTER SIGN (R5–1)
(HC)		HANDICAP SIGN
(HC)		DUAL HANDICAP SIGN
(FDC)		FIRE DEPARTMENT CONNECTION
(INFO)		INFORMATION SIGN
(KR)		KEEP RIGHT SIGN
(LTO)		LEFT TURN ONLY
(ME)		MEDIAN SIGN
(ND)		NO DUMPING SIGN
(NL)		NO LEFT TURN SIGN (R3-2)
(NLI)		NO LITTERING SIGN
(NO)		NO OUTLET SIGN
(FL)		NO PARKING FIRE LANE SIGN
(NOR)		NO RIGHT TURN SIGN (R3-1)
(NTT)	<u> </u>	NO THRU TRAFFIC SIGN
(NOT)		NO TRUCKS (R5-2)
(NP)	<u> </u>	NO PARKING SIGN
(1W)		ONE WAY SIGN (R6-2)
(PE)		PEDESTRIAN CROSSING SIGN
(RTO)	<del></del>	RIGHT TURN ONLY
(SL)	<del></del>	SPEED LIMIT SIGN
(ST)		STOP SIGN (R1-1)
(SS)	<u> </u>	STREET SIGN
(TZ)	<u> </u>	TOW AWAY ZONE SIGN
(TE)		TRUCK ENTRANCE SIGN
(U)		UNKNOWN SIGN
(WL)		WEIGHT LIMIT SIGN NOTE:
(WW)		WRONG WAY SIGN THIS SURVEY IS NOT VAL
(Y)		YIELD SIGN Eng. = ENGINE C.O.A. = CERTIFICATE OF A Landscp. = LANDSCAPE

# Survey Notes:

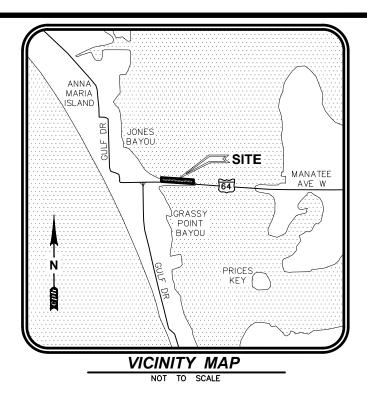
1.		IES OF PER.
2.	ADD WITH	ITIONS
3.	THIS	SUR\
	ARE ALLO FOLI ALL BAS	SITE BASE DWABL OWINC VERTI ED ON NCIAL
	a)	DESIO (NAV
	b)	DESI

- HEREON.
- CLIENT

- HIPER V.

- MAPPING CORP ..

ALID WITHOUT SHEETS 1 THI TTLE BLOCK ABBREVIATIONS EERING L.B. = LICENSED B FAUTHORIZATION Arch.= ARCHITECTURA 



1. COPIES OF THIS SURVEY ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OF A FLORIDA LICENSED SURVEYOR AND

OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.

RVEY IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88)

BENCHMARKS FOR THIS TOPOGRAPHIC SURVEY ARE DISPLAYED ON THE RESPECTIVE SURVEY FILE. THESE BENCHMARKS ED ON A CLOSED VERTICAL CONTROL LOOP HAVING AN ACTUAL ERROR OF CLOSURE OF 0.016' WHICH MEETS THE LE CLOSURE OF 0.032'. THIS FIELDWORK WAS PERFORMED USING A TOPCON GPS HIPER V AND REFERENCES THE G PUBLISHED BENCHMARKS AS ESTABLISHED BY THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AND ICAL INFORMATION INCLUDING SPOT ELEVATIONS, NOTATIONS AND THE CONTOUR LINES DERIVED THEREFROM ARE I AND MATCHED TO VERTICAL CONTROL BENCHMARKS SUPPLIED BY FLORIDA DEPARTMENT OF TRANSPORTATION ON PROJECT ID# 408185-3, STATE ROAD NO. 64, AS FOLLOWS:

GNATION #FDOT 13-16-02, VD '88) ËLEVATION = 11.42

b) DESIGNATION #FDOT BM 1-B (NAVD '88) ELEVATION = 2.12

SITE BENCHMARKS ARE AS SHOWN ON SHEET 3 AND 4 OF 4.

4. THIS SURVEY IS NOT VALID WITHOUT SHEETS 1 THROUGH 4 OF 4.

5. THE LAST DAY FIELD WORK WAS PERFORMED WAS MAY 6, 2020; ALL BOUNDARY CORNERS WERE RECOVERED OR SET AS NOTED

6. THE "LEGAL DESCRIPTION" HEREON IS IN ACCORD WITH THE 'ATTACHMENT D, LEASE AGREEMENT AND RESOLUTION NO. R-09-132', DATED 9/8/2009, (ENDING 9/8/2034 SUBJECT TO AN ADDITIONAL 25 YEAR TERM) AND WAS PROVIDED BY THE

7. BEARINGS SHOWN HEREON ARE RELATIVE TO THE LINE BETWEEN TWO STATE PLANE CONTROL POINTS HAVING A CALCULATED BEARING OF S 54*59'32" E (SEE DETAIL).

8. HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 125114 02777 E, CITY OF HOLMES BEACH, EFFECTIVE DATE MARCH 17, 2014, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE AE, WHICH ARE AREAS DETERMINED TO BE SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100 YEAR FLOOD WITH BASE FLOOD ELEVATIONS DEPICTED LYING BETWEEN 8 AND 10 FEET (NAVD '88), THIS DETERMINATION WAS BASED ON A GRAPHIC INTERPOLATION OF SAID MAP AND NOT ON ACTUAL FIELD MEASUREMENTS.

9. THE APPARENT USE OF THE LAND, AS CLASSIFIED BY THE STANDARDS OF PRACTICE SET FORTH IN RULE CHAPTER 5J-17 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO FS 472.027, ESTABLISHES THAT THE MINIMUM RELATIVE ACCURACY FOR THIS TYPE OF BOUNDARY SURVEY MEET THE HORIZONTAL CONTROL ACCURACY OF 1'/10,000 FEET FOR A HIGH RISK SURVEY. THE MEASUREMENTS AND CALCULATIONS OF THE CLOSED GEOMETRIC FIGURES WERE FOUND TO MEET THIS ACCURACY REQUIREMENT. THE EQUIPMENT USED TO VERIFY THE HORIZONTAL CONTROL ON THE SUBJECT SURVEY WAS A TOPCON GPS

10. HORIZONTAL WELL-IDENTIFIED FEATURES IN THIS SURVEY AND MAP HAVE BEEN MEASURED TO AN ESTIMATED HORIZONTAL POSITIONAL ACCURACY OF 0.05 (FT). THE EQUIPMENT USED TO LOCATE THE FEATURES WAS A LEICA SCANSTATION C10, TOPCON GPS HIPER V.

11. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OR OPINION OF TITLE. NO INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHTS-OF-WAY, AND/OR OWNERSHIP WERE FURNISHED TO THIS SURVEYOR EXCEPT AS NOTED BELOW: MANATEE COUNTY PROPERTY APPRAISER INFORMATION DISPLAYED HEREON AS PARCEL ID# IS PER THE MANATEE COUNTY PROPERTY APPRAISER'S WEBSITE (WWW.MANATEEPAO.COM) AS OF 5/6/2020.

12. NO UNDERGROUND UTILITIES, FOUNDATIONS OR IMPROVEMENTS, IF ANY, HAVE BEEN LOCATED EXCEPT AS SHOWN.

13. FENCES AND WALLS EXISTING ON, OVER OR ADJACENT TO SUBJECT PROPERTY, ARE DISPLAYED HEREON; OWNERSHIP WHETHER SINGULAR OR JOINT WAS NOT DETERMINED BY THIS SURVEY.

14. VERTICAL FEATURE ACCURACY: "ELEVATIONS OF WELL-IDENTIFIED FEATURES CONTAINED IN THIS SURVEY AND MAP HAVE BEEN MEASURED TO AN ESTIMATED VERTICAL POSITIONAL ACCURACY OF 0.05 (FT)."

15. THE UNDERGROUND UTILITIES LABELED UE, UT, UG, AND UFO LINES DISPLAYED ON SHEETS 3 THROUGH 4 ARE A RESULT OF AN ELECTRONIC FILE CREATED BY SOUTHEASTERN SURVEYING & MAPPING CORP. (6500 ALL AMERICAN BOULEVARD, ORLANDO FL 32810, [407] 292-8580) AND MATCHED TO DIAGRAMS AND DETAIL SHEETS PREPARED BY SOUTHEASTERN SURVEYING &

16. STATE PLANE INFORMATION SHOWN HEREON IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (1990) USING CONTROL POINTS FROM THE NGS DATA SHEETS PUBLISHED AT WWW.LABINS.ORG AND ARE AS FOLLOWS: FLORIDA WEST ZONE

A.) DESIGNATION # GIS 103, PID #AG9208 = N 1,150,518.57 FEET, E 426,794.97 FEET

B.) DESIGNATION # M 087, PID #AG9192 = N 1,1137,113.95 FEET, E 445,933.21 FEET

THE EQUIPMENT USED TO TRANSFER THE STATE PLANE INFORMATION FROM THE ABOVE REFERENCED CONTROL POINTS TO THE SUBJECT SURVEY WAS A TOPCON GPS HIPER V.

17. THE DISPLAYED LIMITS OF WETLANDS ARE BASED UPON THE FIELD LOCATION OF FLAGS OR STAKES SET BY CPH ENVIRONMENTAL DEPARTMENT AND LOCATED BY THE SURVEYOR ON 5/6/2020.

18. DIMENSIONS ARE SHOWN RELATIVE TO UNITED STATES STANDARD FEET AND DECIMALS THEREOF, UNLESS THE OBJECT SHOWN IS COMMONLY IDENTIFIED IN INCHES, I.E. TREE DIAMETER, PIPE DIAMETER, ETC. TREES DEPICTED ARE COMMON NAMES AND MEASURED AND LABELED AS DIAMETER AT BREAST HEIGHT IN INCHES.

19. CERTAIN INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHTS-OF-WAY, AND/OR OWNERSHIP WERE FURNISHED TO THIS SURVEYOR AS NOTED OR DISPLAYED HEREON.

20. TREE SIZE (DIAMETER AS MEASURED IN INCHES AT BREAST HEIGHT), COMMON NAME, SPECIES, CONDITION, AND NOTATIONS OF THE TREES LISTED HEREON WERE FURNISHED TO THE SURVEYOR BY CPH, INC. ENVIRONMENTAL DEPARTMENT. SEE SHEETS 3 THROUGH 4 FOR TREE LOCATIONS FOR SPECIFIC NUMBERED TREES.

# Index of Sheets

COVER SHEET BOUNDARY SURVEY 3-4 TOPOGRAPHIC SURVEY

# Surveyor's Certification:

I hereby certify that the attached "Boundary & Topographic Survey" of the hereon-described property is true and correct to the best of my knowledge, information and belief as surveyed in the field on May 6, 2020. I further certify that this "Boundary & Topographic Survey" meets the standards of practice set forth in Rule Chapter 5J-17 of the Florida Administrative Code, pursuant to FS 472.027.

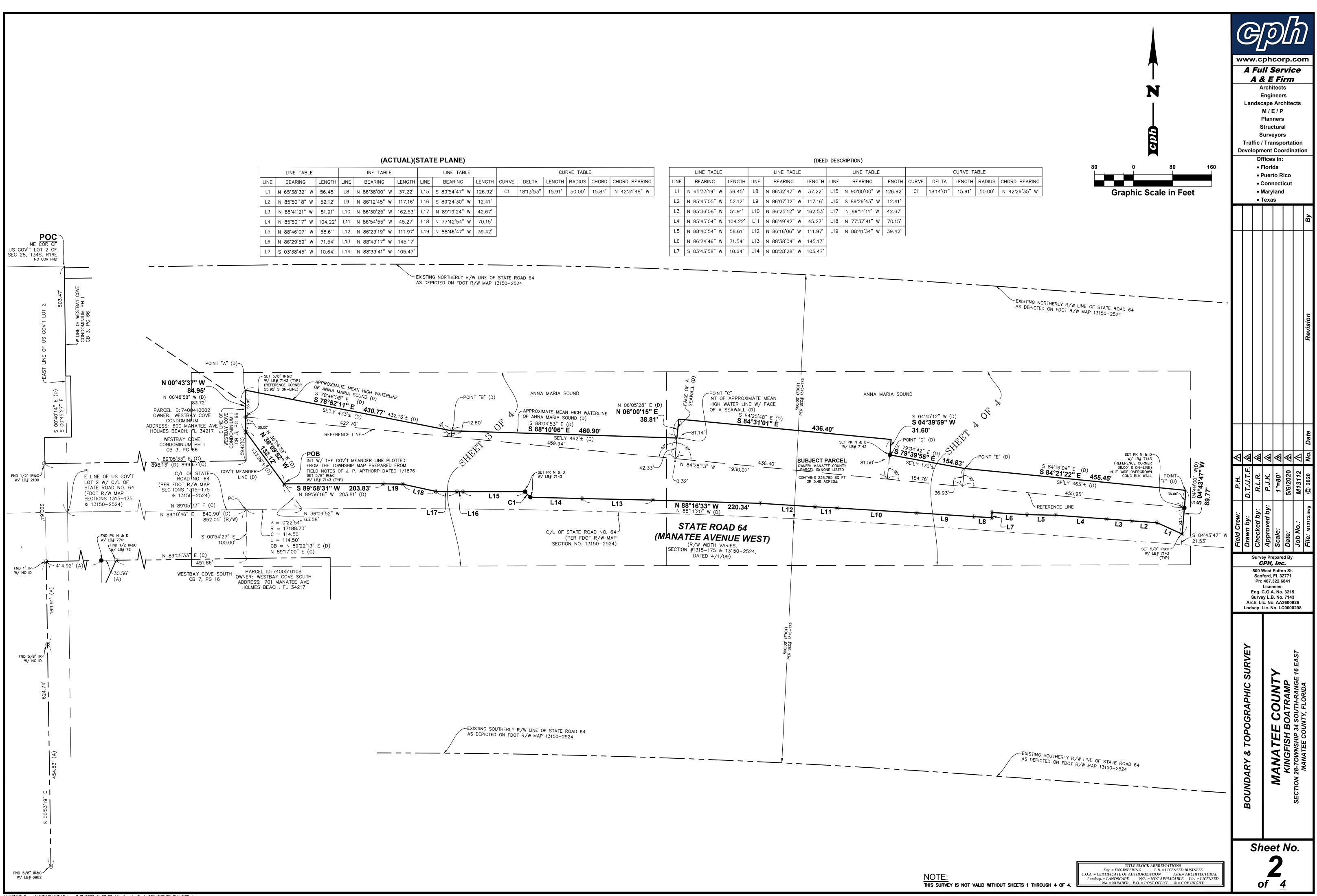
ROUGH	4	OF	4.
USINESS			

For the Firm By: ____

Paul J. Katrek Professional Surveyor and Mapper Florida Registration No. 6233

0	Ceph									
www.cphcorp.com <i>A Full Service</i>										
<b>A &amp; E Firm</b> Architects Engineers Landscape Architects M / E / P Planners Structural Surveyors Traffic / Transportation Development Coordination										
Offices in: • Florida • Puerto Rico • Connecticut • Maryland • Texas										
						By				
						Revision				
Р.Н. ▲ D.T./J.T.F. ▲	R.L.R. 🔬	/: P.J.K. ▲	N/A 🖄	5/6/2020 🔬	M13112 🛆	g © 2020 No. Date				
Field Crew: Drawn by:	Checked by:	Approved by:	Scale:	Date:	Job No.:	File: M13112.dwg				
E S Arc	500 V San Ph: Eng. ( Surve ch. Li	West ford, 407.3 Licer C.O.A ey L.E c. No	322.6 1ses: A. No. 3. No. 9. AA2	on St. 2771 841 321! 714: 26009	5 3 926					
BOUNDARY & TOPOGRAPHIC SURVEY										
	Sh	ee	et	No	ο.					

