# CENTRAL FLORIDA EXPRESSWAY AUTHORITY

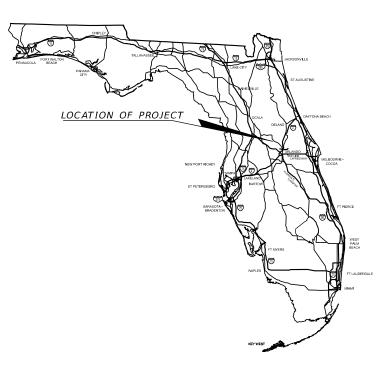
# SR 453 (WEKIVA PARKWAY) FROM SYSTEM INTERCHANGE TO SR 46

LAKE COUNTY
CFX PROJECT NUMBER: 429-206

SIGNALIZATION PLANS

SHEET NO. SHEET DESCRIPTION T-1 KEY SHEET T-2 TABULATION OF QUANTITIES T-3 GENERAL NOTES SIGNALIZATION PLAN T-4 INTERCONNECT PLAN T-5 T-6 MAST ARM TABULATION T-7 GUIDE SIGN WORKSHEET T-8 STANDARD MAST ARM ASSEMBLIES DATA TABLE T-9 UTILITY LOCATION PLAN GT-1 REPORT OF SPT BORINGS

PRE-BID SUBMITTAL
OCTOBER 2015



# CENTRAL FLORIDA EXPRESSWAY AUTHORITY BOARD MEMBERS

WELTON G. CADWELL S. SCOTT BOYD BRENDA CAREY BUDDY DYER FRED HAWKINS, JR. TERESA JACOBS ANDRIA HERR JAY MADARA S. MICHAEL SCHEERINGA CHAIRMAN
VICE CHAIRMAN
SECRETARY/TREASURER
EX-OFFICIO, CITY OF ORLANDO MAYOR
BOARD MEMBER
EX-OFFICIO, ORANGE COUNTY MAYOR
BOARD MEMBER
BOARD MEMBER
BOARD MEMBER
BOARD MEMBER

SIGNALIZATION SHOP DRAWINGS TO BE SUBMITTED TO: JAMES W. HIGHLAND, P.E. 941 LAKE BALDWIN LANE, ORLANDO, FL 32814 (407) 896-0594

PLANS PREPARED BY:



DRMP, INC. 941 LAKE BALDWIN LANE ORLANDO, FLORIDA 32814 (407) 896-0594 CERT. OF AUTH. NO. 2648

CONTRACT NO. 000860 VENDOR NO. VF591791174001

B.M. DATUM: NAVD-'88

APPROVED — DATE / /

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

SIGNALIZATION PLANS ENGINEER OF RECORD:

JAMES W. HIGHLAND, P.E.

P.E. NO.: <u>68240</u>

FISCAL YEAR	SHEET NO.
15	T-1

CFX PROJECT MANAGER:

GLENN PRESSIMONE, P.E.

# TABULATION OF QUANTITIES

PAY											:	SHEET I	NUMBERS	5								OTAL HIS	GRAND	REF.
ITEM NO.	DESCRIPTION	UNIT	T-4		T-5																	HEET	TOTAL	SHEET
			PLAN F	INAL		FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN FINA	PLAN FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN FINA	_
630-2-11 630-2-12	CONDUIT (F&I) (OPEN TRENCH)  CONDUIT (F&I) (DIRECTIONAL BORE)	LF LF	1457 149		371																1828 149		1828 149	
632-7-1	SIGNAL CABLE (F&I)	PI	1 1	1																	143	,	1 1 1	
633-2-32	FO CONNECTION (INSTALL) (TERMINATION)	EA	_		12																12		12	
633-3-16	FO CONNECTION HARDWARE (F&I)(FIELD-TERM PATCH PANEL)				1																1	!	1	
635-2-11	PULL & SPLICE BOX (F&I) (13"X24" STANDARD)	EA	20																		20	?	20	
635-2-13	PULL & SPLICE BOX (F&I) (30"X60" SPLICE VAULT)	EA	7		2																2	?	2	
639-1-123 639-2-1	SIGNALS - ELEC. POWER SERV.(F&I)(UNDRGRND.)(METER NOT REQ.)   SIGNALS - ELECTRICAL SERVICE WIRE (F&I)	AS LF	813																		813	;	813	
639-3-11	SIGNALS - ELECTRICAL SERVICE DISCONNECT (F&I) (POLE MOUNT)	EA	1																		013	;	1 1	
641-2-12	PRESTRESSED CONCRETE POLE (F&I)(PII SERVICE POLE)	EA	2																		2	,	2	
646-1-11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	2																		2	?	2	
649-31-303	MAST ARM ASSEM.(F&I)(110)(SNGL ARM,W/O LUM)(60)	EA	1																		1	!	1	
649-31-314	MAST ARM ASSEM.(F&I)(110)(DUAL ARM,W/O LUM)(46-46)	EA	1																		1	!	1	
650-1-14	TRAFFIC SIGNAL (F&I-ALUMINUM) (3 SECT 1 WAY)	AS	8																		8		8	
653-1-11 660-1-109	PEDESTRIAN SIGNAL (F&I LED COUNTDOWN) (1-WAY) LOOP DETECTOR INDUCTIVE (F&I)(TYPE 9,2 Ch,SS,RM)	AS EA	2																		2	;	2 2	
660-1-110	LOOP DETECTOR INDUCTIVE (F&I)(TYPE 10,2 Ch,SS,RM,TD)	EA	1 1																		1	; [		
660-2-102	LOOP ASSEMBLY (F&I) (TYPE B) (6'x6')	AS	10																		10	)	10	
660-2-106	LOOP ASSEMBLY (F&I) (TYPE F) (6'x40')	AS	2																		2	? [	2	
665-1-11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	2																		2	?	2	
670-5-110	TRAFFIC CNTL ASSEM (F&I) (NEMA) (PRE NONE)	AS	1												<del>                                     </del>						1	! [	1	
684-1-1	MANAGED FIELD ETHERNET SWITCH (F&I)	EA			1										<del>                                     </del>	+ + +	-				1	!	$\begin{bmatrix} 1 \\ 2 \end{bmatrix}$	
700-5-22	INTERNALLY ILLUMINATED SIGN (F&I)(OVERHEAD MOUNT)(12-18 FT2)	EA	3												<del>                                     </del>						3	` [	3	
	+																							
		1																						
		1																						
															<del>                                     </del>									
															<del>                                     </del>							1		
		1																				1		
															<del>                                     </del>		1					1		
															<del>                                     </del>	+ + +	-					1		
					-																			
			<u>                                       </u>	†														<u>                                     </u>						
· · · · · · · · · · · · · · · · · · ·																								
		1													<del>                                     </del>	1	1							
		-													<del>                                     </del>		1							
																	-							<b> </b>
	+														<del>                                     </del>		1							
				'					I															
	REVISIONS										`					ENITD A I	Т						T	SHEET
DATE	DESCRIPTION DATE	DI	ESCRIPTION					الاالا	K I/	ЛP	7	CF	X PRO	J. NO		ENTRAL			TA			N OF		NO.
							$\overline{\mathcal{C}}$	ENGINEERS · S	SURVEYORS - PLAN	INERS · SCIENTISTS	s				F	LORIDA				מגאל מי נדי	71 <i>11</i> 10			140.
							941 LAKE 1	DR BALDWIN LAN	KMP, INC. VE, ORLANDO	), FLORIDA 3	2814		430	200	EXF	PRESSWAY			1	DITAI	VTIT.	TES		
							PHONE: CERTI	(407) 896-05 FICATE OF △	594 FAX:(- NUTHORIZATI	407) 896-48. ION NO. 2648	36 }	1	429-2	206		THORITY			(ca	e VIII	<b>члл</b> л.	4111		T-2
						JAME	S W. HIGH	LAND, P.E.		LICENSE	NO. 68240				1 110	11101011								

