

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

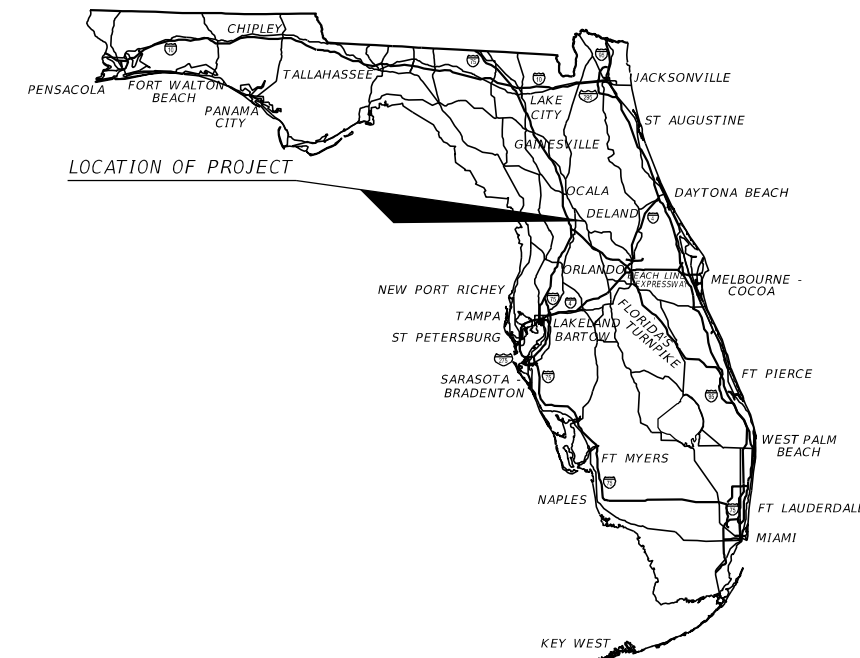
FINANCIAL PROJECT ID 238275-2-52-01

LAKE COUNTY (11130)

STATE ROAD NO. 46

SIGNALIZATION PLANS

THIS PROJECT TO BE LET TO CONTRACT
WITH FINANCIAL PROJECT ID 238275-3-52-01



INDEX OF SIGNALIZATION PLANS

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T-10	STANDARD MAST ARM ASSEMBLIES DATA TABLE
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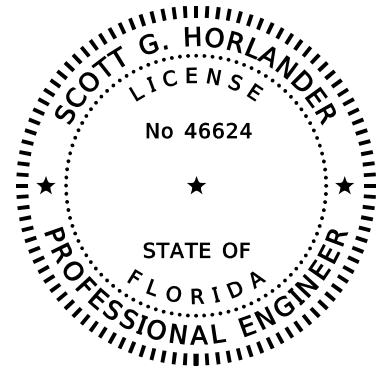
**SIGNALIZATION PLANS
ENGINEER OF RECORD:**

SCOTT G. HORLANDER, P.E.
P.E. NO. 46624
PROTEAN DESIGN GROUP
100 EAST PINE STREET, SUITE 600
ORLANDO, FLORIDA 32801
CONTRACT NO.: C9862
VENDOR ID.: F59-3473441
CERTIFICATE OF AUTHORIZATION NO.: 7865

FDOT PROJECT MANAGER:

CATALINA CHACON, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T5589	17	T-1



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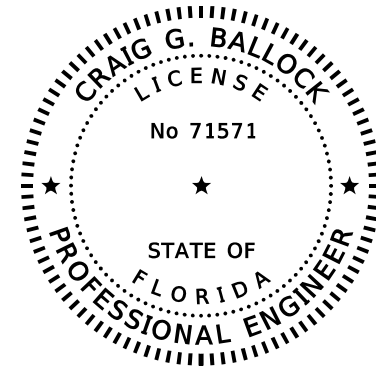
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PROTEAN DESIGN GROUP
100 EAST PINE STREET, SUITE 600
ORLANDO, FLORIDA 32801
CERTIFICATE OF AUTHORIZATION NUMBER 7865
SCOTT G. HORLANDER, P.E. NO. 46624