of

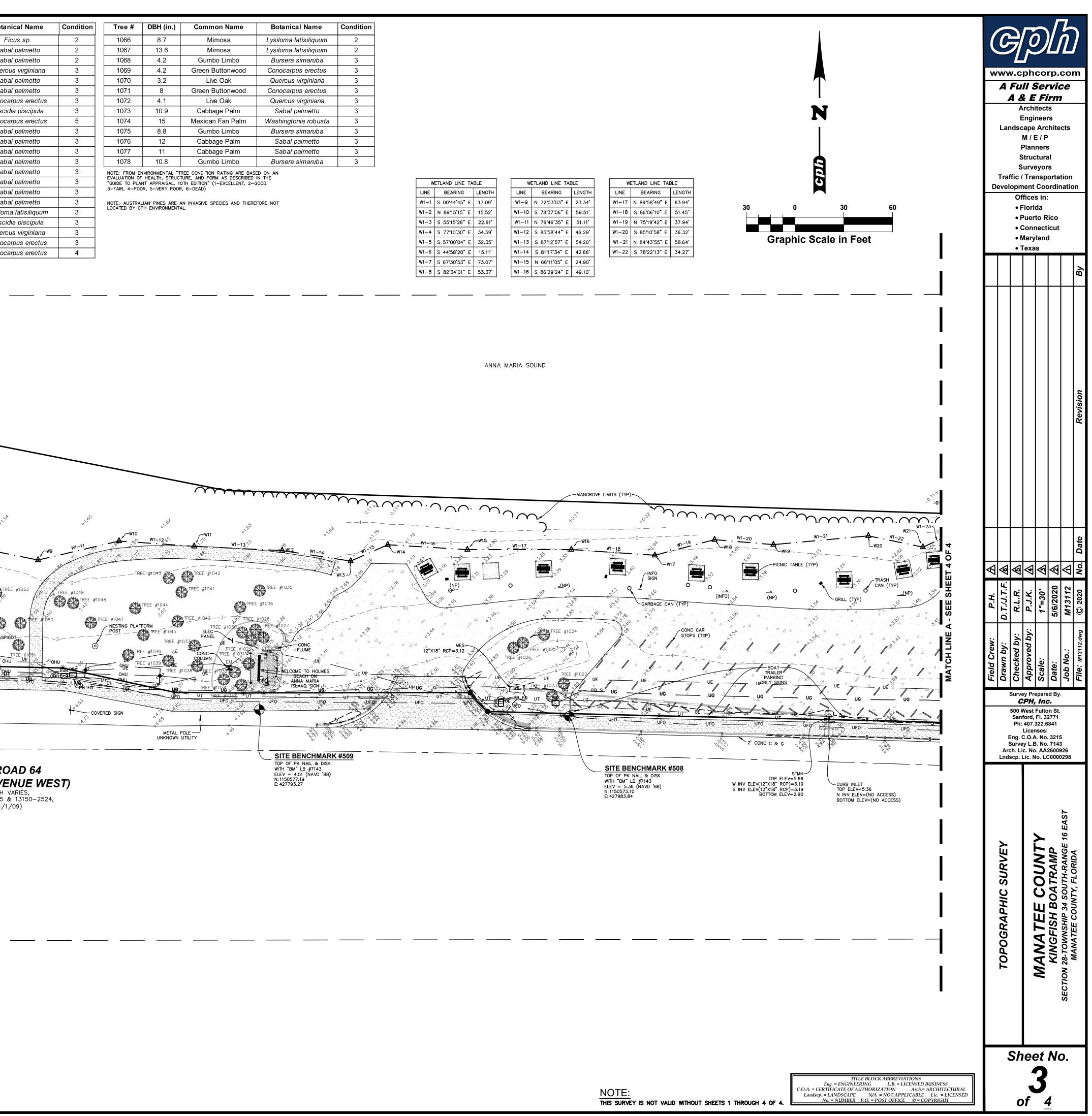


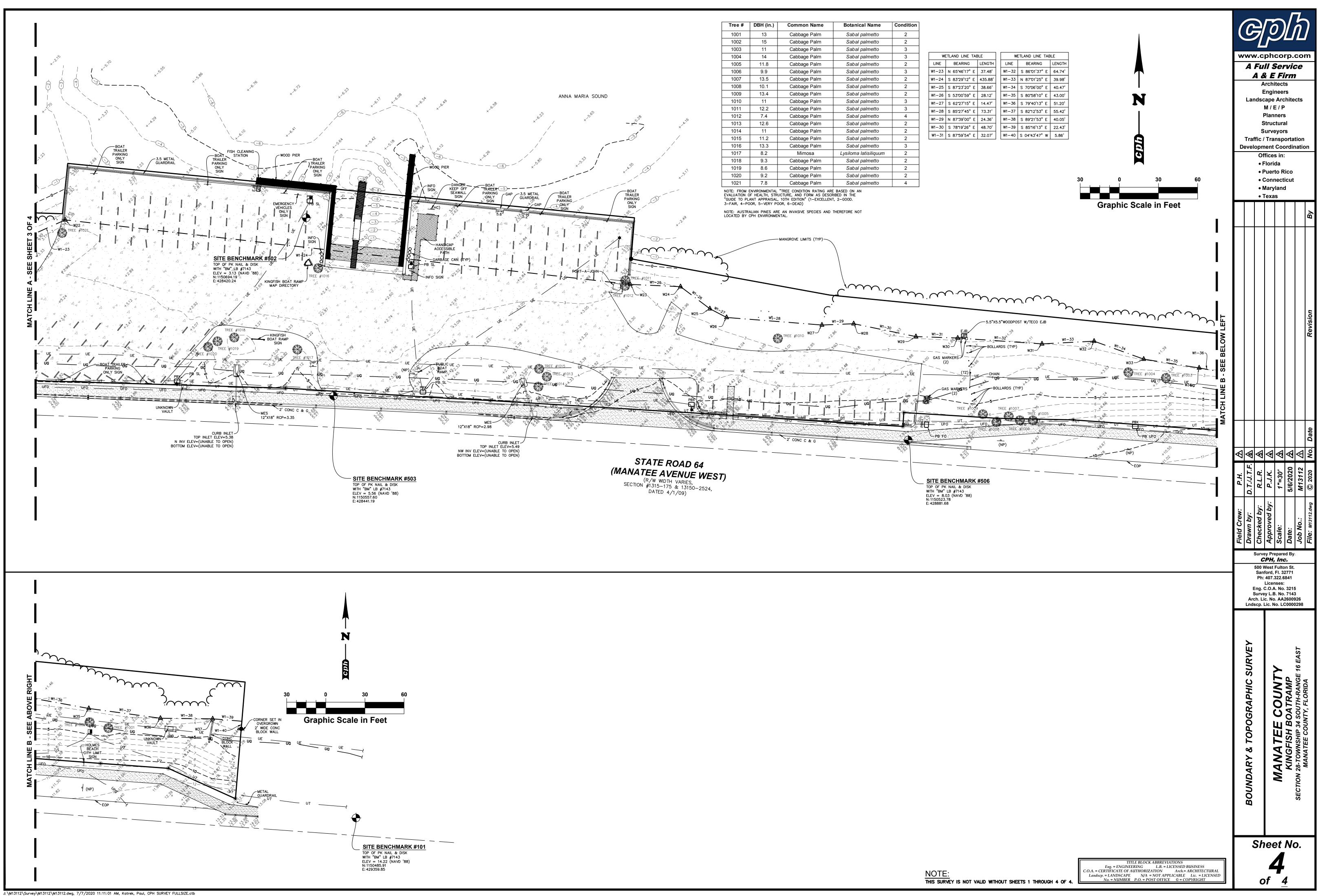
J: \M13112\Survey\M13112\M13112.dwg, 7/7/2020 11:08:55 AM, Katrek, Paul, CPH SURVEY FULLSIZE.ctb

LINE TABLE				CUF	RVE TABL	E		LINE TABLE			LINE TABLE			LINE TABLE				
BEARING	LENGTH	CURVE	DELTA	LENGTH	RADIUS	CHORD	CHORD BEARING	LINE	BEARING	LENGTH	LINE	BEARING	LENGTH	LINE	BEARING	LENGTH	CURVE	
S 89°54'47" W	126.92'	C1	18 <b>°</b> 13'53"	15.91'	50.00'	15.84'	N 42°31'48" W	L1	N 65°33'19" W	56.45'	L8	N 86°32'47" W	37.22'	L15	N 90°00'00" W	126.92'	C1	
S 89°24'30" W	12.41'							L2	N 85°45'05" W	52.12'	L9	N 86°07'32" W	117.16'	L16	S 89°29'43" W	12.41'		
N 89 <b>°</b> 19'24" W	42.67'							L3	N 85°36'08" W	51.91'	L10	N 86°25'12" W	162.53'	L17	N 89°14'11" W	42.67'		
N 77°42'54" W	70.15'							L4	N 85°45'04" W	104.22'	L11	N 86°49'42" W	45.27'	L18	N 77°37'41" W	70.15'		
N 88°46'47" W	39.42'							L5	N 88°40'54" W	58.61'	L12	N 86°18'06" W	111.97'	L19	N 88°41'34" W	39.42'		
		-						L6	N 86°24'46" W	71.54'	L13	N 88°38'04" W	145.17'					

			-											
Tree #	DBH (in.)	Common Name	Botanical Name	Condition	Tree #	DBH (in.)	Common Name	Botanical Name	Condition	Tree #	DBH (in.)	Common Name	Botanical Name	Condition
1022	8.4	Cabbage Palm	Sabal palmetto	2	1044	13.1	Fig	Ficus sp.	2	1066	8.7	Mimosa	Lysiloma latisiliquum	2
1023 1024	9.9	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmetto	2	1045 1046	11.5 8.7	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmetto	2	1067 1068	13.6 4.2	Mimosa Gumbo Limbo	Lysiloma latisiliquum Bursera simaruba	2
1025	9.6	Cabbage Palm	Sabal palmetto	3	1047	3.8	Live Oak	Quercus virginiana	3	1069	4.2	Green Buttonwood	Conocarpus erectus	3
1026	10	Cabbage Palm	Sabal palmetto	2	1048	10.3	Cabbage Palm	Sabal palmetto	3	1070	3.2	Live Oak	Quercus virginiana	3
1027 1028	11	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmetto	3	1049 1050	9.9	Cabbage Palm Silver Buttonwood	Sabal palmetto Conocarpus erectus	3	1071 1072	8 4.1	Green Buttonwood Live Oak	Conocarpus erectus Quercus virginiana	3
1029	12.2	Cabbage Palm	Sabal palmetto	3	1050	10.4	Jamaica Dogwood	Piscidia piscipula	3	1072	10.9	Cabbage Palm	Sabal palmetto	3
1030	12.9	Cabbage Palm	Sabal palmetto	6	1052	6.9	Green Buttonwood	Conocarpus erectus	5	1074	15	Mexican Fan Palm	Washingtonia robusta	3
1031	12	Cabbage Palm	Sabal palmetto	2	1053	10	Cabbage Palm	Sabal palmetto	3	1075	8.8	Gumbo Limbo	Bursera simaruba	3
1032 1033	12.3 11.3	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmetto	3	1054 1055	9.3 10.2	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmetto	3	1076 1077	12 11	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmetto	3
1034	12	Cabbage Palm	Sabal palmetto	3	1056	10.2	Cabbage Palm	Sabal palmetto	3	1078	10.8	Gumbo Limbo	Bursera simaruba	3
1035	5.2	Gumbo Limbo	Bursera simaruba	3	1057	12	Cabbage Palm	Sabal palmetto	3	NOTE: FROM E	NVIRONMENTAL "	REE CONDITION RATING ARE BA	SED ON AN	
1036 1037	6.9 8	Gumbo Limbo Gumbo Limbo	Bursera simaruba Bursera simaruba	3	1058	10	Cabbage Palm	Sabal palmetto	3	"GUIDE TO PLA	NT APPRAISAL, DR, 5-VERY POO	OTH EDITION" (1-EXCELLENT, 2-	-GOOD.	
1037	7.4	Jamaica Dogwood	Piscidia piscipula	2	1059 1060	12 10	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmetto	3				REFORE NOT	
1039	13	Cabbage Palm	Sabal palmetto	2	1061	14.9	Mimosa	Lysiloma latisiliquum	3	LOCATED BY C	PH ENVIRONMENT	AN INVASIVE SPECIES AND THER AL.		
1040	5.1	Live Oak	Quercus virginiana	3	1062	8	Jamaica Dogwood	Piscidia piscipula	3					
1041 1042	8.5 6	Mimosa Silver Buttonwood	Lysiloma latisiliquum Conocarpus erectus	2	1063 1064	4.2	Live Oak Green Buttonwood	Quercus virginianaConocarpus erectus	3					
1043	7	Silver Buttonwood	Conocarpus erectus	4	1065	4.5	Green Buttonwood	Conocarpus erectus	4					
	1 1		1					1 ·						
S I I I I I I I I I I I I I I I I I I I	-2 3-wi = #1077 2-2 -2 -2 -2 -2 -2 -2 -2 -2 -	251 × 25 x 25 x 25 TREE #1073 TREE #1072 TREE #1072 TREE #1072 TREE #1072 TREE #1072 TREE #1072	x ² -3 REE #1069	UE	066 x ^{1/5} 1 <u>GOT 3</u> <b>1</b> TREE #1064 UE <b>1</b> VE		TREE #1058 TREE #1057	EE #1052 SPIGOT UE TREE #1051 OF OHU UE SPIGOT UE SPIGOT UE SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT SPIGOT	DHU DHU DHU DHU DHU DHU DHU DHU DHU DHU	REE #1047 NESTING PLAT POST	TREE #1044 × రా గ్	TREE #1040 -3- 05 TREE TREE #1030 TREE #1030 TREE #1030 TREE #1030 TREE #1030 TREE #1030 TREE #1030 TREE #1030 TREE #1029 TREE #1030 TREE #1029 TREE #1029 TREE #1029 TREE #1029 TREE #1030 TREE #1029 TREE #1030 TREE #1029 TREE #1030 TREE #1000 TREE #100000 TREE #100000000000000000000000000000000000	TREE #1035 EE #1036 #1028 \$\$ 1027 101 114 TREE #1035 EE #1036 #1028 \$\$ 1027 101 114 FILUME WELCOME TO HOLMES BEACH ON ANNA MARIA ISEAND SIGN	
							(MANATE (R SECTION #	ATE ROAD 64 EE AVENUE WE //W WIDTH VARIES, #1315–175 & 13150–2524 DATED 4/1/09)	<b>ST</b> )				SITE BENCHMAR TOP OF PK NAIL & DISK WITH "BM" LB #7143 ELEV = 4.51 (NAVD '88) N:1150577.19 E: 427793.27	<u>K #509</u>

W	ETLAND LINE TA	BLE	WE	ETLAND LINE TAE	BLE
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
W1-1	S 00°44'45" E	17.09'	W1-9	N 72°03'03" E	23.34'
W1-2	N 8915'15"E	15.52'	W1-10	S 78 <b>°</b> 37'06" E	59.51'
W1-3	S 5515'26" E	22.61'	W1-11	N 76°46'35" E	51.11'
W1-4	S 77'n0'30" E	34.59'	W1-12	S 85*58'44" E	46.29'
W1-5	S 57℃00'04" E	32.35'	W1-13	S 87"12'57" E	54.20'
W1-6	S 44°58'20" E	15.11'	W1-14	S 81°17'34" E	42.66'
W1-7	S 67°30'53" E	73.07'	W1-15	N 66"11'05" E	24.90'
W1-8	S 82°34'01" E	53.37'	W1-16	S 86°29'24" E	49.10'





## GENERAL PROVISIONS

- 1. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS
- 2. CONTRACTOR, AS PART OF THE BASE BID, SHALL FIELD LOCATE ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA WITHIN THE 30 DAYS OF PROJECT AWARD. CONTRACTOR SHALL REVIEW THE PLANS AND SHALL NOTE ANY DISCREPENCIES TO THE ENGINEER IMMEDIATELY.
- 3. CONTRACTORS, AS PART OF THE BASE BID, SHALL PROVIDE ALL COORDINATION WITH UTILITY PROVIDERS TO PROVIDE FOR THE MATERIALS AND WORK NEEDED TO PROVIDE SERVICES TO THE PROJECT.
- 4. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR ALL DEMOLITION OF ABOVE GROUND AND UNDERGROUND IMPROVEMENTS IN ORDER TO CONSTRUCT THE PROPOSED IMPROVEMENTS NOTED ON THE PLANS. UNLESS APPROVED IN WRITING FROM THE OWNER, ALL MATERIALS SHALL BE REMOVED FROM THE SITE AS PART OF THE BASE BID.
- 5. ALL DETAILS AND REFERENCES TO FDOT REFER TO THE LATEST EDITION OF THE FDOT DESIGN STANDARDS.
- 6. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES, IN SUCH A MANNER AS TO AVOID CONFLICT AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH UTILITY REQUIREMENTS AS TO LOCATION AND SCHEDULING FOR TIE-INS/ CONNECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.
- CONTRACTOR AND HIS SURVEYOR SHALL NOTE THE PROJECT BENCHMARK INFORMATION PROVIDED IN THE PLANS AND VERIFY PRIOR TO CONSTRUCTION.
- 8. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL FLEMENTS OF THE SWPPP. COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR. AND PAYING ALL ASSOCIATED FEES. FOR PROJECTS LESS THAN 1 ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH THE NPDES GENERAL PERMIT, THE CONTRACTOR IS STILL RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
- 9. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- 10. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. CPH, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.
- 11. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. CPH, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.
- 12. THE CONTRACTOR SHALL SUBMIT ONE ELECTRONIC COPY OF SHOP DRAWINGS TO THE ENGINEER TO KEEP FOR HIS RECORDS. THE ENGINEER WILL NOT PROVIDE FOR APPROVAL OF SHOP DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL MATERIALS FOR ACCURACY PRIOR TO ORDERING THE MATERIALS. ANY DESCREPENCIES IDENTFIED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- 13. PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.
- 14. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) PORTLAND CEMENT CONCRETE AND ASPHALT PAVING QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD AND LAB CURED STRENGTH SAMPLES AND TESTING.
- 15. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PUBLIC BODY HAVING JURISDICTION SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION THEREWITH AND SHALL FURNISH THE OWNER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.
- 16. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER. APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.
- 17. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS
- 18. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.
- 19. ALL DISTRUBED AREAS WITHIN RIGHT OF WAYS SHALL BE SODDED.
- 20. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS TO INCLUDE BUT NOT BE LIMITED, FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.
- 21. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
- 22. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINATE IS ENCOUNTERED DURING EXCAVATION.