#### GENERAL NOTES:

- 1. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH LAKE COUNTY TRAFFIC OPERATIONS, (352) 742-1766, PRIOR TO ANY CONSTRUCTION.
- 2. IT SHALL BE NOTED THAT NO TEST BORINGS BE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE JOB SITE CONDITIONS PRIOR TO SUBMITTING BID PROPOSALS.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING LAKE COUNTY TRAFFIC OPERATIONS, AT 352-742-1766, 48 HOURS IN ADVANCE OF ALL PHASES OF CONSTRUCTION INCLUDING AND NOT LIMITED TO, INSTALLING SIGNAL POLES, GROUND RODS, UNDERGROUND CONDUIT, SIGNAL HEAD ASSEMBLIES, AND LOOP INSTALLATION
- 4. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE FDOT TRAFFIC DESIGN STANDARDS.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS INCLUDING THE ELECTRIC PERMIT. THE APPLICATION FOR POWER SHOULD BE COORDINATED WITH LAKE COUNTY TRAFFIC OPERATIONS.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY PROVIDING THE ELECTRICAL POWER, TO DETERMINE IF ANY ADDITIONAL FEES ARE REQUIRED TO CONNECT POWER. IF REQUIRED, THE FEE SHALL BE INCLUDED AS PART OF BID ITEM PAYMENT FOR ELECTRICAL SERVICE ASSEMBLY.
- 7. THE EXACT LOCATIONS OF ALL UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION.
- 8. THE CONTRACTOR SHALL STAKE ALL POLE LOCATIONS AND HAVE IT APPROVED BY LAKE COUNTY TRAFFIC OPERATIONS.
- 9. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY DEPARTMENT AT LEAST 48 HOURS IN ADVANCE OF POLE SETTING OPERATIONS WHERE A CONFLICT WITH OVERHEAD ELECTRICAL CONDUCTORS IS EXPECTED AND WHEN JOINT USE POLES ARE TO BE USED.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING THE PROPER AMOUNT OF RAKE WITH RESPECT TO LOADING TO BE USED ON POLES AT THE TIME OF INSTALLATION.
- 11. ALL MATERIALS AND HARDWARE SHALL BE F.D.O.T. APPROVED, AND PRE-APPROVED BY LAKE COUNTY TRAFFIC OPERATIONS.
- 12. ANY STRIPING/PAVEMENT MARKINGS OR LANDSCAPING DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.
- 13. THE COST FOR THE USE OF "TRAFFIC CONTROL OFFICER" IN THE EVENT OF LANE CLOSURES SHALL BE INCIDENTAL TO THE WORK AND WILL NOT BE PAID SEPARATELY.
- 14. THE CONTRACTOR SHALL FURNISH LAKE COUNTY TRAFFIC OPERATIONS WITH EMERGENCY CONTACTS AND PHONE NUMBERS AND HAVE AN IMSA LEVEL II CERTIFIED SIGNAL TECHNICIAN ON CALL WITHIN A TWO HOUR MAXIMUM RESPONSE TIME.

#### LOOPS/PULL BOXES:

- 1. PULL BOX COVERS SHALL BE FDOT APPROVED NON METALLIC WITH RECESSED COVER LOGO "TRAFFIC SIGNAL" OR "FIBER OPTICS" AS APPROPRIATE.
- 2. PULL BOXES SHALL BE LOCATED AWAY FROM EDGE OF PAVEMENT, OR BEHIND A CURB WHEN POSSIBLE, ATTEMPTING TO KEEP FROM THE BOTTOM OF A DITCH OR RETENTION AREA, AND WHERE LARGE VEHICLES PARK.
- 3. MULTIPLE CONDUITS IN THE SAME RUN SHALL BE PAID FOR AS DIRECTIONAL BORED OR JACK AND BORED FOR THE FIRST CONDUIT ONLY. ALL OTHERS WILL BE PAID FOR AS UNDERGROUND. ALL FIBER OR FUTURE USE CONDUITS SHALL HAVE A LOCATE WIRE INSTALLED.
- 4. ALL FIBER OR FUTURE USE CONDUIT SHALL HAVE A LOCATE WIRE INSTALLED.
- 5. LOOP HOME RUNS SHALL NOT BE CUT INTO THE RADIUS