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SIGNALS PLANS

SHEET NO.	DESCRIPTION
T-1	KEY SHEET
T-2	SIGNATURE SHEET
T-3	TABULATION OF QUANTITIES
T-4 - T-5	GENERAL NOTES
T-6 - T-7	SIGNALIZATION PLAN
T-8	GUIDE SIGN WORKSHEET
T-9	MAST ARM TABULATION
T-12	TRAFFIC MONITORING SITE



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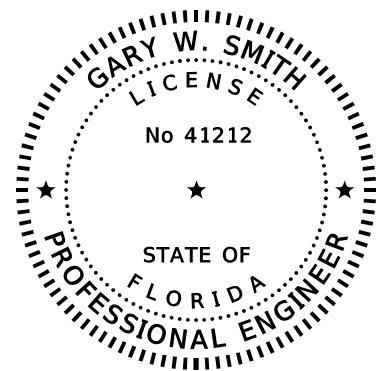
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GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC. (GEC)
919 LAKE BALDWIN LANE
ORLANDO, FLORIDA 32814
CERTIFICATE OF AUTHORIZATION NUMBER 5882
CRAIG G. BALLOCK, P.E. NO. 71571

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SIGNALS PLANS

SHEET NO.	DESCRIPTION
T-2	SIGNATURE SHEET
T-11	REPORT OF SPT BORINGS RESULTS FOR MASP



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

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MOFFATT & NICHOL
1025 GREENWOOD BLVD., STE 371
LAKE MARY, FLORIDA 32746
CERTIFICATE OF AUTHORIZATION NUMBER 4877
GARY SMITH, P.E. NO. 41212

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SIGNALS PLANS

SHEET NO.	DESCRIPTION
T-2	SIGNATURE SHEET
T-10	STANDARD MAST ARM ASSEMBLIES DATA TABLE

REVISIONS				SCOTT G. HORLANDER, P.E. P.E. NO. 46624 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO FLORIDA 32801 CERTIFICATE OF AUTHORIZATION NUMBER 7865	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNATURE SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		T-2

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			T-6		T-7		T-12																				
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL					
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	675				270															945		945			
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	132				66															198		198			
630-2-15	CONDUIT, F&I, BRIDGE MOUNT	LF	717																			717		717			
632-7-1	SIGNAL CABLE, F&I	PI	1																			1		1			
635-2-11	PULL & SPLICE BOX, F&I, 13"X24"	EA	15				3															18		18			
639-1-121	ELEC. POWER SERVICE, F&I, UG, METER	AS	1																			1		1			
FURNISHED BY POWER COMPANY																											
639-2-1	ELEC. SERVICE WIRE	LF	106																			106		106			
641-2-11	PRESTRESSED CONC POLE, F&I, P-11 PEDESTAL	EA	1																			1		1			
646-1-11	ALUMINUM SIGNALS POLE, F&I, PEDESTAL	EA	8																			8		8			
649-31-302	STEEL MAST ARM ASSEMBLY, F&I, 110 W/ BACKPLATES, 46'	EA	1																			1		1			
649-31-304	STEEL MAST ARM ASSEMBLY, F&I, 110 W/ BACKPLATES, 70.5'	EA	1																			1		1			
650-1-14	TRAFFIC SIGNAL, F&I, ALUMINUM, 3 SECTION, 1 WAY	AS			15																	15		15			
650-1-16	TRAFFIC SIGNAL, F&I, ALUMINUM, 4 SECTION, 1 WAY	AS			4																	4		4			
653-1-11	PEDESTRIAN SIGNAL, F&I, LED-COUNTDOWN, 1 WAY	AS			8																	8		8			
660-4-11	VEHICLE DET. SYS., VIDEO, F&I, CABINET EQUIPMENT	EA	1																			1		1			
660-4-12	VEHICLE DET. SYS., VIDEO, F&I, ABOVE GROUND EQUIPMENT	EA	6																			6		6			
663-1-110	SIGNAL PRE-EMPTION, F&I, OPTICAL, COMPLETE SYSTEM	AS	1																			1		1			
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	8																			8		8			
670-5-111	TRAFFIC CONTRL. ASSEMBLY, F&I, NEMA, 1 PRE-EMPTION	AS	1																			1		1			
685-1-13	UNINTERRUPRTIBLE POWER SUPPLY, F&I, LINE INTERACTIVE W/ CABINET	EA	1																			1		1			
695-1-1	TMS VEHICLE SENSOR-NON-WEIGHT, F&I	EA					6															6		6			
695-6-12	TMS INDUCTIVE LOOP ASSEMBLY, F&I, 2 LOOPS	AS					6															6		6			
695-7-132	TMS CABINET, F&I, TYPE III, PEDESTAL	EA					1															1		1			
700-5-22	INTERNALLY ILLUMINATED SIGN, F&I, 12-18 SF	EA			6																	6		6			