### UTILITY GENERAL NOTES

- 1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.
- 2. THE LOCATION, MATERIAL TYPE, AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.
- 3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
- 4. THE UTILITY PROVIDERS NOTED ON THE COVER SHEET HAVE PREVIOUSLY INDICATED THAT THEY MAY HAVE FACILITIES IN THE VICINITY OF THE CONSTRUCTION AREA.
- 5. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.
- 7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.
- 8. TYPICAL DETAILS AND PROPOSED CONSTRUCTION AS SHOWN ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE PROPOSED CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED IT COMPLIES WITH THE PROJECT SPECIFICATIONS AND APPROVAL IS RECEIVED FROM THE ENGINEER. WHERE SUCH PROPOSED REVISIONS DEVIATE FROM THE FDEP CONSTRUCTION PERMIT, THEN SUCH REVISIONS WILL ALSO REQUIRE APPROVAL FROM FDEP.
- 9. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, SIZE, MATERIAL TYPE, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS. INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTOR'S CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- 10. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS PRESSURE GAUGES AND OTHER EQUIPMENT MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

### AS-BUILT DRAWING REQUIREMENTS

- FOR
- ELEVATIONS.

- B. DISTANCE ALONG PIPELINES BETWEEN STRUCTURES.
- SKIMMERS.
- E. STORMWATER CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS.

- CHANGES IN HORIZONTAL OFFSET.

- DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.
- MEASURED VERTICAL ELEVATION.
- N. ANY ADDITIONAL INFORMATION REQUIRED BY GOVERNING AGENCIES.

- PROVIDED AS-BUILT DRAWINGS PLUS ENGINEER ADDED INFORMATION.

### TRAFFIC CONTROL

- UNLESS OTHERWISE AUTHORIZED IN THE APPROVED M.O.T.
- AND MAINTAINED DURING CONSTRUCTION.
- IS MAINTAINED THROUGHOUT CONSTRUCTION.
- 5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.
- THE IMMEDIATE VICINITY
- COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.

### SITE PREPARATION

- LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.

- WIDE PATH. CENTERED ON THE PIPELINE.

- OR OTHERWISE OBSTRUCT THE WORK
- PIPES OR UTILITIES.

- DISPOSAL AREAS. DEWATERING
- GROUNDWATER, OR ARTESIAN HEAD.
- FINE SAND OR SILT IN THE DISCHARGE WATER SHALL NOT EXCEED 5 PPM.
- THE DEWATERING SYSTEM WITH THE WATER MANAGEMENT DISTRICT.

### 1. AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AT LEAST THREE WEEKS PRIOR TO FINAL INSPECTION ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR SIGNED SEALED AND DATED BY THE RESPONSIBLE PARTY. THE CONTRACTOR SHALL BE RESPONSBILE TO IDENTIFY ALL AS-BUILT SURVEY REQUIREMENTS BY THE GOVERNING AGENCIES PRIOR TO START OF CONSTRUCTION TO ENSURE THAT AS-BUILT INFORMATION IS PROVIDED

### 2. ALL RECORD DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR IN ACAD FORMAT USING CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER. AS-BUILT INFORMATION SHALL BE FIELD VERIFIED, MEASURED, ADDED TO THE ACAD FILES OF THE CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER AND CERTIFIED SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED SURVEYOR WHO WILL BE RESPONSIBLE FOR THE ACCURACY OF ALL DIMENSIONS AND

3. THE AS-BUILT INFORMATION IS TO INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

A. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS FOR ALL UTILITY AND STORM STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, INLETS AND CLEANOUTS, INCLUDING STRUCTURE TOP AND INVERT ELEVATIONS.

C. STORMWATER POND TOP OF BERM AND POND BOTTOM ELEVATIONS AND HORIZONTAL DIMENSIONS MEASURED AT A MINIMUM OF TEN LOCATIONS PER POND, AT LOCATIONS DESIGNATED BY THE ENGINEER. TOP OF POND HORIZONTAL DIMENSIONS ARE ALSO TO BE TIED TO PROPERTY CORNERS, EASEMENTS, AND RIGHTS-OF-WAY.

D. STORMWATER CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS, INCLUDING ALL WEIRS, SLOTS, ORIFICES, GRATES, AND

F. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC

### G. VERTICAL ELEVATIONS OF ALL PIPELINES AT CROSSINGS OF POTABLE WATER MAINS (WHETHER THE WATER MAIN IS EXISTING OR NEW) IN ORDER TO DOCUMENT THAT THE MINIMUM REQUIRED VERTICAL SEPARATION HAS BEEN MET.

H. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL

I. PAVEMENT WIDTH AND ELEVATIONS AT THE CENTERLINE AND EDGE OF PAVEMENT EVERY 200 FEET PLUS AT ALL CHANGES IN LONGITUDINAL SLOPE, CROSS SLOPE, INLET LOCATIONS, AND AT ALL DRIVEWAY AND STREET INTERSECTIONS. FOR PARKING LOTS, RECORD CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS ALONG ALL DRIVE AISLES AND ISLANDS.

### J. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR HANDICAP ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.

K. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS. L. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT

M. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL

4. IN CASES WHERE THE OWNER DETERMINES PARTIAL CLEARANCES FROM PERMITTING AGENCIES ARE BENEFICIAL TO THE OWNER FOR COMPLETED PORTIONS OF THE PROJECT, PROVIDE PRELIMINARY AS-BUILT DRAWINGS (ACAD FORMAT) TO THE ENGINEER FOR ITS USE IN PREPARING THE PARTIAL CLEARANCE APPLICATIONS FOR THE OWNER.

5. COMPLETE AS-BUILT DRAWINGS THAT ARE FOUND TO BE SATISFACTORY AS A RESULT OF THE ENGINEER'S REVIEW WILL BE USED AS THE BASIS FOR THE FINAL PROJECT RECORD DRAWINGS PREPARED BY THE ENGINEER USING THE CONTRACTOR

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN AND INSTALLED TRAFFIC CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER. OWNER. AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. IN GENERAL, ROADWAY AND DRIVEWAY LANE CLOSURES ARE PROHIBITED DURING CONSTRUCTION UNLESS SPECIFICALLY DETAILED ON THESE PLANS. IN THE EVENT IT IS DETERMINED THAT ROADWAY AND DRIVEWAY LANE CLOSURES WILL BE ALLOWED, THE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M.

2. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH FDOT INDEX NO. 600 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION

3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS

4 CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.

6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.

7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN

8. WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL LANES BUT NO CLOSER THAN 2-FT FROM THE EDGE OF PAVEMENT, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 600 AND 602. 9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER DROP-OFFS OR OTHER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY

1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND

3. PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.

4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT

5. TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD

6. AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER.

7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON

8. EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES,

9. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN 2" IN DIAMETER, AND MATTED

ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND. 10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE

1. DESIGN AND PROVIDE A DEWATERING SYSTEM USING ACCEPTED AND PROFESSIONAL METHODS CONSISTENT WITH CURRENT INDUSTRY PRACTICE. PROVIDE A DEWATERING SYSTEM OF SUFFICIENT SIZE AND CAPACITY TO CONTROL GROUNDWATER IN A MANNER THAT PRESERVES STRENGTH OF FOUNDATION SOILS, DOES NOT CAUSE INSTABILITY OR RAVELING OF EXCAVATION SLOPES, AND DOES NOT RESULT IN DAMAGE TO EXISTING STRUCTURES. WHERE NECESSARY TO THESE PURPOSES, LOWER WATER LEVEL IN ADVANCE OF EXCAVATION, UTILIZING WELLS, WELLPOINTS, OR SIMILAR POSITIVE METHODS. MAINTAIN THE GROUNDWATER LEVEL TO A MINIMUM OF 2 FEET BELOW EXCAVATIONS. PROVIDE PIEZOMETERS IF DIRECTED BY THE ENGINEER TO DOCUMENT THE GROUNDWATER LEVEL IS BEING MAINTAINED.

2 CONTROL BY ACCEPTABLE MEANS ALL WATER REGARDLESS OF SOURCE AND BE FULLY RESPONSIBLE FOR DISPOSAL OF THE WATER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SUPPLEMENTAL MEASURES TO CONTROL SEEPAGE,

3. DEWATERING DISCHARGE FROM THE SITE SHALL COMPLY WITH ALL NPDES GENERAL PERMIT REQUIREMENTS AND STATE WATER QUALITY STANDARDS. PROVIDE ALL TESTING AND PERMITTING REQUIRED AND COMPLY WITH ALL TREATMENT OR DISPOSAL METHODS REQUIRED TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.

4. OPEN PUMPING WITH SUMPS AND DITCHES SHALL BE ALLOWED, PROVIDED IT DOES NOT RESULT IN BOILS, LOSS OF FINES, SOFTENING OF THE GROUND, OR INSTABILITY OF SLOPES. SUMPS SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS SO THE BEARING SURFACES WILL NOT BE DISTURBED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT STREAMS. DURING NORMAL PUMPING, AND UPON DEVELOPMENT OF WELL(S), LEVELS OF

5. IF DEWATERING EQUIPMENT NEEDED EXCEEDS ANY OF THE FOLLOWING: 1) 6" PUMP VOLUTE; 2) 100,000 GPD TOTAL 24 HOUR (1 DAY) DEWATERING, AND; 3) 1,000,000 GPD PUMP CAPACITY, THE CONTRACTOR SHALL BE REQUIRED TO PERMIT

- 6. CONTINUOUSLY MAINTAIN EXCAVATIONS IN A DRY CONDITION WITH POSITIVE DEWATERING METHODS DURING PREPARATION OF SUBGRADE, INSTALLATION OF PIPE, AND CONSTRUCTION OF STRUCTURES UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SIDE SLOPES, OR ADJACENT FACILITIES FROM FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.
- 7. WHEN CONSTRUCTION IS COMPLETE, REMOVE ALL DEWATERING EQUIPMENT FROM THE SITE, INCLUDING WELLS AND RELATED TEMPORARY ELECTRICAL SERVICE.

# GRADING

- . SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.
- 2. ALL PROPOSED ELEVATIONS ON THE PLANS WITHIN PAVED AREAS ARE SHOWN AT PAVEMENT, UNLESS OTHERWISE NOTED. 3. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO
- PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.
- 4. UNIFORMLY SMOOTH GRADE THE SITE. DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED. TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE-GRADER OPERATIONS.
- 5. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE-ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

# EXCAVATION, TRENCHING, AND FILL

- 1. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
- 2. ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE START OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TO THE PONDS TO MINIMIZE RUNOFF TO OFFSITE AREAS. 3 POND CONSTRUCTION SHALL RESULT IN THE FINISHED POND HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN
- ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT THESE REQUIREMENTS HAVE BEEN MET. IF THE CONSTRUCTED SIDE SLOPES ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE POND VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTRACTOR SHALL BE REQUIRED TO MAKE CORRECTIONS TO THE POND AT NO ADDITIONAL COST TO THE OWNER.
- 4. FIELD DENSITY TESTING FREQUENCIES: A) ONE TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKEILLING, MINIMUM 2 TESTS EACH LAYER: B) ONE TEST FOR EACH 100 SOUARE FEET OR FRACTION THEREOF OF BACKFILL AROUND AND UNDER STRUCTURES; C) ONE TEST FOR EACH 300 LINEAL FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING IN THE PIPELINE TRENCH: D) ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, MINIMUM OF 2 TESTS.
- 5. IT IS INTENDED THAT PREVIOUSLY EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS BE UTILIZED WHEREVER POSSIBLE
- A. ACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-1, A-3, A-2-4, A-2-6; ASTM D2487 CLASSIFICATION GW, GP, GM, SM, SW, SP; UNLESS OTHERWISE DISAPPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS. NO MORE THAN 12% OF ACCEPTABLE MATERIALS SHALL PASS THE NUMBER 200 SIEVE.
- B. UNACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-2-5, A-2-7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 CLASSIFICATION GC, SC, ML, MH, CL, CH, OL, OH, PT; UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS
- 6. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS.
- 7. SIDEWALKS, ROADS, STREETS, AND PAVEMENTS SHALL NOT BE BLOCKED OR OBSTRUCTED BY EXCAVATED MATERIALS. EXCEPT AS AUTHORIZED BY THE ENGINEER, IN WHICH CASE ADEQUATE TEMPORARY PROVISIONS MUST BE MADE FOR SATISFACTORY TEMPORARY PASSAGE OF PEDESTRIANS, AND VEHICLES. MINIMIZE INCONVENIENCE TO PUBLIC TRAVEL OR TO TENANTS OCCUPYING ADJOINING PROPERTY
- 8. FURNISH, INSTALL, AND MAINTAIN, WITHOUT ADDITIONAL COMPENSATION, SHEETING, BRACING, AND SHORING SUPPORT REQUIRED TO KEEP EXCAVATIONS WITHIN THE PROPERTY OR EASEMENTS PROVIDED, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE ADJACENT PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.
- 9. SHEETING, SHORING, AND BRACING USED FOR THE SUPPORT OF EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF FLORIDA.
- 10. ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN ACCORDANCE WITH OSHA REQUIREMENTS AND THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT
- 11. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED FOR INDICATED FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE TRENCHES A MINIMUM OF 2 FEET WHERE EXCAVATIONS OCCUR WITHIN UNSUITABLE SOILS. AND REPLACE OVER EXCAVATED MATERIAL WITH SUITABLE SOILS.
- 12. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO FEET BELOW THE BOTTOM OF THE TRENCH OR STRUCTURE. 13. ALL BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL. WHERE TRENCH OR EXCAVATION
- IS WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS, PLACE BACKFILL IN LAYERS OF 8 INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12 INCH LOOSE DEPTH. 14.MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T180): BACKFILL AND FILL UNDER AND WITHIN THE INFLUENCE
- AREA OF ROADWAYS, STRUCTURES, SLABS, FOUNDATIONS = 98 PERCENT; BACKFILL AND FILL PLACED WITHIN PUBLIC ROAD RIGHT-OF-WAY AND UTILITY EASEMENTS = 95 PERCENT; BACKFILL AND FILL PLACED WITHIN POND AND ROAD EMBANKMENT = 95 PERCENT; BACKFILL AND FILL PLACED IN ALL OTHER AREAS = 90 PERCENT.