#### CABINET/CONTROLLER:

- 1. THE CONTROLLER ASSEMBLY SHALL BE A "LAKE COUNTY" NAZTEC REGIONAL TS2-1; WITH A TS2-2 CONTROLLER ETHERNET ENABLED FOR COUNTY CLOSED LOOP SYSTEM, TO INCLUDE A GENERATOR SWITCH BOX PANEL.
- 2. A GENERATOR PAD, 3'X3'X4"CONCRETE SHALL BE INSTALLED WITH 5/8"EYEBOLT INSTALLED IN THE PAD ADJACENT TO CABINET BASE.
- 3. THE CABINET CONCRETE BASE SHALL BE A MINIMUM OF 32" x 48"TO ACCOMMODATE TYPE 6 CABINETS.
- 4. GROUNDING FOR THE CONTROLLER ASSEMBLY SHALL MEASURE 25 OHMS. OR LESS.
- 5. THE CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION WHEN POSSIBLE.
- 6. THE FIRST BUFFER (BLUE BUFFER) OF SINGLE MODE FIBER SHALL BE TERMINATED IN THE CABINET USING SC CONNECTORS.
- 7. THE MOUNTING OF THE ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL CABINET SHALL BE PROHIBITED.
- 8. A MANUAL PUSH BUTTON CORD SHALL BE FURNISHED IN ALL CONTROLLER CABINETS.

#### SIGNAL HEADS:

- 1. SIGNAL HEADS SHALL BE WIRED DIRECTLY TO THE TERMINAL BLOCKS. THE USE OF "JONES" PLUGS IS PROHIBITED.
- 2. DISCONNECTS SHALL OPEN FROM THE SIGNAL FACE. (NOT FROM THE REAR)
- 3. SIGNAL HEADS SHALL BE WIRED PER IMSA NEMA PHASING, PHASES 2 AND 6 ARE TYPICALLY ASSIGNED TO MAJOR-STREET WITH PHASE 2 BEING SOUTH OR WEST BOUND THROUGH MOVEMENTS. THE USUAL CONVENTION IS FOR THROUGH PHASES TO BE NUMBERED IN THE CLOCKWISE DIRECTION STARTING WITH PHASE 2, AND THE LEFT-TURN PHASES TO BE NUMBERED IN THE CLOCKWISE DIRECTION, WITH PHASE 1 BEING ACCOMPANYING LEFT-TURN TO PHASE 6.
- 4. VEHICLE SIGNAL HEAD ASSEMBLIES SHALL BE BLACK, CAST ALUMINUM, WITH TUNNEL VISORS, AND LED'S FOR ALL INDICATIONS UNLESS OTHERWISE NOTED.
- 5. PEDESTRIAN SIGNAL ASSEMBLIES SHALL BE CAST ALUMINUM, WITH FULL HAND/PERSON LED'S WITH COUNTDOWN INDICATION.
- 6. ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE LOUVERS AND BE COUNTDOWN LED SIGNALS WITH THE PROPER COUNTDOWN PEDESTRIAN SIGNAGE. ALL PEDESTRIAN SIGNALS NOT MOUNTED ON SIGNAL POLES OR MAST ARM POLES SHALL BE THE BREAKAWAY TYPE COMMONLY REFERRED TO AS A "T-BASE". THIS T-BASE WILL HAVE AN ACCESS DOOR FOR WIRING AND MAINTENANCE.

#### SIGNAL HEADS (CONT'D):

- 7. SIGNAL CABLE SHALL BE ATTACHED TO MESSENGER WIRE USING PROPER SIZE SPIRAL WRAP.
- 8. FDOT OPTION OF PIVOTAL ADJUSTABLE HANGERS ASSEMBLY WITH FLAT EXTENSION BARS SHALL BE USED INSTEAD OF DROP PIPES FOR DUEL POINT ATTACHMENTS.

#### INTERNALLY ILLUMINATED STREET NAME SIGNS:

1. INTERNALLY ILLUMINATED STREET NAME SIGNS (LED) SHALL BE POWERED BY A SEPARATE CIRCUIT BREAKER AND BE DESIGNED AND INSTALLED IN ACCORDANCE WITH LAKE COUNTY PUBLIC WORKS INTERNALLY ILLUMINATED STREET NAME SIGN DETAIL. A PHOTOCELL SHALL BE INSTALLED NEAR THE ELECTRIC SERVICE WITHIN REACH OF A LIFT TRUCK. CARE TO BE GIVEN TO INSTALL WHERE STREET LIGHTING DOES NOT AFFECT OPERATION.

- 2. THE CONTRACTOR SHALL FURNISH LAKE COUNTY TRAFFIC OPERATIONS, TWO COMPLETE SETS OF AS-BUILT PLANS THAT INCLUDE CONDUIT AND PULL BOX LOCATIONS, AT FINAL INSPECTION.
- 3. STREET NAME SIGNS SHALL BE MOUNTED FREE SWINGING BELOW MAST ARM W/ 2-POINT ATTACHMENT.

#### PAY ITEM NOTES:

- 632-7-1: SIX (6) FEET OF ADDITIONAL SLACK CABLE STORED IN THE UPRIGHT IS INCIDENTAL TO THIS PAY ITEM NUMBER.
- 639-1-123: ALL FEES BY THE POWER COMPANY FOR ENERGIZING THE POWER SERVICE AND A SEPARATE BREAKER FOR THE ILLUMINATED SIGNS IS INCIDENTAL TO THIS PAY ITEM NUMBER. CONTRACTOR SHALL COORDINATE WITH LAKE COUNTY TRAFFIC OPERATIONS TO SET UP AN ACCOUNT FOR THE NEW POWER SOURCE.
- 665-1-11: FTP-68B-06 SIGNS ARE INCIDENTAL TO THIS PAY ITEM NUMBER.
- 670-5-110: THE CONCRETE GENERATOR PAD IS INCIDENTAL TO THIS PAY ITEM NUMBER.