PAY ITEM NOTES

1. PAY ITEM NUMBER 102-14 (IN ROADWAY PLANS) INCLUDES PROVIDING A TRAFFIC CONTROL OFFICER FOR TRAFFIC CONTROL WHEN SIGNALS ARE NOT IN USE.
2. PAY ITEM NUMBER 639-1-121 TO INCLUDE ALL FEES BY THE POWER COMPANY FOR ENERGIZING THE POWER SERVICE. THE CONTRACTOR SHALL VERIFY THE POWER SERVICE REQUIREMENTS (CITY OF MOUNT DORA, ELECTRIC) PRIOR TO BIDDING THE PROJECT.
3. PAY ITEM NUNBER 646-1-11 SHALL INCLUDE A SLIP BASE.
4. PAY ITEM NUMBER 665-1-11 SHALL INCLUDE FTP-68B-06.
5. PAY ITEM NUMBERS 660-4-12, 700-5-22, 650-1-14 AND 650-1-16 SHALL INCLUDE ALL NECESSARY HARDWARE REQUIRED FOR PROPER MOUNTING.

REVISIONS				SCOTT G. HORLANDER, P.E. P.E. NO. 46624 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO FLORIDA 32801 CERTIFICATE OF AUTHORIZATION NUMBER 7865	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TABULATION OF QUANTITIES	SHEET NO. T-3
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

GENERAL NOTES

1. CONTRACTOR IS TO NOTIFY LAKE COUNTY TRAFFIC OPERATIONS (352-742-1766) TWO BUSINESS DAYS PRIOR TO BEGINNING ANY CONSTRUCTION. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH LAKE COUNTY TRAFFIC OPERATIONS PRIOR TO ANY CONSTRUCTION.
2. THE CONTRACTOR SHALL CONTACT DISTRICT FIVE MAINTENANCE OFFICE AT (386) 740-3463 FOUR WEEKS PRIOR TO COMPLETION OF THE PROJECT TO REQUEST A STRUCTURE NUMBER AND SCHEDULE A POST CONSTRUCTION INSPECTION OF THE MAST ARMS.
3. THE CONTRACTOR SHALL FURNISH LAKE COUNTY TRAFFIC OPERATIONS WITH EMERGENCY CONTACTS WITH PHONE NUMBERS.
4. 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.
5. UNLESS OTHERWISE NOTED ALL REMOVED EQUIPMENT SHALL BE TURNED OVER TO LAKE COUNTY TRAFFIC OPERATIONS AT 28127 C.R. 561, TAVARES, FL 32778 AS DIRECTED BY THE ENGINEER, EXCEPT CONCRETE POLES, WHICH SHALL BE DISPOSED OF BY THE CONTRACTOR. CONTRACTOR IS TO NOTIFY LAKE COUNTY TRAFFIC OPERATIONS DENIS DIETZ, (352-742-1766) TWO BUSINESS DAYS PRIOR TO BEGINNING ANY CONSTRUCTION. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH LAKE COUNTY TRAFFIC OPERATIONS PRIOR TO ANY CONSTRUCTION.
6. THE CONTRACTOR SHALL VERIFY COLOR CODES FOR BOTH SIGNAL CABLE AND INTERCONNECT CABLE WITH LAKE COUNTY BEFORE ORDERING.
7. THE CONTRACTOR SHALL STAKE ALL POLE LOCATIONS AND HAVE IT APPROVED BY LAKE COUNTY TRAFFIC OPERATIONS PRIOR TO POLE INSTALLATION.
8. THE LOCATION OF KNOWN UTILITIES SHOWN IN THE PLANS IS APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, AND LOCATING ALL EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION.