1. ALL RIPRAP CONSTRUCTION SHALL MEET THE REQUIREMENTS OF SECTION 530 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

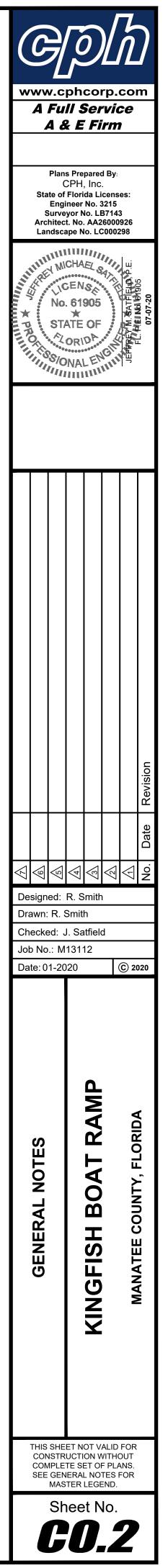
# UTILITY SEPARATION REQUIREMENTS

<u>RIPRAP</u>

- 1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
- A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF FIVE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND RECLAIMED WATER MAIN.
- B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST EIGHTEEN INCHES ABOVE THE TOP OF THE SEWER.
- C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
- 2. THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
- A. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 18 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING. THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST TEN FEET FROM GRAVITY SANITARY SEWER JOINTS.
- WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS, WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS. WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS. THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEWATER FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST TEN FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS.
- 3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.
- 4. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST: A. FIVE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.
- B. TEN FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.
- C. TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

## WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS

- 1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER AND RECLAIMED WATER SYSTEMS SHOWN ON THESE PLANS IS MANATEE COUNTY. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF MANATEE COUNTY.
- 2. INSTALL ALL WATER AND RECLAIMED MAINS AT A MINIMUM 36 INCHES OF COVER.
- 3. BURIED DUCTILE IRON PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250: C) 30" THROUGH 64" DIAMETER = PC 200.
- 4. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.
- 5. PVC PIPE SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL HAVE MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905 THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.
- 6. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI. MINIMUM.
- 7. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSI/AWWA C104/A21.4 EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110/A21.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER. MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
- 8. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSI/AWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.
- 9. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN FAST GRIP GASKET, MCWANE SURE GRIP 350 GASKET U.S. PIPE FIELD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1100HD, RESTRAINED JOINTS FOR DUCTUE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1100, STAR GRIP SERIES 3000, OR TYLER UNION TUF-GRIP SERIES TLD. LOCKING BELL JOINT RESTRAINT SHALL BE AMERICAN FLEX RING JOINT, AMERICAN LOK-RING JOINT, OR U.S. PIPE TR-FLEX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP TLP, JCM SUR-GRIP BELL RESTRAINER, FORD UNI-FLANGE SERIES 1500 CIRCLE LOCK, OR EBAA IRON MEGA LUG SERIES 2000PV. RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1500 OR SERIES 1600 (C900 PVC), SERIES 2800 (C905 PVC), FORD UNI-FLANGE SERIES 1390, OR SMITH-BLAIR BELL-LOK SERIES 165. PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER.
- 10. POLYETHYLENE PIPE AND TUBING SHALL BE COLOR CODED BLUE (POTABLE WATER) OR PURPLE (RECLAIMED WATER). PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PE PIPE SHALL BE BUTT HEAT FUSION OR SOCKET HEAT FUSION TYPE. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PROVIDE ADAPTERS AS REQUIRED TO JOIN PE PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.
- 11. SERVICE SADDLES SHALL MEET THE REQUIREMENTS OF AWWA C800 AND SHALL CONSIST OF EPOXY COATED DUCTILE IRON BODIES IN ACCORDANCE WITH ASTM A536, WITH DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL SHALL BE TYPE 304. AND NUTS ARE TO BE TEFLON COATED. THE DUCTILE IRON BODY IS TO BE FUSION BONDED NYLON COATED, MINIMUM THICKNESS 12 MILS, OUTLET OF SADDLE IS TO HAVE NPT THREADS. SERVICE SADDLES SHALL BE MANUFACTURED BY FORD, MUELLER, OR SMITH-BLAIR.
- 12. ALL SERVICES SHALL INCLUDE THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS. CONFORMANCE WITH AWWA C800 AND C901 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER SERVICE AND A "V" AT ALL VALVE LOCATIONS. CUT W'S AND V'S SHALL BE HIGHLIGHTED WITH BLUE PAINT.
- 13. UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE CORPORATION STOP
- 14. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.
- 15. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. BURIED AND EXPOSED VALVES SHALL BE COATED INSIDE AND OUT WITH A RUST INHIBITING EPOXY PRIMER, FOLLOWED BY AN EPOXY COATING MEETING THE REQUIREMENTS OF AWWA C550, APPLIED AT THE FACTORY. THE INTERIOR OF VALVES WITH A CAST IRON OR DUCTILE IRON BODY SHALL BE COATED WITH AN EPOXY PROTECTIVE COATING MEETING NSF INTERNATIONAL STANDARD 61 AND AWWA C550. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
- 16. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C509 OR AWWA C515. THE VALVES SHALL BE IRON BODY, CAST IRON FULLY ENCAPSULATED MOLDED RUBBER WEDGE COMPLYING WITH ASTM D2000, NON-RISING STEM WITH O-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE
- 17. TAPPING SLEEVES ARE TO BE 18-8 TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED FOUND TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL SERIES 2500, CLOW SERIES F-6100, OR MUELLER SERIES A2361.
- 18. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150, VALVE BODY SHALL BE MECHANICAL JOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.
- 19. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. O-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE. SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS OF THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.
- 20. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER, VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION WITHOUT TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS, ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN APPROXIMATELY 18 INCH. GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "WATER" OR "RECLAIMED WATER".
- 21. PVC PIPES SHALL BE COLOR CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) AND STENCILED (0.75-INCH LETTERING ON THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION) "POTABLE WATER MAIN" OR "RECALIMED WATER MAIN" AS APPLICABLE.
- 22. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. APPLY TAPE TO SURFACE OF PIPE. CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON BLUE BACKGROUND (WATER MAINS), BLACK PRINTING ON PURPLE BACKGROUND (RECLAIMED WATER MAINS). PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" -18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
- 23. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) WITH BLACK LETTERING, CODED AND WORDED "CAUTION: WATER MAIN BURIED BELOW", OR "CAUTION: RECLAIMED WATER MAIN BURIED BELOW", AS APPLICABLE.
- 24. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 2" AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER CITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.
- 25. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
- 26. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED
- 27. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE IFAKS
- 28. ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.
- 29. THE SEQUENCE OF TESTING AND DISINFECTION SHALL BE AS FOLLOWS: 1) CONDUCT PRESSURE AND LEAKAGE TESTING; 2) PERFORM FLUSHING PER UTILITY REQUIREMENTS AND AWWA C651; 3) DISINFECT THE WATER MAIN, INCLUDING VALVES AND FITTINGS; AND 4) DECHLORINATE AND FLUSH AFTER DISINFECTION.
- 30. APPLY HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS), OR 150 PSI (RECLAIMED WATER MAINS) FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.
- 31. APPLY LEAKAGE TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS) OR 150 PSI (RECLAIMED WATER MAINS). MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
- 32. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.



33.	TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A
	LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/148000 WHERE L = MAXIMUM PERMISSIBLE
	LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE
	TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; AND P = THE SQUARE ROOT OF THE ACTUAL
	PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED
	BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE
	PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.

- 34. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.
- 35. PRIOR TO DISINFECTION, CONDUCT FULL DIAMETER FLUSHING OF PIPELINE IN SECTIONS IN ORDER TO REMOVE ANY SOLIDS OR CONTAMINATED MATERIAL THAT MAY HAVE BECOME LODGED IN THE PIPE.
- 36. OBTAIN A MINIMUM FLUSHING VELOCITY OF 2.5 FEET PER SECOND PER AWWA C651. 37. ALL TAPS REQUIRED FOR FLUSHING AND THE TEMPORARY OR PERMANENT RELEASE OF AIR AS NEEDED FOR FLUSHING
- 38. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651. THE DISCHARGE LOCATIONS FOR THE CHLORINATED WATER SHALL BE APPROVED BY THE OWNER. NEUTRALIZE THE CHLORINE RESIDUAL BY MEANS OF A REDUCING AGENT IN ACCORDANCE WITH AWWA C651
- 39. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. ALL BACTERIOLOGICAL TESTING SHALL BE PERFORMED BY A STATE CERTIFIED LABORATORY CONTRACTED BY THE CONTRACTOR. PROPER CHAIN OF CUSTODY PROCEDURES MUST BE FOLLOWED AND SAMPLES SHALL ONLY BE COLLECTED BY CERTIFIED LABORATORY PERSONNEL. COPIES OF ALL TESTING RESULTS AND ALL RELATED CORRESPONDENCE FROM THE TESTING LAB SHALL BE SUBMITTED TO THE OWNER, UTILITY, AND ENGINEER.

# SANITARY SEWER SYSTEMS

SHALL BE PROVIDED BY THE CONTRACTOR.

- 1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS MANATEE COUNTY. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF MANATEE COUNTY.
- 2. INSTALL ALL SEWER MAINS AT A MINIMUM 36 INCHES OF COVER.
- 3. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477.
- 4. FITTINGS SHALL CONFORM TO THE SAME REQUIREMENTS AS THE PIPE. PROVIDE ADAPTERS AS REQUIRED TO JOIN PVC PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS. SOLVENT CEMENT SHALL BE AS RECOMMENDED BY THE PIPE MANUFACTURER.
- 5. SEWER PIPE SHALL BE COLOR CODED GREEN, STENCILED "SEWER LINE" (2" LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).
- 6. INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. TAPE COLOR AND LETTERING SHALL BE "SEWER LINE", BLACK PRINTING ON GREEN BACKGROUND. PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
- 7. INSTALL WARNING TAPE ALONG ALL SEWER PIPELINES. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE, COLORED GREEN WITH BLACK LETTERING CODED AND WORDED "CAUTION: SEWER BURIED BELOW". INSTALL ALONG PIPELINE, 2 FEET ABOVE PIPE, MINIMUM OF 1 FOOT BELOW GRADE.
- 8. CONNECTIONS TO EXISTING SEWER SHALL BE CONDUCTED IN SUCH A MANNER THAT THE EXISTING SEWER REMAINS IN OPERATION. PROVIDE BY PASS PUMPING OF EXISTING FLOWS OR COLLECT AND LEGALLY DISPOSE OF EXISTING SEWER FLOW AS NEEDED TO ACCOMMODATE CONSTRUCTION WHILE KEEPING EXISTING SEWER IN SERVICE.
- 9. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND MANHOLES. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.
- 10. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE
- 11. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.
- 12. PROVIDE LIGHT SOURCE AND MIRRORS FOR LAMPING OF SEWER. ANY SEWER IN WHICH THE DIRECT LIGHT OF A LAMP CANNOT BE VIEWED IN EITHER DIRECTION, FULL CIRCLE, BETWEEN ADJACENT MANHOLES SHALL BE CONSIDERED UNSATISFACTORY, UNLESS THE LINE IS DESIGNED WITH HORIZONTAL DEFLECTIONS, AND SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.
- 13. CONDUCT LOW PRESSURE AIR TESTING (4.0 PSI INITIAL PRESSURE) OF INSTALLED SEWER PIPING IN ACCORDANCE WITH ASTM F1417. MAXIMUM ALLOWABLE LEAKAGE IS 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE AREA BEING TESTED. ALLOWABLE AIR PRESSURE DROP DURING THE TEST IS 0.5 PSIG. MINIMUM REQUIRED TEST TIME (DURATION) IS: A) 4" PIPE = 1 MIN 53 SEC; B) 6" PIPE = 2 MIN 50 SEC, OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) 8" PIPE = 3 MIN 47 SEC, OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10" PIPE = 4 MIN 43 SEC, OR 1.187 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; E) 12" PIPE = 5 MIN 40 SEC, OR 1.709 X LENGTH OF PIPE TESTED. WHICHEVER IS GREATER.
- 14. CONDUCT DEFLECTION TESTING OF PIPELINE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. MAXIMUM ALLOWABLE PIPE DEFLECTION IS 5%. MEASURE DEFLECTION BY MANUALLY PULLING A MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 6" SEWER = 5.45" MANDREL; 8" SEWER = 7.28" MANDREL; 10" SEWER = 9.08" MANDREL; 12" SEWER = 10.79" MANDREL; 15" SEWER = 13.20" MANDREL; 18" SEWER = 16.13" MANDREL; 21" SEWER = 19.00" MANDREL; 24" SEWER = 21.36" MANDREL; 27" SEWER = 24.06" MANDREL.
- 15. DEFLECTION TESTING IS CONSIDERED SATISFACTORY IF THE MANDREL CAN BE PULLED BY HAND THROUGH THE PIPE BEING TESTED. IF THE MANDREL CANNOT BE PULLED THROUGH THE PIPE. REPLACE OR CORRECT THE PIPE AND RETEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CONNECTED DUE TO FAILING DEFLECTION TESTING SHALL ALL BE RE-TESTED FOR LEAKAGE.

PAVING, SIDEWALKS, AND CURBING

- MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- 2. ROADWAY PAVING, BASE, AND SUBGRADE THICKNESSES SHALL BE IN ACCORDANCE WITH DETAILS ON THESE DRAWINGS.
- 3. SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND SHALL BE IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, LATEST EDITION.
- 4. CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.
- FIELD COMPACTION DENSITY, STABILITY, AND THICKNESS TESTING FREQUENCIES OF SUB-BASE, BASE, AND ASPHALT SHALL BE TESTED ONCE EVERY 300 LINEAR FEET OF PAVING PER 24-FT WIDE STRIP, STAGGERED LEFT, CENTER AND RIGHT OF CENTERLINE. WHERE LESS THAN 300 LINEAR FEET OF SUB-BASE, BASE, AND ASPHALT IS PLACED IN ONE DAY, PROVIDE MIN. OF ONE TEST FOR EACH PER DAY'S CONSTRUCTION AT A LOCATION DESIGNATED BY THE ENGINEER. ASPHALT EXTRACTION GRADATION SHALL BE TESTED FROM GRAB SAMPLES COLLECTED ONCE EVERY 1800 SQUARE YARDS OF ASPHALT DELIVERED TO THE SITE (OR A MINIMUM OF ONCE PER DAY).

# PRECAST STRUCTURES AND APPURTENANCES

- TO MATCH THE PIPE.
- MINIMUM WALL THICKNESS OF 5 INCHES.
- 4. GASKETS FOR SEATING PRECAST SECTIONS SHALL BE COLD ADHESIVE PREFORMED PLASTIC GASKETS CONFORMING TO FDOT SPECIFICATION 942-2, UNLESS OTHERWISE INDICATED.
- DIAMETER OPENING, UNLESS OTHERWISE INDICATED.
- RECOMMENDATION OF THE CONNECTOR MANUFACTURER. THE USE OF ADHESIVES OR LUBRICANTS FOR INSTALLATION OF RUBBER CONNECTORS IS PROHIBITED.
- DETAILED ON THE DRAWINGS.
- 9. ALL INLET GRATES SHALL BE SECURED BY CHAIN AND EYEBOLT TO THE TOP OF THE STRUCTURE.
- AND COVERS.
- 12. MANHOLE COATINGS AND FINISHES SHALL BE:

- C. EXTERIOR BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

# STORM SEWER SYSTEMS

- COVER OVER THE BELL OF THE PIPE WHERE APPLICABLE, SHALL BE 30 INCHES.
- COMPLETED.
- UNDERDRAIN SOCK SHALL BE TYPE D-3 IN ACCORDANCE WITH FDOT INDEX NO. 199.
- 199, TYPE D-3, A.O.S. 70-100. INSTALL IN ACCORDANCE WITH FDOT INDEX NO. 280. PROVIDE MINIMUM 12" OVERLAP.
- DRAWINGS
- SIGNS AND PAVEMENT MARKINGS
- SPECIFICATION SECTION 971, NON-REFLECTIVE WHITE TRAFFIC PAINT, TWO COATS.
- THE NAME OF THE SHEETING IN THREE-INCH LETTERS.
- 5. INTERNAL SITE TRAFFIC SIGNS ARE NOT REQUIRED TO BE RETROREFLECTIVE.
- FABRICATION.

### 1. ALL MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48" FOR SEWER LINES 21" IN DIAMETER OR LESS. INTEGRALLY CAST STEPS WITHIN PRECAST STRUCTURES ARE NOT ALLOWED.