REVISIONS

DATE DESCRIPTION DATE DESCRIPTION

DRMP, INC.

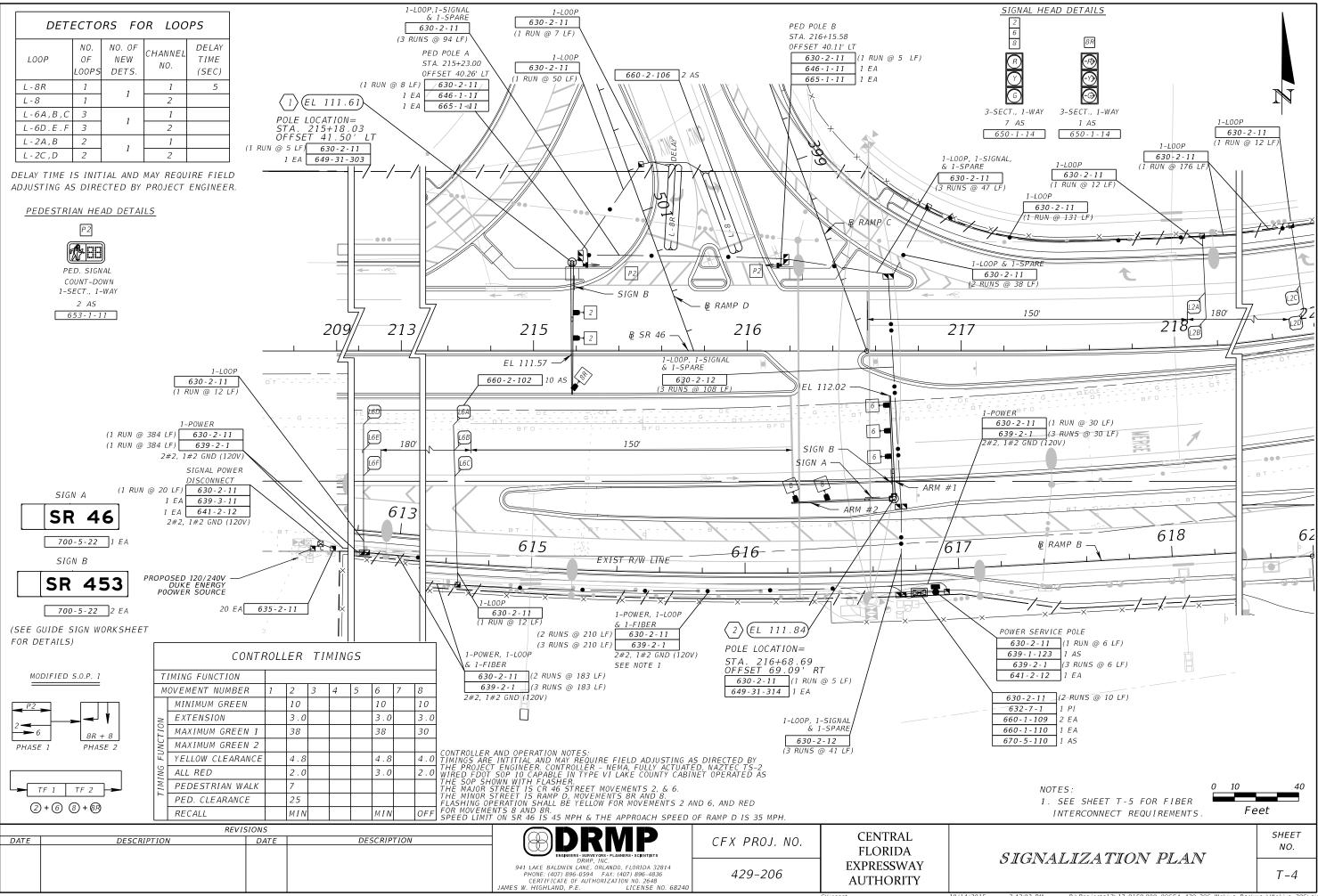
DRMP, INC.
941 LAKE BALDWIN LANE, ORLANDO, FLORIDA 32814
PHONE: (407) 896-0594 FAX: (407) 896-4836
CERTIFICATE OF AUTHORIZATION NO. 2648
JAMES W. HIGHLAND, P.E. LICENSE NO. 68240