UTILITY/AGENCY OWNERS:	COMPANY CONTACT:	TELEPHONE NUMBER:
CENTURYLINK	WADE RICH	(407) 881-8383
CITY OF MOUNT DORA - WATER/SEWER	JOHN PETERS	(352) 735-7151
CITY OF MOUNT DORA - ELECTRIC	CHARLES REVELL	(352) 735-7155
CITY OF LEESBURG - FIBER OPTIC	JIMMY FEAGLE	(352) 435-9440
COMCAST COMMUNICATIONS	SCOTT OSEBOLD	(352) 315-8527
DUKE ENERGY - DISTRIBUTION	MIKE EDKIN	(407) 942-9553
DUKE ENERGY - TRANSMISSION	ED BURKOT	(407) 942-9453
TECO/PEOPLES GAS	BRUCE STOUT	(407) 420-2678

CONTROLLER

1. A MANUAL PUSH-BUTTON CORD SHALL BE FURNISHED IN ALL CONTROLLER CABINETS.
2. THE CONTROLLER CABINET SHALL BE ORIENTED SO THAT THE DOOR OPENS AWAY FROM THE INTERSECTION.
3. A GENERATOR PAD, 3' X 3' X 4" CONCRETE SHALL BE INSTALLED WITH 5/8" EYEBOLT INSTALLED IN THE PAD ADJACENT TO THE CABINET BASE. COST OF CONCRETE PAD TO BE INCLUDED WITH PAY ITEM 670-5-111
4. THE MOUNTING OF ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL CABINET SHALL BE PROHIBITED.
5. THE CONTRACTOR SHALL CONTACT LAKE COUNTY TRAFFIC OPERATIONS AT (352) 741-1766 FOR INFORMATION ON LAKE COUNTY'S PREFERRED SIGNAL EQUIPMENT FOR SIGNAL SYSTEM SYNCHRONIZATION, COMMUNICATION AND MAINTENANCE PRIOR TO BIDDING THE PLANS.
6. THE CONTROLLER ASSEMBLY SHALL BE A "LAKE COUNTY" NAZTEC REGIONAL TS2-1; WITH A TS2-2 CONTROLLER ETHERNET ENABLED AND WITH ETHERNET SWITCH BYPASS CAPABILITIES FOR COUNTY CLOSED LOOP SYSTEM, TO INCLUDE A GENERATOR SWITCH BOX PANEL. TYPE 6 CABINET.
7. UNINTERRUPTABLE POWER SUPPLY (UPS) SHALL BE STAND ALONE WITHIN ITS OWN CABINET, INSTALLED ON A CONCRETE PAD ADJACENT TO THE CABINET BASE. THE UNINTERRUPTABLE POWER SUPPLY SHALL BE ON THE FDOT APPROVED PRODUCT LIST (APL).
8. THE CABINET CONCRETE BASE SHALL BE A MINIMUM OF 32' x 48' TO ACCOMMODATE TYPE 6 CABINETS.
9. GROUNDING FOR THE CONTROLLER ASSEMBLY SHALL MEASURE 25 OHMS, OR LESS.
10. THE INSIDE LANE DISCONNECT SHALL BE WIRED FOR FUTURE 5 SECTION HEADS.

PED. FEATURES

1. PEDESTRIAN SIGNAL ASSEMBLIES SHALL BE CAST ALUMINUM WITH FULL HAND/PERSON LED'S WITH COUNT DOWN INDICATION
2. 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.
3. THREE (3) SPARE CONDUCTORS ARE TO BE RUN TO THE FARTHEST PEDESTRIAN SIGNAL HEAD.