### 2. BASES SHALL BE ONE-PIECE PRECAST BASE SECTIONS CONSISTING OF INTEGRALLY CAST SLAB, BOTTOM RING SECTION AND CONCRETE FLOW CHANNELS. BASE SECTIONS SHALL HAVE INTEGRAL INVERTS WITH GASKETS TO MATCH THE PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL INVERT ANGLES. PROVIDE OUTLET STUBS WITH JOINTS

### 3 RISERS SHALL BE PRECAST REINFORCED CONCRETE PER ASTM C478 MANUFACTURED USING SUI FATE RESISTANT CEMENT (ASTM C150, TYPE II). RISERS SHALL BE 48-INCH DIAMETER UNLESS OTHERWISE INDICATED AND SHALL HAVE A

5. UNLESS OTHERWISE INDICATED, CONE TOP SECTIONS SHALL BE PRECAST, ECCENTRIC TYPE WITH 24-INCH DIAMETER TOP OPENING CONFORMING TO ASTM C478. PROVIDE 8-INCH MINIMUM THICKNESS FLAT SLAB TOPS WITH ECCENTRIC 24 INCH

6. PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE. CONNECTION OF CONCRETE PIPE TO THE MANHOLE SHALL BE MADE WITH NON-SHRINK METALLIC GROUT. CONNECTION OF DUCTILE IRON OR PVC PIPE TO THE MANHOLE SHALL PROVIDE A WATERTIGHT CONNECTION PER ASTM C923. WHERE CONNECTORS ARE USED, THEY SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE

7. FRAMES AND COVERS SHALL BE GREY IRON PER ASTM A48, CLASS 30B AND SHALL BE U.S. FOUNDRY TYPE 227AS, TRAFFIC BEARING (AASHTO H-20 LOADING), UNLESS OTHERWISE NOTED IN THE DRAWINGS. CASTINGS SHALL BE SMOOTH, CLEAN, FREE FROM BLISTERS, BLOWHOLES, AND SHRINKAGE. RAISED LETTERING ON COVERS SHALL BE "STORM", "SEWER", OR AS

8. PROVIDE CAST IRON INLETS, FRAMES, AND GRATES IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. ALL FRAMES AND INLET GRATES SHALL BE PRODUCTS OF U.S. FOUNDRY & MANUFACTURING CORPORATION, OR EQUAL.

10. THE TOP ELEVATION OF MANHOLES CONSTRUCTED IN PAVED AREAS SHALL MATCH FINISHED GRADE. THE TOP ELEVATION OF MANHOLES CONSTRUCTED IN GRASSED AREAS SHALL BE 4" ABOVE FINISHED GRADE (UNLESS NOTED OTHERWISE). 11. ALL MANHOLES AND CLEAN OUTS CONSTRUCTED WITHIN PAVED AREAS SHALL BE INSTALLED WITH TRAFFIC BEARING RINGS

# A. SANITARY SEWER MANHOLE INTERIOR - BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

B. INTERIOR OF MANHOLES WHICH RECEIVE FORCE MAIN DISCHARGE - INTEGRALLY ATTACHED INTERIOR LINER, FULL HEIGHT. FIBERGLASS LINER. LINER THICKNESS TO BE IN ACCORDANCE WITH THE DRAWINGS.

### 1. REINFORCED CONCRETE PIPE (RCP) JOINTS SHALL COMPLY WITH ASTM C443 AND FDOT SPECIFICATION SECTION 430, AND RUBBER GASKETS SHALL COMPLY WITH FDOT SPECIFICATION SECTION 942. MINIMUM COVER OVER THE PIPE, INCLUDING

2. RCP PIPE SHALL NOT BE SHIPPED FROM MANUFACTURER UNTIL THE COMPRESSIVE STRENGTH OF THE PIPE HAS REACHED 4000 PSI AND A MINIMUM OF 5 DAYS HAVE PASSED SINCE THE MANUFACTURING OR REPAIR OF THE PIPE HAS BEEN

# 3. UNDERDRAIN PIPE SHALL BE PERFORATED POLYVINYL CHLORIDE PIPE IN ACCORDANCE WITH ASTM F758. FILTER FABRIC

4. ALL PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC. FILTER FABRIC SHALL BE IN ACCORDANCE WITH FDOT INDEX NO.

### 5. INSTALL POLYETHYLENE PIPE IN ACCORDANCE WITH ASTM D2321. BACKFILL AND COMPACT EVENLY ON EACH SIDE TO PREVENT DISPLACEMENT. MINIMUM COVER OVER POLYETHYLENE PIPE SHALL BE AS FOLLOWS: A) PIPE UNDER FLEXIBLE

PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS SUITABLE SOILS AS DEFINED IN THE GENERAL NOTES: MINIMUM COVER SHALL BE 36 INCHES OR ONE PIPE DIAMETER. WHICHEVER IS GREATER: B) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS MANUFACTURED AGGREGATES CLASS 1A OR 1B AS DEFINED IN ASTM D2321: MINIMUM COVER SHALL BE 30 INCHES OR ONE PIPE DIAMETER, WHICHEVER IS GREATER.

6. INSTALL UNDERDRAINS IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 440. INSTALL CLEANOUTS AS SHOWN ON THE

7. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND STRUCTURES.

### 1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE LATEST IMPLEMENTED EDITION OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.

2 ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC WITH RAISED PAVEMENT MARKERS (TYPE 911 - 4" x 4") RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH THESE PLANS AND FDOT INDEX NO. 17352. 3. PARKING STALL PAVEMENT MARKINGS SHALL BE PAINTED. PAINT SHALL MEET THE REQUIREMENTS OF FDOT

### 4. ALL ROADWAY TRAFFIC SIGNS SHALL BE MANUFACTURED USING HIGH INTENSITY RETROREFLECTIVE MATERIALS. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, THE FABRICATOR'S INITIALS, AND

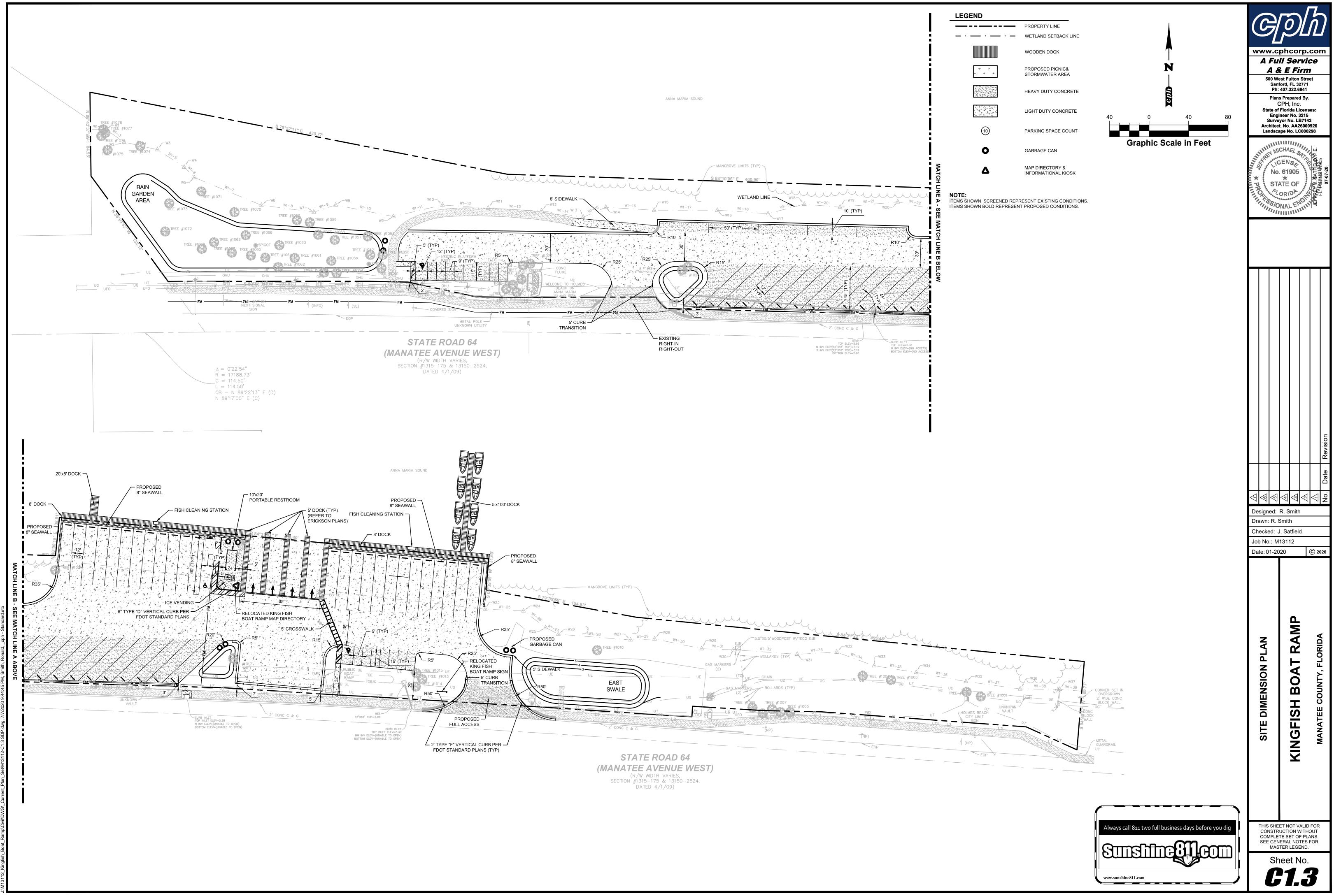
6. THE CONTRACTOR SHALL VERIFY THE REQUIRED LENGTH OF THE SIGN COLUMN SUPPORTS IN THE FIELD PRIOR TO

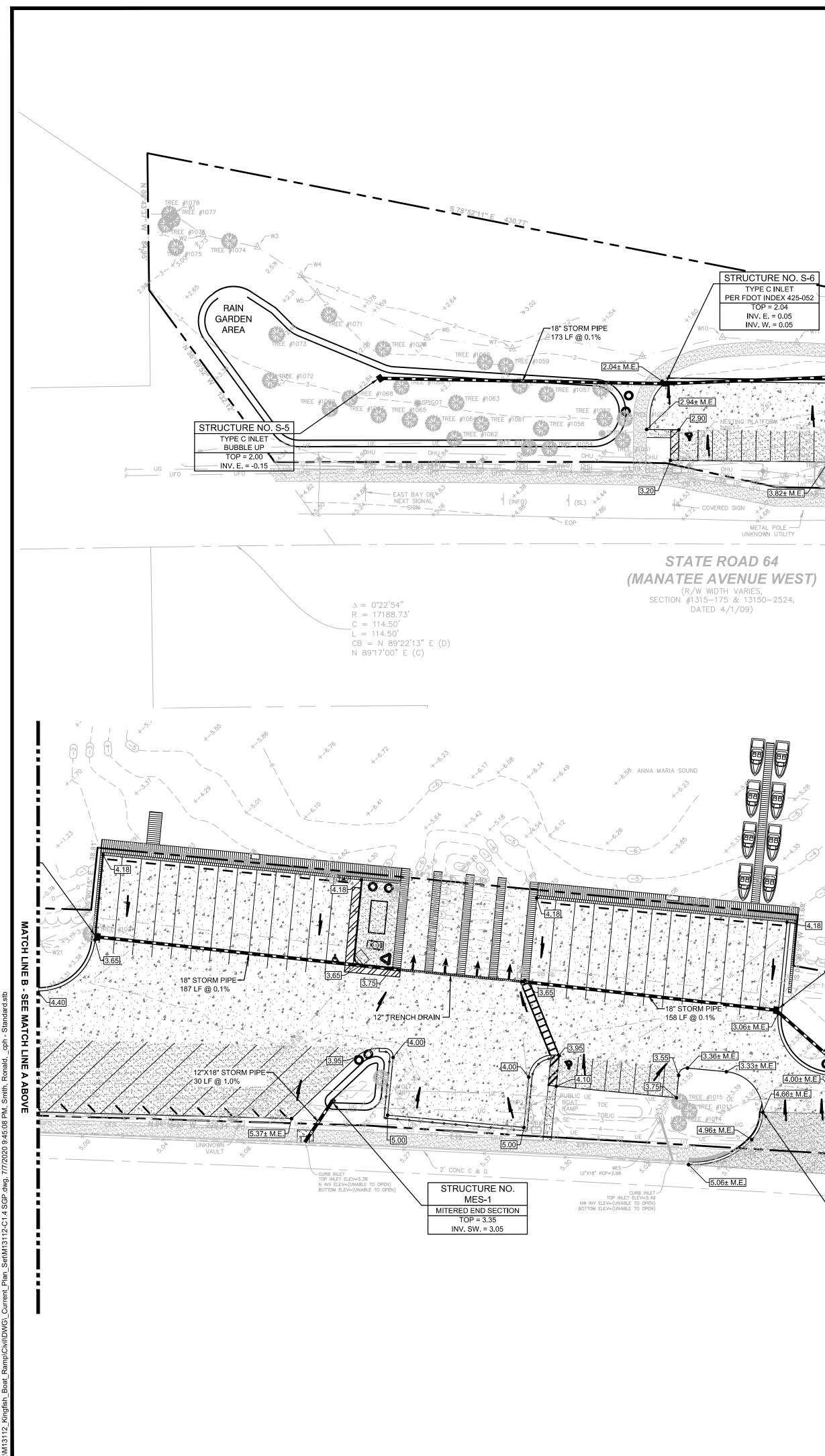
### 7. CONTRACTOR SHALL PROVIDE AND INSTALL ALL SIGNS, BASES, ANCHOR BOLTS, CONDUITS, WIRING, ETC.

8. ALL PAVEMENT MARKINGS REQUIRE LAYOUT APPROVAL IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION.

9. PRIOR TO FINAL PAVEMENT MARKING INSTALLATION, A TWO WEEK CURE TIME OF THE ASPHALT IS REQUIRED.

(	<u>(</u>		ך ר	D		r N	)
w	A	Fu	// \$	Sei	rp. r <b>vic</b>	ce	m
	Sta S Arc	Plan ( te of Engi Surve hitec	s Pre CPH Flori ineer yor N t. No	pareo , Inc da Li No. : No. Li	d By: icens	es: 3 926	
		No	EN 61		ALL K	JEPPREV M. SATFIELD, P.E.	FL. THE NUM 01900
Dra Ch Jol	Sign awn: ecke o No te: 0	R. \$ ed: . .: M	Smit J. Sa 131 ⁻	h atfiel	d	© 20	No. Date Revision
	GENERAL NOTES		KINGFISH BOAT RAMP			MANATEE COUNTY, FLORIDA	
THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.							
Sheet No.							
1							