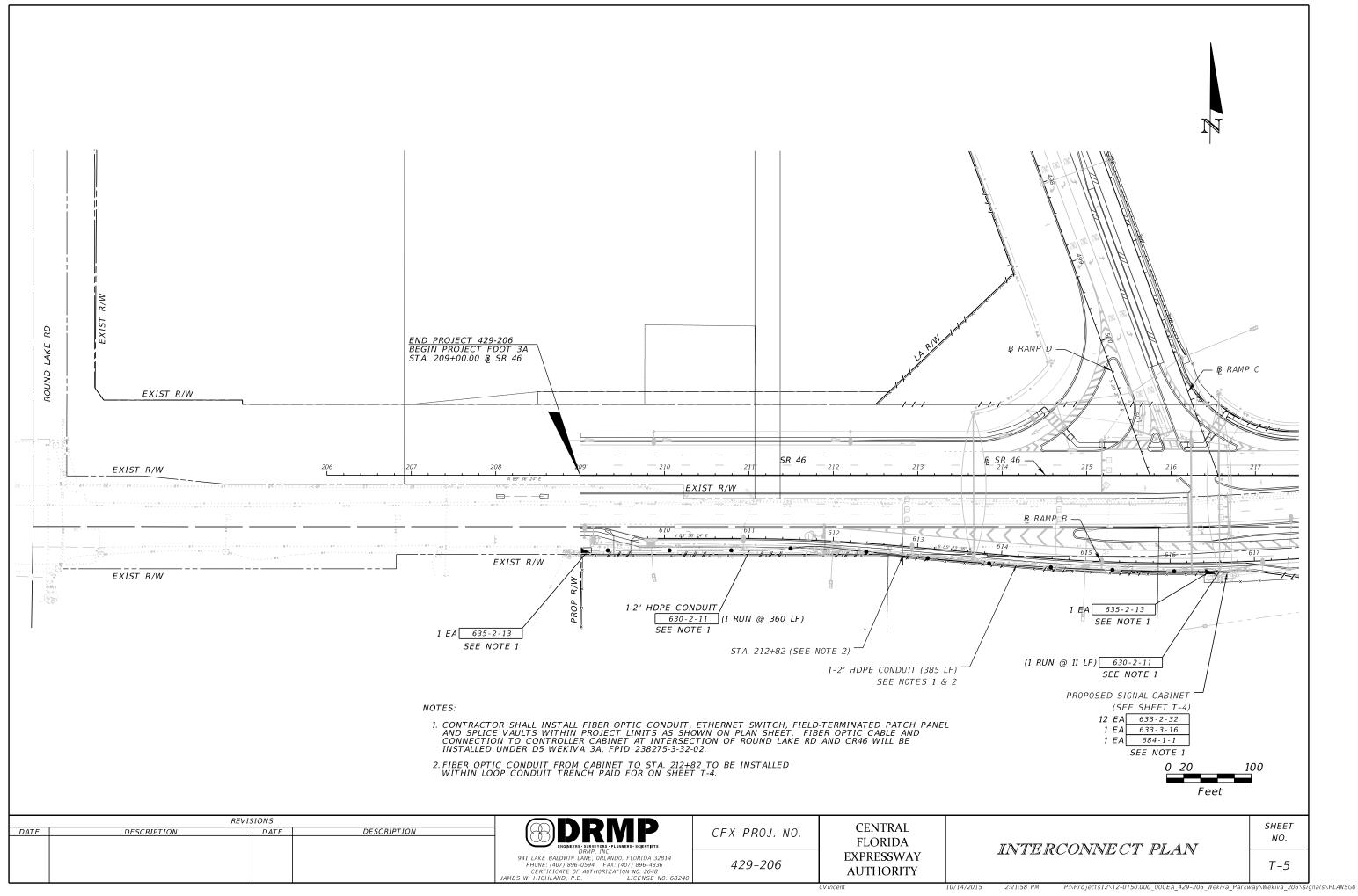
CFX PROJ. NO.

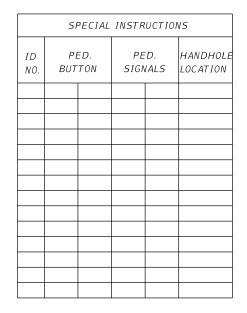
CENTRAL FLORIDA EXPRESSWAY AUTHORITY

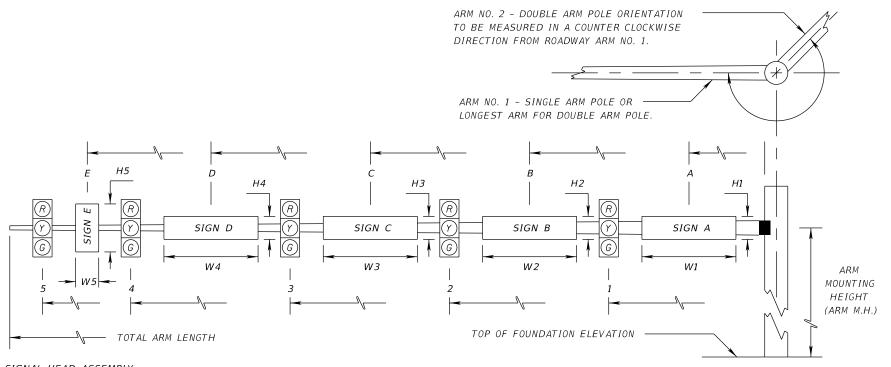
GENERAL NOTES

SHEET NO.









\* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

										SIGNA	L DA	TA															SI	GN D	ATA							
ID SHEET	LOCATION	TOP OF FOUNDATION ELEVATION	RDWY	CROWN	SIGNAL	BACK	PED.			D	ISTAN	CE FR	ОМ	POLE				TOTAL	ARM	∡ BETWEEN				DI	STANC	E FROI	M POLE	/ HEI	GHT A	ND WIE	TH OF	SIGN				
NO. NO.	BY STA.	ELEVATION	NO.	CROWN ELEV.	V/H	PLATES Y/N	SIGNAL Y/N	1	*	2	*	3	*	4	*	5	*	ARM LENGTH	М.Н.	∆ BETWEEN DUAL ARMS 90/270	Α	H1	W1	В	H2	W2	С	Н3	W3	D	H4	W4	Ε	H5 \		PAINT COLOR
1 T-4	215+18.03	111.61	1	111.57	V	Υ	N	21.9	3	33.9	3	58.0	3					60	20		8.0	2'	8.5'												G.	GALVANIZEL
			2																																	
2 T-4	216+68.69	111.84	1	112.02	V	Y	N	17.7	3	29.7	3	41.7	3					46	20	90	8.0	2'	8.5'												G,	GALVANIZE
			2	111.84	V	Y	N	28.9	3	43.5	3							46	20		8.0**	* 2'**	* 7.5'												G,	GALVANIZE
			1																																	
			2																																	
			1																																	
			2																																	
			1																																	
			2																				1							1				$\perp$		
			1																															<del>                                     </del>		
			2						$\perp$																									-	-	
			1																				+							-				-		
			2						$\vdash$																			+						-	+	
			2						+																			+						-	-+	
			1																						1									-		
			2						$\vdash$														+		-					1				<del>                                     </del>	+	
			1						+																			+							-+	
			2						$\vdash$				-												_				+					+-+	+	
			1						+																										-+	
			2						+																										+	
			1																																+	
			2						+																			+							+	
			1						+																			+							+	
			2						$\Box$																			+							+	
			1						+																			†								
			2		1																				<u> </u>				1						-	

\*\* STRUCTURAL DESIGN SHALL ACCOMODATE FUTURE 2'H X 12'W STREET NAME SIGN FUTURE SIGN WILL REPLACE CURRENT PROPOSED SIGN AND WILL BE LOCATED AT A=11'.