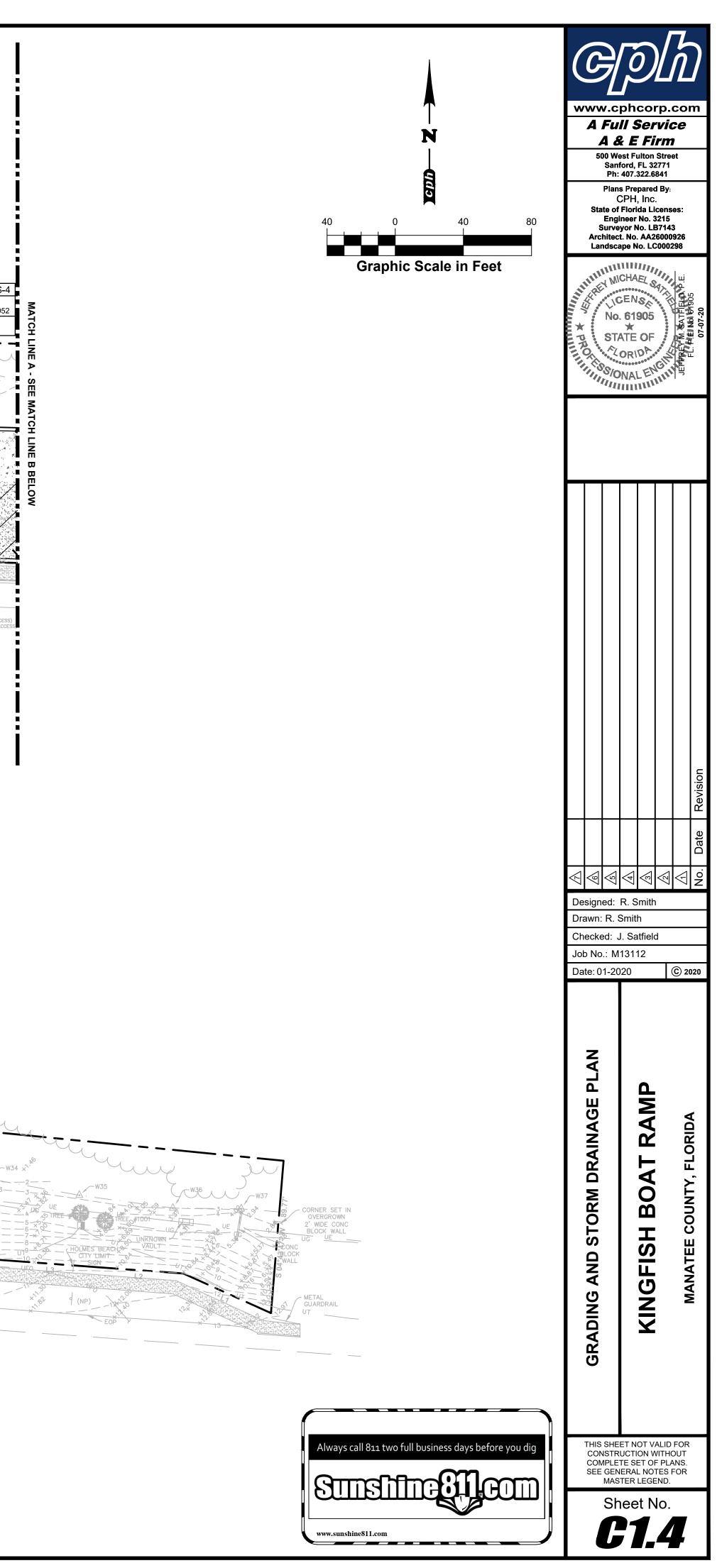


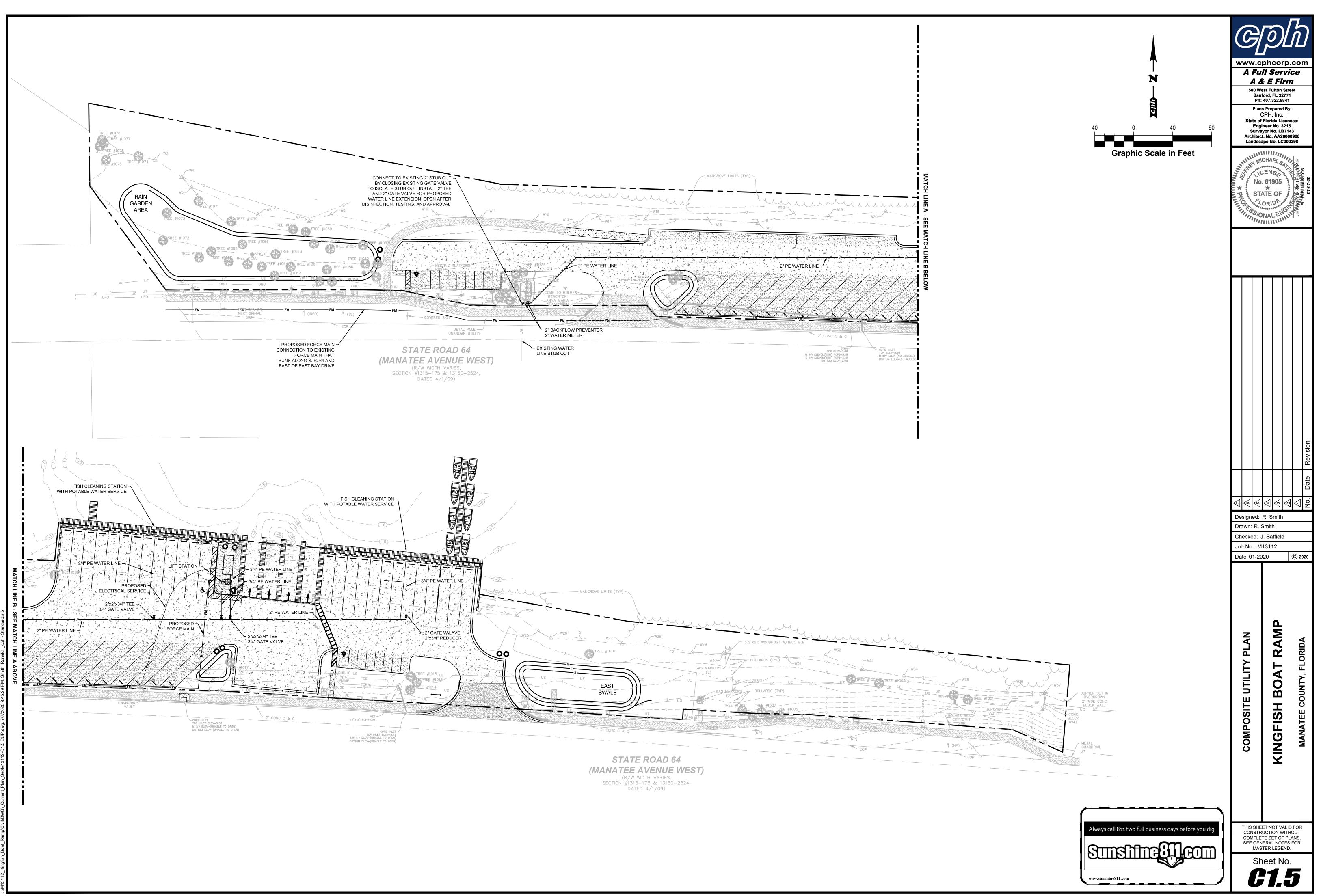


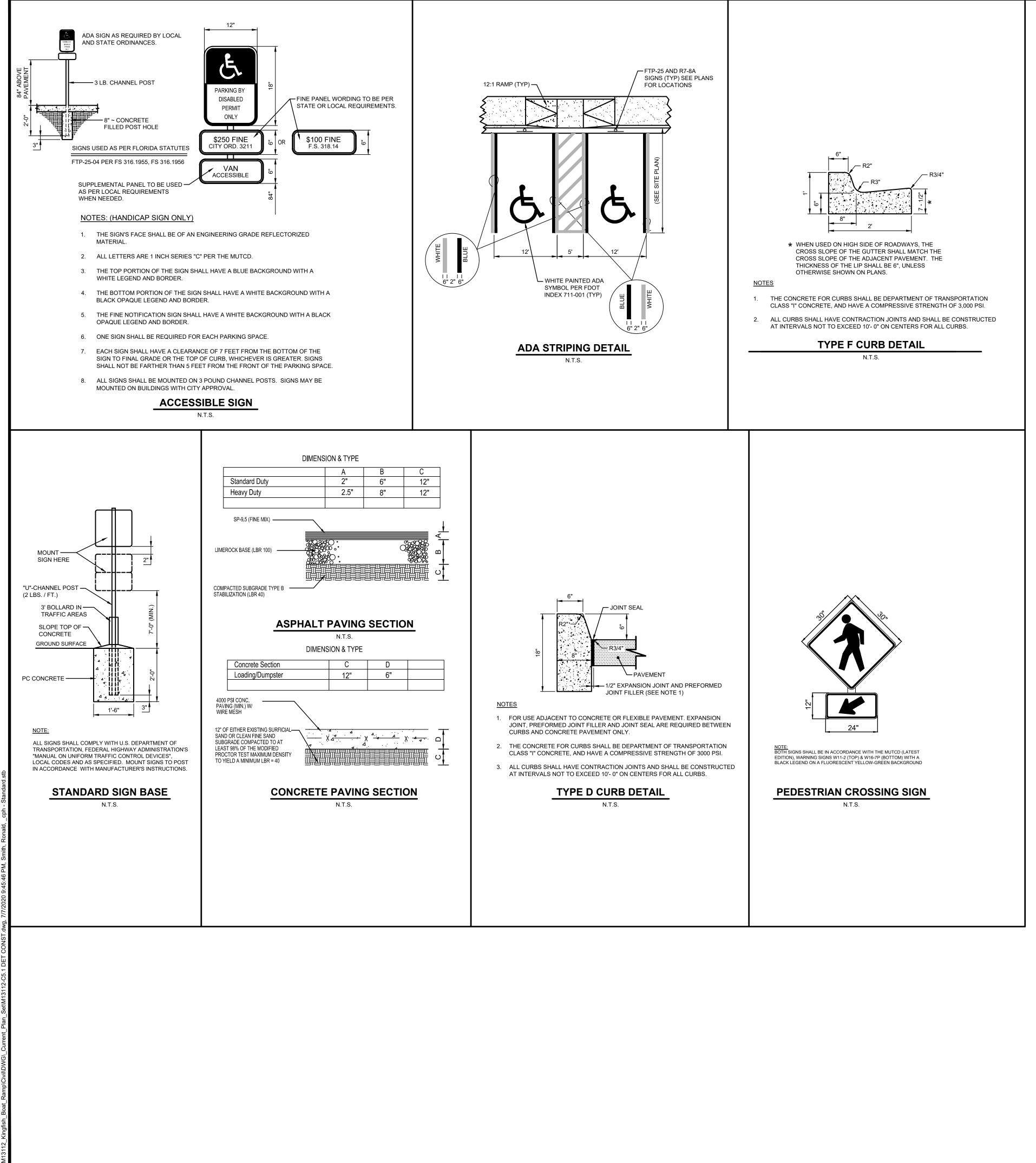
ANNA MARIA SOUND STRUCTURE NO. S-7 TYPE C INLET PER FDOT INDEX 425-052 TOP = 3.05 INV. W. = 0.30 STRUCTURE NO. S-4 TYPE C INLET PER FDOT INDEX 425-052 - MANGROVE LIMITS (TYP) -STRUCTURE NO. S-6 TYPE C INLET PER FDOT INDEX 425-052 TOP = 3.65 INV. E. = -0.25 -18" STORM PIPE 1×°···×°···· TOP = 2.04 253 LF @ 0.1% INV. E. = 0.05 NV. W. = 0.05 3.05 3.70 4.14± M.E. OVERED SIGN METAL POLE 2' CONC C & GOT STATE ROAD 64 SAWCUT EXISTING CONCRETE TO CREATE CURB INLET TOP ELEV=5.36 N INV ELEV=(NO A BOTTOM ELEV=(NO W INV ELEV(12"X18" RCP)=3.19 S INV ELEV(12"X18" RCP)=3.19 BOTTOM ELEV=2.90 FLUSH JOINT

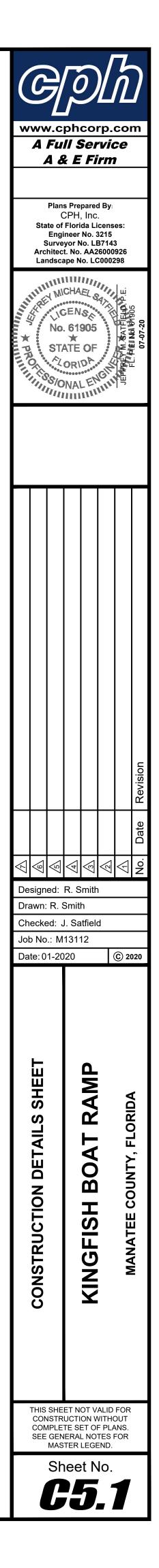
STRUCTURE NO. S-3 TYPE C INLET PER FDOT INDEX 425-052 N ROVE LIMITS (TYP TOP = 2.52 INV. W. = -0.75 24 INV. SE. = -0.75 <u>4.8</u> -18" STORM PIPE STRUCTURE NO. S-1 _Դ74 LF @ 0.1% 3.06± M.E TYPE C INLET TOP = 3.00 3.54± M. EAST SWALE 4.96± M.E. 5.06± M.E. -5.99± M.E. 2' CONC C & G o SAWCUT EXISTING CONCRETE TO CREATE FLUSH JOINT

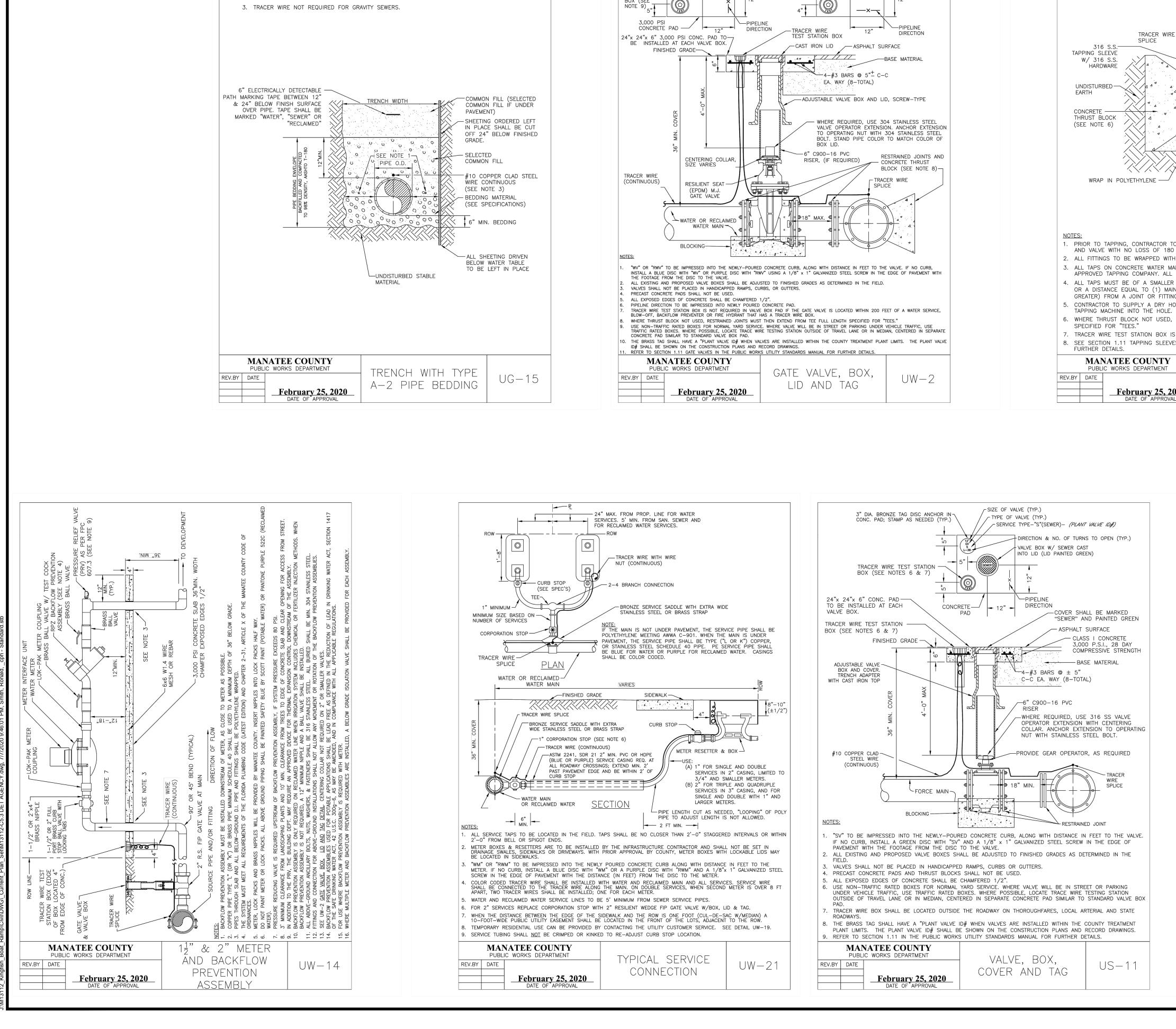
STATE ROAD 64 (MANATEE AVENUE WEST) (R/W WIDTH VARIES, SECTION #1315-175 & 13150-2524, DATED 4/1/09)











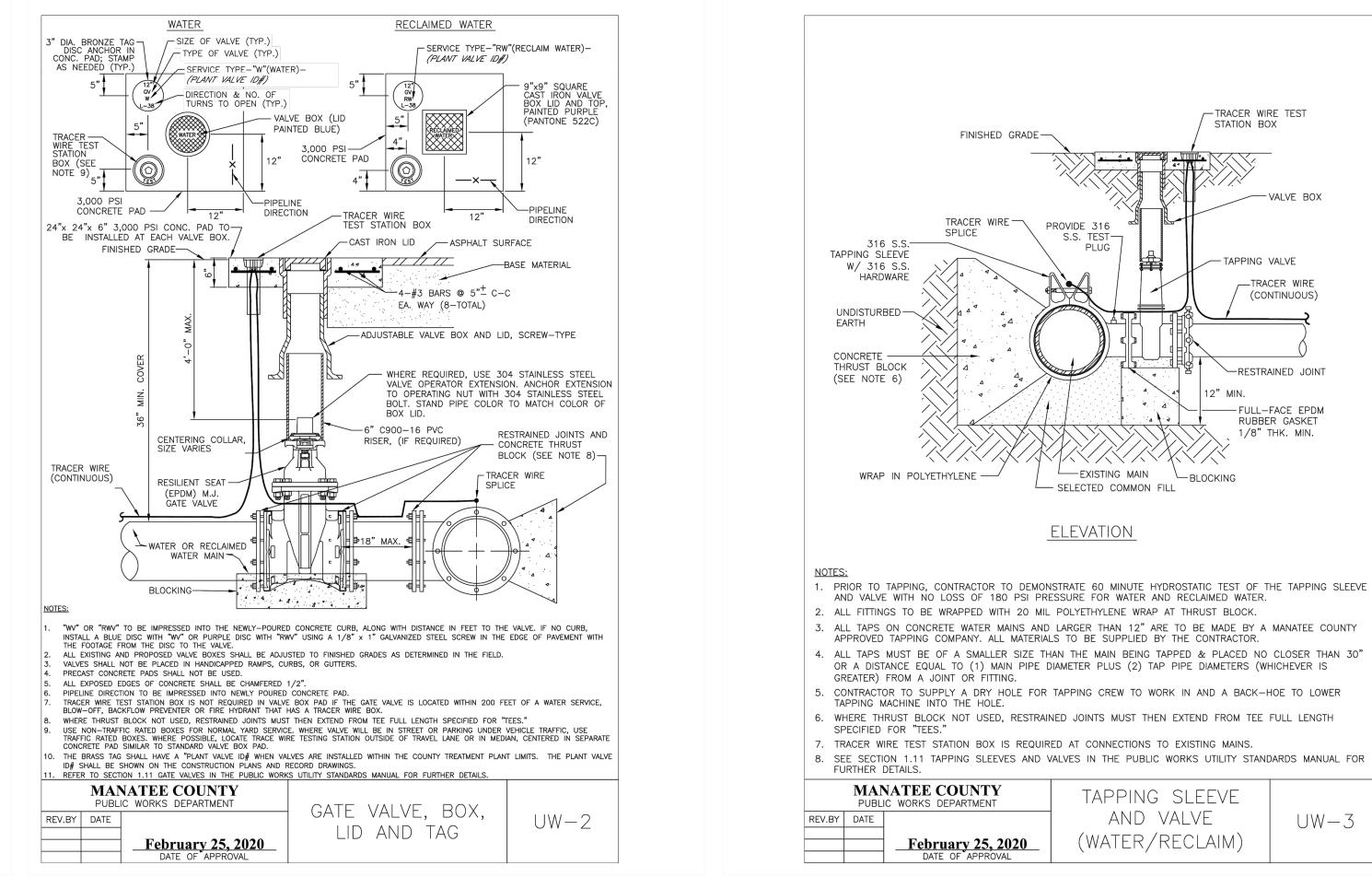
NOTES:

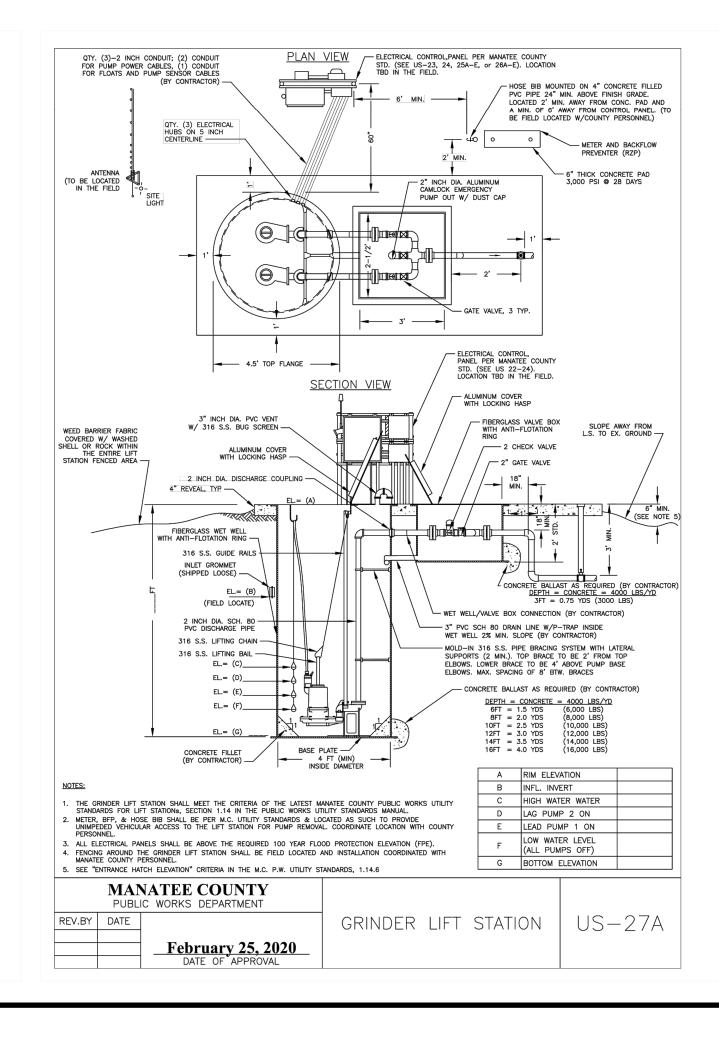
1. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN

2. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.

TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE





Residence More et al. 1 AGENCY DETAILS SHEET Designed: R. Smith Checked: J. Safiteld Job No: M13112 Date: 01-2020 © 2020 THIS SHEET NOT WAITH FOR Concy of the second s	Plans Prepared By: CPH, Inc. State of Florida Licenses: Engineer No. 3215 Surveyor No. LB7143 Architect. No. AA26000926 Landscape No. LC000298							
AGENCY DETAILS SHEET NOT VALID FOR MANATER COUNTY, FLORIDA MANATER COUNTY, FLORIDA THIS SHEET NOT VALID FOR CHOCKED I J Satfield Job NO: M13112 Date: 01-2020 © 2020 MANATER COUNTY, FLORIDA THIS SHEET NOT VALID FOR Sheet NO. Sheet NO.	No. 61905							
Besigned: R. Smith Designed: R. Smith Drawn: R. Smith Checked: J. Satfield Job No: M13112 Date: 01-2020 © 2020 Construction Without Construction Without Construction Without Construction Without Construction Without Sheet No.								
Image: Second secon								
Designed: R. Smith Drawn: R. Smith Checked: J. Satfield Job No.: M13112 Date: 01-2020 © 2020 <b>GUIDE CONSTRUCTION BALEN</b> THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SION WITHOUT COMPLETE SION WITHOUT Sheet No.								
Drawn: R. Smith Checked: J. Satfield Job No.: M13112 Date: 01-2020 © 2020 C 20		$\overline{\mathbb{S}}$	$\sqrt{5}$	4	$\overline{\mathbb{A}}$	$\sum$	$\bigtriangledown$	No.
Job No.: M13112 Date: 01-2020  © 2020 <b>General Range General Range General Range General Notes For</b> Master Legend. <b>Sheet No.</b>		-						
Date: 01-2020       © 2020         Image: Distribution of the second						b		
THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND. Sheet No.						(	C 20	)20
CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND. Sheet No.			KINGFISH BOAT RAMP			MANATEE COUNTY, FLORIDA		
			ISTR IPLE GEN	UCTI TE SI IERAI	ON V ET OI L NO	VITHO F PLA TES I	OUT ANS.	

www.cphcorp.com

A Full Service

A & E Firm

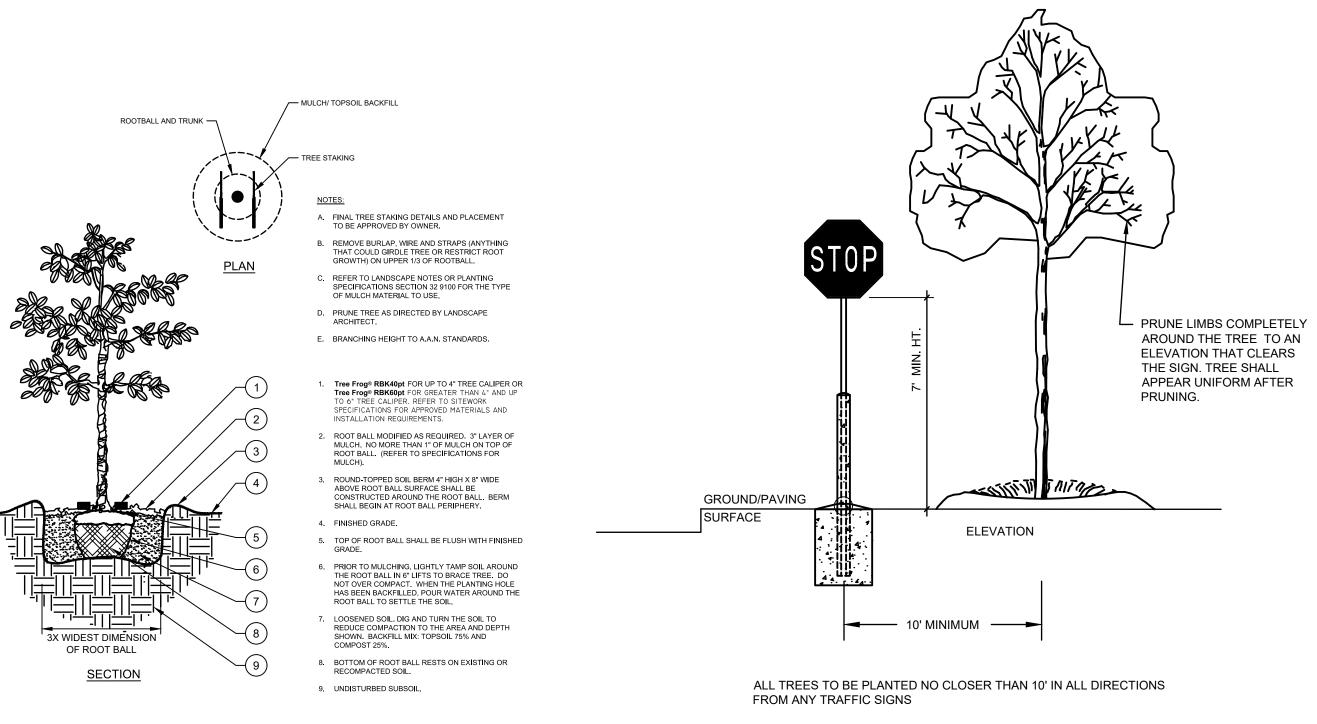
# LANDSCAPE NOTES:

- The landscape Contractor shall be responsible for all materials and all work as called for on the Landscape Plans and in the Landscape Specifications. In the event of variation between quantities shown on plant list and the plans, the plans shall control. The Landscape Contractor shall verify all quantities and report any discrepancies at the time of bidding.
- The Landscape Contractor shall review architectural/engineering plans and become thoroughly familiar with surface and subsurface utilities.
- Prior to construction, the contractor shall be responsible for locating all underground utilities and shall avoid damage to all utilities during the course of the work. Locations of existing buried utility lines shown on the plans are based upon best available information and are considered to be approximate. It shall be the responsibility of the contractor 1) to verify the locations of utility lines within and adjacent to the work area 2) to protect all utility lines during the construction period 3) to repair any and all damage to utilities, structures, site appurtenances, etc. which occurs as a result of the construction 4) To field adjust the location of proposed trees and palms 10' off the center of the utility lines. Notify the Landscape Architect if a 10' offset does not function.
- The work shall be coordinated with other trades to prevent conflicts. Coordinate the planting with the irrigation work to assure availability and proper location of irrigation items and plants.
- Contractor shall ensure that there are no visual obstructions to vehicle lines of sight and traffic controls. Contractor shall field adjust tree and/or large shrub locations to avoid any such obstructions.
- Trees shall be maintained by the owner to avoid future such obstructions by pruning trees and/or shrubs as necessary utilizing horticulturally sound techniques
- All planting shall be performed by personnel familiar with planting procedure and under the supervision of a qualified planting
- All plant material shall be graded Florida No. 1 or better as outlined under Grades and Standards for Nursery Stock, Part I and II, published by the Florida Department of Agriculture and Consumer Services.
- The minimum acceptable size of all plants, measured after pruning, with branches in normal positions, shall conform to the measurements specified on the plant list or as indicated on the landscape drawing. Height and spread dimensions refer to main body of the plant and not extreme branch tip to tip. Trunk caliper (trunk diameter) is measured 6 inches from the ground on trees up to and including 4 inches in caliper, and 12 inches from the ground for larger trees. Since trunks are seldom round, the average of the largest diameter and that perpendicular to it is referred to as caliper. When the plant list description calls out DBH or caliper at DBH, it shall govern over the caliper definition in this note.
- 10. The Landscape Architect or Owner shall have the right, at any stage of the operations, to reject any and all work and materials which, in his opinion, do not meet with the requirements of these specifications.
- 11. Except as otherwise specified, the Landscape Contractor's work shall conform to accepted horticultural practices as used in the
- 12. Plants shall be protected upon arrival at the site, by being thoroughly watered and properly maintained until planted. 13. TOPSOIL
- Topsoil shall be natural, friable, fertile, fine loamy soil possessing characteristics of representative topsoil in the vicinity that produces heavy growth. Topsoil shall have a pH range of 5.5 to 7.4, free from subsoil, objectionable weeds, litter, sods, stiff clay, stones larger than 1-inch in diameter, stumps, roots, trash, toxic substances, or any other material which may be harmful to plant growth or hinder planting operations. Top soil shall contain a minimum of three percent organic material. 6" Top Soil shall be placed in all turf & landscape areas.
- 14. All tree pits shall be excavated to size and depth in accordance with the Florida Grades & Standards for Nursery Stock, unless shown otherwise on the drawings, and backfilled with the specified planting soil. The Landscape Contractor shall test fill all tree pits with water before planting to assure proper drainage percolation is available.
- 15. The Landscape Contractor shall be responsible for proper watering of all plants. All plants shall be thoroughly watered at time of planting and kept adequately watered for plants to thrive as defined by Florida Grades and Standards for Nursery stock until time of acceptance. It shall be the Landscape Contractor's responsibility to assure that plants are not over watered.
- 16. It shall be the Landscape Contractor's responsibility to prevent plants from falling or being blown over, to re-straighten and replant all plants which lean or fall and to replace all plants which are damaged due to lack of proper guying or staking. The Landscape Contractor shall be legally liable for any damage caused by instability of any plant material.
- 17. All Palms to be staked as indicated per Palm staking details. All other trees to be stabilized utilizing 8' lodge poles per tree planting
- 18. Plants blown over by high winds, within the guaranteed period, shall not be cause for additional expense to the Owner, but shall be the responsibility of the Landscape Contractor. Damaged plants shall be replaced by the Landscape Contractor at no additional cost to the Owner
- 19. Sod shall be of a species specified on the drawings and originate from a commercial turf grower, whose farm is free of muck soils. Muck grown sod will not be approved. It shall be a dense stand of live turf, reasonably free of weeds, well matted with grass roots in rectangles 12 inch by 24 inch or in 12 inch wide rolls in a length consistent with the equipment and methods used to handle the rolls and place the sod. Any netting contained within the sod shall be certified by the manufacturer to be bio-degradable. The soil and root mat shall be a minimum of 1-1/2 inch thick and must hold together during placement. Sod shall be place adjacent to one another to avoid gaps and overlaps. Joints shall be staggered between the rows. Sod placed on slopes exceeding 3:1 shall be pinned with turf staples. Sod turf, shall have been mowed a minimum of one week prior to cutting and delivery, so that the length of the turf is no longer than 4 inches at time of delivery. Place sod within 48 hours of cutting the sod. The sod shall be kept moist throughout the 48 hour period to maintain the health and viability of the sod. Submit a letter of certification to the Owner's CEI Representative, at time of delivery, as to the source of the sod, the time it was cut, the species and cultivars provided, last mowing date, and that the sod is free of fire ants. Sod which has been cut for longer than 48 hours after being cut shall not be used unless specifically authorized by Owner's CEI Representative.
- 20. It shall be the Contractor's responsibility to measure and determine the exact quantity of sod required for a complete job at the time of bidding or providing a price quote. The Owner shall not be responsible for additional cost due to the Contractor's under estimating of the quantity of sod for the original bid area.
- 21. The Landscape Contractor shall insure adequate vertical drainage in all plant beds, planters, and sod areas. Vertical drilling through any compacted fill to native soil shall be accomplished to insure drainage. If well drained fill is necessary to assure positive drainage, this issue shall be brought up by the Landscape Contractor at time of bidding.
- 22. UNSUITABLE SUBSOILS Locations containing unsuitable subsoil shall be treated by one or more of the following:
- A. Where unsuitability is deemed by Owner or Owner's Representative to be due to excessive compaction caused by heavy equipment and where natural subsoil is other than AASHTO classification of A6 or A7, loosen such areas with spikes, discing, or other means to loosen soil to condition acceptable to Owner. Loosen soil to minimum depth of 12 inches with additional loosening as required to obtain adequate drainage. Contractor may introduce peat moss, sand, or organic matter into the subsoil to obtain adequate measures shall be considered as incidental, without additional cost to Owner.
- Where unsuitability is deemed by Owner or Owner's Representative to be due to presence of boards, mortar, Β. concrete, graded aggregate base, or other construction materials in sub grade and where natural subsoil is other than AASHTO classification of A6 or A7, remove debris and objectionable material. Such remedial measures shall be considered as incidental, without additional cost to Owner.
- Where unsuitability is deemed by Owner to be because natural subsoil falls into AASHTO classification of A6 or A7 and contains moisture in excess of 30 percent, then installation of sub drainage system or other means described elsewhere in Specifications shall be used. Where such conditions have not been known or revealed prior to planting time and they have not been recognized in preparation of The Drawings and Specifications, then Owner shall issue pricing order to install proper remedial measures.
- Planting beds where existing subsoil is determined by Owner to be unsuitable for plant growth in accordance paragraph Unsuitable Subsoil herein shall be excavated to a depth of 12 inches or as needed to provide adequate drainage. Replace excavated soil with planting soil.
- 23. The Landscape Contractor shall insure that his work does not interrupt established or projected drainage patterns.
- 24. The Landscape Contractor shall prune, shape and remove dead foliage/limbs from existing plant material to remain. Confirm with the Landscape Architect or Owner the extent of work required at time of Bidding.