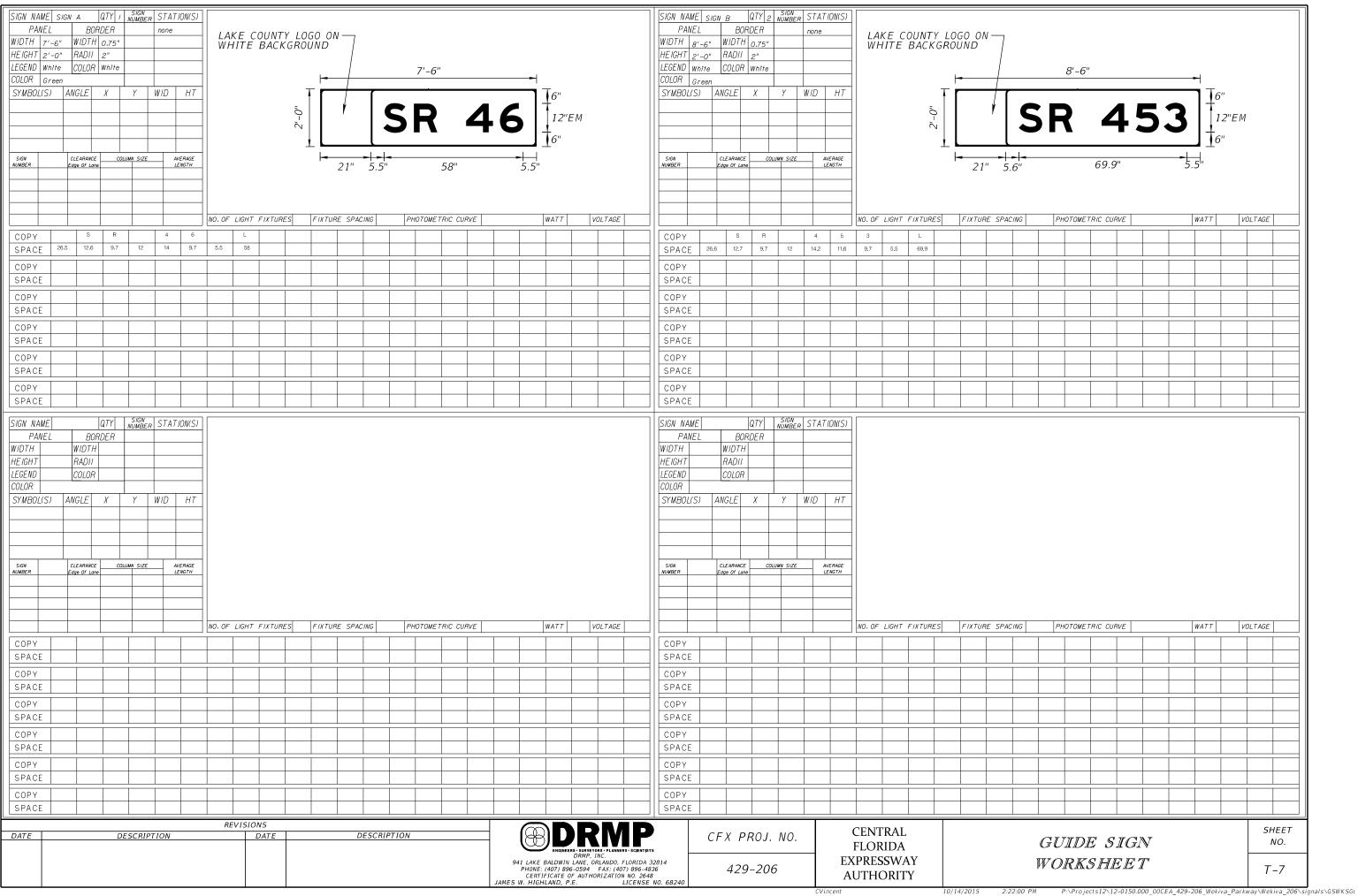
	REVIS	SIUNS		-
DATE	DESCRIPTION	DATE	DESCRIPTION	]
				7
		I	1	Ι.

<b>®DRMP</b>	
ENGINEERS · SURVEYORS · PLANNERS · SCIENTISTS	
DRMP, INC.	
941 LAKE BALDWIN LANE, ORLANDO, FLORIDA 32814	
PHONE: (407) 896-0594 FAX: (407) 896-4836	
CERTIFICATE OF AUTHORIZATION NO. 2648	
JAMES W. HIGHLAND, P.E. LICENSE NO. 6824	О

CFX PROJ. NO. 429-206

CENTRAL FLORIDA **EXPRESSWAY AUTHORITY** 

MASTARMTAB ULA TION SHEET NO. T-6



					S	TANDAR	D MAST	ARM A	ASSEMBL	IES DAT	TA TABL	Ε						Table Da	ate 01-01-12
STRUCTURE	ASSEMBLY (1)		FIRST ARM		S	ECOND ARI	М		l		PO	LE			SP	ECIAL DR	ILLED SHAF	T (4)	
ID NUMBERS	ASSEMBLY NUMBERS	ARM TYPE	FAA <sup>(2)</sup> (ft.)	FBA <sup>(2)</sup> (in.)	ARM TYPE	FAA <sup>(2)</sup> (ft.)	FBA <sup>(2)</sup> (in.)	UF (deg)	LL (deg)	POLE TYPE	UAA <sup>(3)</sup> (ft.)	UB (ft.)	UCA <sup>(3)</sup> (in.)	DA (ft.)	DB (ft.)	RA	RB	RC	RD (in.)
1	E5-T3	E 5								Т3	23	20	15.81	20	4.50	1 1	15	10	12
2	E4-E4-T3	E 4			E 4			90		Т3	23	20	15.81	20	4.50	11	15	10	12