27. MAINTENANCE PRIOR TO FINAL INSPECTION AND ACCEPTANCE:

GUARANTEE AND REPLACEMENT:

- 25. Mulch All plant beds shall be top dressed with 3" shredded hardwood mulch (or approved equal). Cypress mulch not permitted. a 5' diameter mulch ring is to be placed around trees located in sod areas or outside of planting beds.
- 26. Transplanted Material The Landscape Contractor shall be responsible for determining and evaluating which plant materials are suitable for transplanting and shall verify this with the Landscape Architect or Owner. The Landscape Contractor shall take all reasonable, horticulturally acceptable measures to assure the successful transplanting of determined plant materials. The Landscape Contractor shall be responsible for replacing any relocated plant materials which die if such measures are not taken, as determined by the Landscape Architect or Owner. Replacement plants shall be of identical species and size if required.
- Maintenance shall commence after each plant is planted and the maintenance period shall continue until the job or specific phase of the job is accepted by the Landscape Architect or Owner. Extreme care shall be taken to instruct the Owner or his representatives in general maintenance procedures.
- Plant maintenance shall include watering, pruning, weeding, cultivating, mulching, tightening, and repairing of guys, replacement of sick or dead plants, resetting plants to proper grades or upright positions and restoration of the planting saucer and all other care needed for proper growth of the plants.
- During the maintenance period and up to the date of final acceptance, the Landscape Contractor shall do all seasonal spraying and/or dusting of trees and shrubs. Upon completion of all planting, an inspection for acceptance of work will be held. The Landscape Contractor shall notify the Landscape Architect or Owner for scheduling of the inspection 10 days prior to the anticipated
- At the time of the inspection, if all of the materials are acceptable, a written notice will be given by the Landscape Architect or Owner to the Landscape Contractor Stating the date when the Maintenance Period ends.
- All plant materials shall be guaranteed for one (1) year from the time of final inspection and interim acceptance shall be alive and in satisfactory growth for each specific kind of plant at the end of the guaranteed period.
- At the end of the guarantee period, any plant required under this contract that is dead or not in satisfactory growth, as determined by the Owner or the Landscape Architect, shall be removed and replaced. Replacement plants shall have an extended guarantee, as noted above, from time of replacement.
- All replacements shall be planted of the same kind and size as specified on the plant list. They shall be the responsibility of the Landscape Contractor.



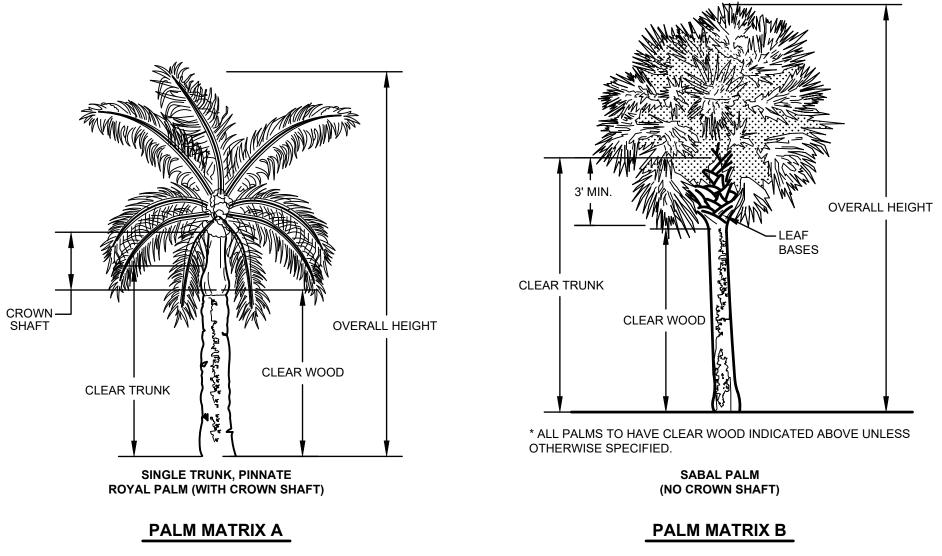
SMALL TREE PLANTING (14' OR LESS)

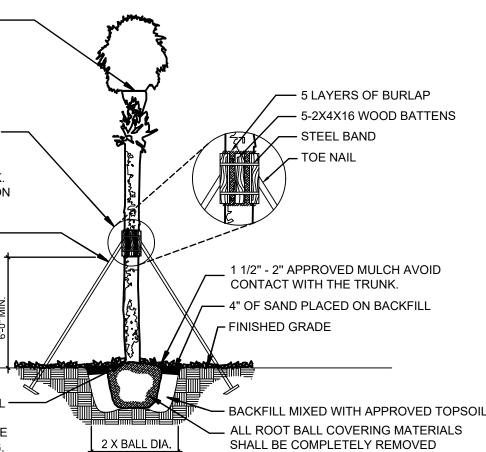
5-7 HEALTHY FRONDS -MINIMUM. TIE FRONDS WITH BIODEGRADABLE TWINE. HEAD TO REMAIN TIED UNTIL PALM PUSHES IT OPEN. CABBAGE PALMS TO BE "HURRICANE CUT"

SECURE BATTENS WITH 2-3/4" STEEL BANDS TO SECURE BATTENS DURING PLANTING PROCESS. DO NOT NAIL BATTENS TO PALM TRUNK. HEIGHT SHALL BE LOCATED IN RELATION TO THE HEIGHT OF THE PALM.

3-2X4 WOOD BRACES STAKED WITH A -2X4X24" STAKE PAD BURIED 3" BELOW GRADE.

PLANT SO THAT THE TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE AFTER SETTLEMENT, APPROX. 1" ABOVE FINISHED GRADE AT TIME OF PLANTING.





BEFORE PLANTING.

### PALM HEIGHT/TRUNK SPECIFICATIONS

TREE PLANTING AT TYPICAL SIGN

NTS

OVERALL HEIGHT(OA): HIGHEST POINT IN THE CANOPY MEASURED FROM THE SOIL LINE TO THE NATURAL POSITION OF THE LAST FULLY EXPANDED LEAF. UNLESS SPECIFIED DIFFERENTLY. THE TERM HEIGHT, OR HEIGHT MEASUREMENTS SPECIFIED WILL BE CONSIDERED OVERALL

CLEAR TRUNK(CT): A MEASUREMENT FROM THE SOIL LINE TO A POINT IN THE CANOPY WHERE THE TRUNK CALIPER BEGINS TO TAPER ABRUPTLY. ON MANY PALMS THIS POINT WILL LIE AT THE BASE OF THE PETIOLE OF THE THIRD OR FOURTH YOUNGEST BUT FULLY EXPANDED LEAF.

CLEAR WOOD(CW): A MEASUREMENT FROM THE SOIL LINE TO THE HIGHEST POINT OF THE TRUNK FREE OF PERSISTENT LEAF BASES. ON PALMS WITH A CROWN SHAFT THE MEASURE WILL BE FROM THE SOIL LINE TO THE BASE OF THE CROWN SHAFT. IT SHOULD BE NOTED THAT PAI MS WITH VERY PERSISTENT LEAF BASES MAY NOT HAVE CLEAR WOOD.

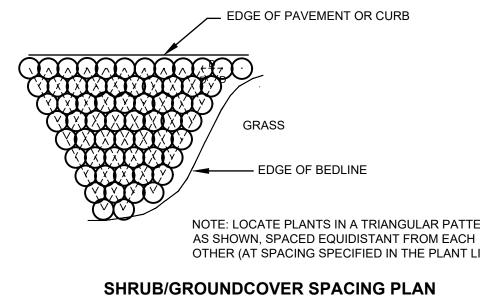
BURLAP & ROPE FROM TOP 1/3 OF BALL - MINIMUM 3" MULCH - SOIL BERM - MINIMUM 12" DEPTH OF PLANTING SOIL IN GROUNDCOVER PLANTING BEDS - 3 INCHES MULCH (REFER TO LANDSCAPE NOTES FOR TYPE OF MULCH) — SOD -BACKFILL MIXED WITH 75% APPROVED TOPSOIL & 25% ORGANIC COMPOST - UNDISTURBED SUBSOIL

N.T.S.

-PROVIDE MINIMUM PIT CLEARANCE AROUND ROOT BALL OF 6" SIDES AND BOTTOM. -MAINTAIN 3"-4" MULCH FREE ZONE AROUND BASE OF PLANT.

SHRUB AND GROUNDCOVER PLANTING DETAIL





N.T.S.

PLANT PALETTE		
SYM COMMON NAME	BOTANICAL NAME	DESCRIPTION
PALMS		
SABAL PALM	SABAL PALMETTO	10' MIN. CT.
ALEXANDER PALM	PTYCHOSTERMA ELEGANS	8' MIN. CT.
BISMARK PALM	BISMARK NOBILIS	8' MIN. CT.
ROYAL PALM	ROYSTONEA REGIA	8' MIN. GRAYWOOD
TREES		
JATROPHA	JATROPHA INTEGERRIMA	12' MIN. HT.
DAHOON HOLLY	ILEX CASSINE	12' MIN. HT.
SAND LIVE OAK	QUERCUS GEMINATA	12' MIN. HT.
GLAUCOUS CASSIA	CASSIA SURATTENSES	12' MIN. HT.
JAPANESE BLUEBERRY	ELAEOCARPUS DECIPIENS	12' MIN. HT.
SILVER BUTTONWOOD	CONOCARPUS ERECTUS SERICEUS STANDARD	12' MIN. HT.
SIMPSON STOPPER	MYRCIANTHES FRAGRANS	12' MIN. HT.
SHRUBS		
GREEN ISLAND FICUS	FICUS MICROCARPA 'GREEN ISLAND'	3 GAL., 30" O.C.
FIREFLY FIREBUSH	HAMELIA PATENS 'FIRE FLY'	3 GAL., 30" O.C.
RED TIP COCOPLUM	CHRYSOBALANUS ICACO 'RED TIP'	3 GAL., 3' O.C.
SMALL LEAF CLUSIA	CLUSIA GUTTIFERA	3 GAL., 3' O.C.
COONTIE	ZAMIA PUMILA	3 GAL., 3' O.C.
GRASSES		
MUHLY GRASS	MUHLENBERGIA CAPILLARIS	3 GAL., 30" O.C.
SAND CORDGRASS	SPARTINA BAKERI	3 GAL., 30" O.C., SWALES
PURPLE LOVE GRASS	ERAGROSTIS SPECTABILIS	1 GAL., 18" O.C., SANDY SOIL
GROUNDCOVER		
BEACH SUNFLOWER	HELIANTHUS DEBILIS	1 GAL., 18" O.C.
POWDERPUFF MIMOSA	MIMOSA STRIGILLOSA	1 GAL., 18" O.C.
TWINFLOWER	DYSCHORISTE OBLONGIFOLIA	1 GAL., 15" O.C.
VARIGATED BLUEBERRY FLAX	DIANELLA TASMANICA 'VARIEGATED'	1 GAL., 18" O.C.
ARGENTINE BAHIA SOD	PASPALUM NOTATUM 'ARGENTINE'	SOLID SOD, CONTRACTOR TO VERIFY QTY
HEIGHT, SPREAD, ETC. MUST BE MEET THE HEIGHT OR SPREAD	MINIMUM ACCEPTABLE SPECIFICATIONS. ALL CRITER MET FOR PLANT MATERIAL ACCEPTANCE. FOR EXAM SPECIFICATION, IT WILL NOT BE ACCEPTED. /AILABLE AT TIME OF CONSTRUCTION, CONTRACTOR I	IPLE, IF A THREE GALLON SHRUB DOES NOT

2. IF SPECIFIED PLANTS ARE UNAVAILABLE AT TIME OF CONSTRUCTION, CONTRACTOR MAY REPLACE SPECIFIED PLANTS WITH PLANTS APPROVED BY LANDSCAPE ARCHITECT AND CITY STAFF

3. ALL OPEN SPACE AREAS WITHIN THE PROPERTY SHALL BE SODDED UNLESS PAVED, SEEDED AND MULCHED OR PLANTED WITH SHRUBS AND GROUND COVER.

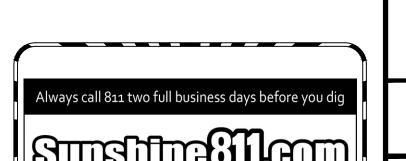
4. ALL LANDSCAPED AREAS WILL BE MANUALLY WATERED VIA WATER TRUCK AND GATOR BAGS.

5. CONTRACTOR SHALL REPLACE ANY EXISTING SOD OR OTHER PLANT MATERIALS DAMAGED DURING CONSTRUCTION IN AREAS THAT ARE OUTSIDE PROPOSED LANDSCAPE AS SHOWN ON THE PLAN.

- IF SHRUB IS B & B, THEN REMOVE

NOTE: LOCATE PLANTS IN A TRIANGULAR PATTERN OTHER (AT SPACING SPECIFIED IN THE PLANT LIST).

THIS SHEET NOT VALID FOR CONSTRUCTION UNLESS STAMPED APPROVED



www.sunshine811.com

Designed: M. Spann Drawn: C. Smith Checked: M. Spann Job No.: M13112 Date: 01-2020 C 2020 SHEE⁻ Ċ Ш Ö ŇO Μ Ū

ш

Δ

C

Ō

AND

S

C

Ζ

THIS SHEET NOT VALID FOR

CONSTRUCTION WITHOUT

COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR

MASTER LEGEND.

Sheet No.

www.cphcorp.com

A Full Service

A & E Firm

**500 West Fulton Street** 

Sanford, FL 32771

Ph: 407.322.6841

Plans Prepared By:

CPH, Inc.

State of Florida Licenses

Engineer No. 3215

Surveyor No. LB7143

Landscape No. LC000298

Architect, No. AA2600092