# TABLE NOTES [Notes Date 07-01-14]:

1. Assembly Number Legend

Single Arm:

Arm Type - Pole Type 
$$= D\# - S\#$$
  
 $= E\# - T\#$ 

Double Arm:

First Arm Type - Second Arm Type - Pole Type  $= D\# - D\# - S\#$   
 $= E\# - E\# - T\#$ 

- 2. If an entry appears in columns "FAA" and "FBA", a shorter arm is required. This is obtained by removing length from the arm tip. For these cases the mast arm length shall be shortened from "FA" to "FAA" and the tip diameter shall be increased from "FB" to "FBA".
- 3. If an entry appears in columns "UAA" and "UCA", a shorter pole is required. This is obtained by removing length from the pole tip. For these cases the pole height shall be shortened from "UA" to "UAA" and the pole tip diameter shall be increased from "UC" to "UCA".
- 4. The foundations for Standard Mast Arm Assemblies are pre-designed and are based upon the following conservative soil criteria which covers the great majority of soil types found in Florida. Only complete the "Special Drilled Shaft" data information if site conditions dictate drilled shafts with additional foundation capacity.

Classification = Cohesionless (Fine Sand) Friction Angle = 30 Degrees (30°)

Unit Weight = 50 lbs. / cu. ft. (assumed saturated)

N-blowcount = 15

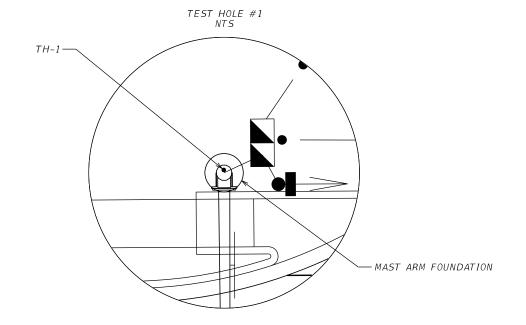
# GENERAL NOTES:

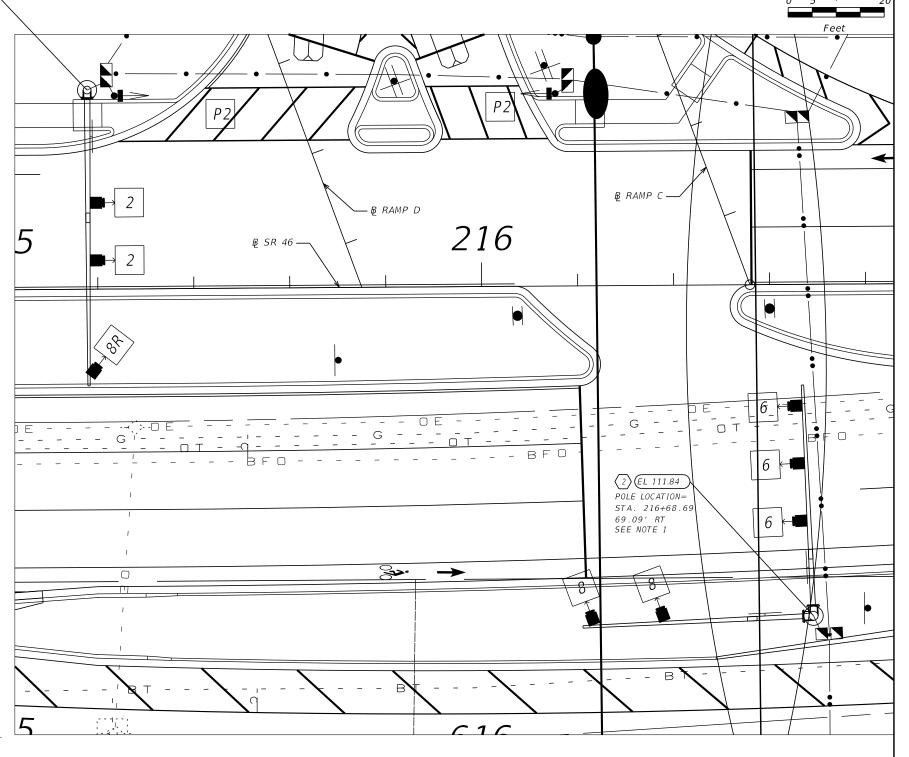
- 1. Work this sheet with the Signal Designer's "Mast Arm Tabulation". See "Mast Arm Tabulation" for special instructions that include non-standard Handhole location, paint color, terminal compartment requirement, and pedestrian features.
- 2. Work with Index Nos. 17743 and 17745.

	REN	/ISIONS		AVCON, INC.		CENTEDAL		SHEET
DATE	DESCRIPTION	DATE	DESCRIPTION	ENGINEERS & PLANNERS 5555 EAST MICHIGAN STREET, SUITE 200	CFX PROJ. NO.	CENTRAL Florida	STANDARD MAST ARM	NO.
				ORLANDO, FL 32822-2779 OFFICE: (407) 599-1122 CORPORATE CERTIFICATE OF AUTHORIZATION No: 5057 EOR: Luca DelVerme P.E. 63055	429-206	EXPRESSWAY AUTHORITY	ASSEMBLIES DATA TABLE	T-8

1) (EL 111.61 POLE LOCATION STA. 215+18.03 41.50' LT

TEST	UTILITY	6175	44.47.5.04.44	B A	AND/OR Q		UTILITY	COMMENTS
HOLE NO.	DESCRIPTION (TYPE, OWNER)	SIZE	MATERIAL	STATION	OFFSET	LT/RT	DEDTII	COMMENTS
TH-1	N/A	N/A	N/A	215+18	41.50'	LT	N/A	CLEAR





NOTES: 1. PROPOSED MAST ARM IS LOCATED WITHIN THE EXISTING SR 46 ROADWAY. FOUNDATION HAS BEEN ASSUMED CLEAR OF UTILITY CONFLICTS BASED ON PROVIDED UTILITY MARKOUTS AND FIELD VERIFICATIONS. NO TEST HOLE WAS PERFORMED.

REVISIONS  DATE DESCRIPTION DESCRIPTION  DESCRIPTION  CFX PROJ. NO.	CENTRAL FLORIDA		SHEET NO.
DRMP, INC.  941 LAKE BALDWIN LANE, ORLANDO, FLORIDA 32814 PHONE: (407) 896-0594 FAX: (407) 896-4836 CERTIFICATE OF AUTHORIZATION NO. 2448  JAMES W. HIGHAND, P.E. LICENSE NO. 68240	EXPRESSWAY AUTHORITY	UTILITY LOCATION PLAN	T-9

# **LEGEND** SAND CHANGE IN SOIL STRATA SPT N-VALUE IN BLOWS PER FOOT (ASTM D 1586) SAND 50/4" SAMPLER REQUIRED 50 BLOWS TO ADVANCE 4 INCHES SANDY SILT UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL CLAYEY SAND BASED ON VISUAL EXAMINATION AND LABORATORY TESTING (10-06-14) T GROUNDWATER LEVEL ENCOUNTERED DURING DRILLING GNE GROUNDWATER NOT ENCOUNTERED DURING DRILLING -200 PERCENT PASSING U.S. STANDARD NO. 200 SIEVE NATURAL MOISTURE CONTENT IN PERCENT

LIQUID LIMIT PLASTICITY INDEX

DESCRIPTION

DATE

# NOTES

- 1. BORING STATION AND OFFSET ARE APPROXIMATE AND ARE PROVIDED FOR REFERENCE PURPOSES ONLY.
- 2. BORINGS WERE DRILLED BY RELIABLE FIELD SERVICES, INC. ON 08/24/14 AND 10/06/14 USING A BR2500 RIG. SPT WAS CONDUCTED WITH A MANUAL HAMMER.

# SOIL CONSISTENCY

(BASED ON EMPIRICAL CORRELATION WITH SPT N-VALUE)

#### GRANULAR SOILS

VERY LOOSE - LESS THAN 4 BLOWS/FT.

LOOSE - 4 TO 10 BLOWS/FT. MEDIUM DENSE - 10 TO 30 BLOWS/FT.

DENSE - 30 TO 50 BLOWS/FT.

VERY DENSE - MORE THAN 50 BLOWS/FT.

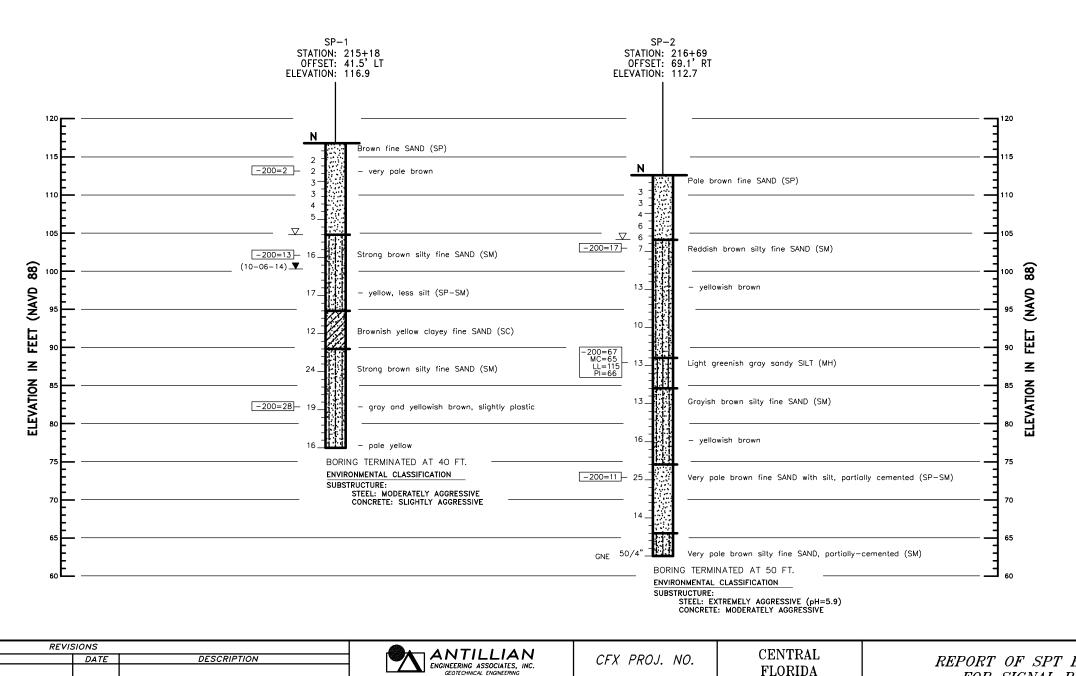
# FINE-GRAINED SOILS

VERY SOFT - LESS THAN 2 BLOWS/FT.

SOFT - 2 TO 4 BLOWS/FT. FIRM - 4 TO 8 BLOWS/FT.

STIFF - 8 TO 15 BLOWS/FT.

VERY STIFF - 15 TO 30 BLOWS/FT. HARD - MORE THAN 30 BLOWS/FT.



3331 BARTLETT BOULEVARD, ORLANDO, FLORIDA 32811

PHONE: (407) 422-1441 FAX: (407) 422-2226 CERTIFICATE OF AUTHORIZATION EB6685

FLORIDA REG. NO. 46910

PETER G. SUAH, P.E.

REPORT OF SPT BORINGS FOR SIGNAL POLES

GT-1

FLORIDA

**EXPRESSWAY** 

**AUTHORITY** 

429-206