SIGNAL CABLE, LOOPS, CONDUIT & PULL BOXES

1. TYPE 'F' LOOPS SHALL BE 40-FOOT X 6-FOOT AND EXTEND 5 FEET BEYOND THE STOP BAR.
2. DELAY TIMES FOR LOOPS MARKED "DELAY" SHALL BE SET TO 5 SECONDS. ALL OTHERS SHALL BE SET TO ZERO.
3. PULL BOXES AND COVERS SHALL BE NON-METALLIC CONSTRUCTION WITH RECESSED COVER LOGO "TRAFFIC SIGNAL" OR "FIBER OPTIC" AS APPROPRIATE.
4. THE FAR ADVANCE TYPE "B" LOOPS ARE TO BE WIRED TO THE SYSTEM PANEL AND SHALL FUNCTION AS BOTH SYSTEM LOOPS AND ADVANCED LOOPS. ADDITIONALLY, EACH "B" LOOP SHALL HAVE SEPARATE DETECTOR CHANNEL.
5. WHENEVER POSSIBLE, ALL LOOPS AND SYSTEM SENSORS SHALL BE CUT INTO THE ASPHALTIC CONCRETE STRUCTURAL COURSE PRIOR TO PLACEMENT OF THE FRICTION COURSE. ALL LOOP LEAD-IN CABLES SHALL BE PLACED IN CONDUIT.
6. LOOP HOME RUNS SHALL NOT BE CUT INTO THE RADIUS.
7. IF LOOPS ARE TO BE DESTROYED DURING CONSTRUCTION THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY VEHICLE DETECTION.

SIGNAL HEADS

1. SIGNAL HEADS SHALL BE WIRED DIRECTLY TO THE TERMINAL BLOCK. THE USE OF "JONES" PLUGS PROHIBITED.
2. DISCONNECTS SHALL OPEN FROM THE SIGNAL FACE. (NOT FROM THE REAR)
3. VEHICLE SIGNAL HEAD ASSEMBLES SHALL BE BLACK, CAST ALUMINUM, WITH TUNNEL VISORS, AND LED'S FOR ALL INDICATIONS, UNLESS OTHERWISE NOTED.

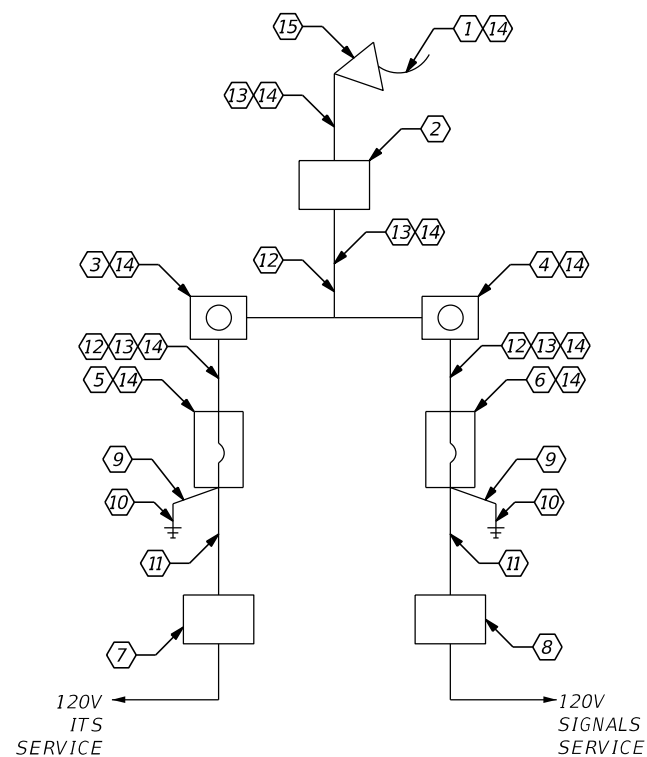
INTERNALLY ILLUMINATED STREET NAME SIGNS

1. INTERNALLY ILLUMINATED STREET NAME SIGNS 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 PHOTOCCELL SHALL BE INSTALLED NEAR THE ELECTRICAL SERVICE WITHIN REACH OF A LIFT TRUCK. CARE TO BE GIVEN TO INSTALL WHERE STREET LIGHTING DOES NOT AFFECT SIGN OPERATION.

REVISIONS				SCOTT G. HORLANDER, P.E. P.E. NO. 46624 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO FLORIDA 32801 CERTIFICATE OF AUTHORIZATION NUMBER 7865	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. T-4
DATE	DESCRIPTION	DATE	ROAD NO.		COUNTY	FINANCIAL PROJECT ID		
			SR 46		LAKE	238275-2-52-01	GENERAL NOTES (1)	

LEGEND:

- PROPOSED POWER SOURCE & CONC. PEDESTAL
 - CONTROLLER CABINET
 - CONDUIT (OPEN TRENCH)
 - CONDUIT (DIRECTIONAL BORE)
 - CONDUIT (BRIDGE MOUNT)
 - ▣ PULL BOX (SIGNALS, VIDEO, POWER)
 - PULL BOX (COMMUNICATIONS)
 - ▨ DZ# VIDEO DETECTION ZONE
 - ◀ VEHICLE DETECTION CAMERA
 - TRAFFIC SIGNAL
- PEDESTAL MOUNTED PED. SIGNAL, DETECTOR & SIGN
- ORIENTATION OF PED. DETECTOR
- ORIENTATION OF PED. SIGNAL



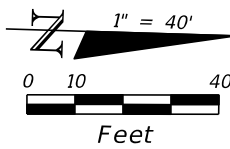
**ONE LINE DIAGRAM
SEE INDEX 17736 FOR
ADDITIONAL DETAILS**

KEY NOTES:

- ① 120/240V, SINGLE PHASE, 3 WIRE ELECTRIC DISTRIBUTION OVERHEAD SERVICE DROP.
- ② ELECTRICAL SERVICE POINT. PULL BOX BY CONTRACTOR.
- ③ ITS METER SOCKET.
- ④ SIGNALS METER SOCKET.
- ⑤ ITS SERVICE MAIN DISCONNECT.
- ⑥ SIGNALS SERVICE MAIN DISCONNECT.
- ⑦ ITS PULL BOX.
- ⑧ SIGNALS PULL BOX.
- ⑨ #6 AWG INSULATED COPPER GROUND WIRE IN 1/2" RGS CONDUIT.
- ⑩ GROUNDING ELECTRODE.
- ⑪ UNDERGROUND FEEDER CONDUIT.
- ⑫ CONCRETE POLE.
- ⑬ SERVICE FEEDER IN RGS CONDUIT.
- ⑭ MOUNT ON RISER POLE.
- ⑮ WEATHERHEAD.

REVISIONS				SCOTT G. HORLANDER, P.E. P.E. NO. 46624 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO FLORIDA 32801 CERTIFICATE OF AUTHORIZATION NUMBER 7865	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			GENERAL NOTES (2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		T-5
						SR 46	LAKE		238275-2-52-01

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CITY OF MT. DORA
ELEC. SERVICE POINT**

630-2-11	(CR3 @ 96 LF)
639-1-121	1 AS
639-2-1	96 LF
641-2-11	1 EA

PEDESTAL B
STA. 443+02.07, 92.04' LT

630-2-11	(CR1 @ 12 LF)
646-1-11	1 EA
665-1-11	1 EA

PEDESTAL A
STA. 442+96.09, 84.34' LT

630-2-11	(CR1 @ 19 LF)
646-1-11	1 EA
665-1-11	1 EA

PEDESTAL C
STA. 444+22.66, 86.39' LT

630-2-11	(CR1 @ 24 LF)
646-1-11	1 EA
665-1-11	1 EA

630-2-11	(CR3 @ 10 LF)
639-2-1	10 LF

630-2-11	(5 RUNS @ 10 LF)
632-7-1	1 PI
660-4-11	1 EA
663-1-110	1 AS
670-5-111	1 AS
685-1-13	1 EA

PEDESTAL D
STA. 444+45.75, 66.00' LT

630-2-11	(CR1 @ 7 LF)
646-1-11	1 EA
665-1-11	1 EA

POLE 1
STA. 442+80.00, 74.13' LT
EL. 139.51

630-2-11	(CR6 @ 9 LF)
649-31-304	1 EA

630-2-11	(CR2 @ 149 LF)
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630-2-15	(CR7 @ 65 LF*)
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630-2-15	(CR4 @ 652 LF)
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630-2-11	(CR5 @ 128 LF)
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PEDESTAL H
STA. 442+96.09, 70.59' RT

630-2-11	(CR1 @ 20 LF)
646-1-11	1 EA
665-1-11	1 EA

630-2-11	(CR1 @ 37 LF)
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PEDESTAL G
STA. 443+11.99, 84.55' RT

630-2-11	(CR1 @ 3 LF)
646-1-11	1 EA
665-1-11	1 EA

PEDESTAL E
STA. 444+50.75, 58.50' RT

630-2-11	(CR1 @ 5 LF)
646-1-11	1 EA
665-1-11	1 EA

POLE 2
STA. 444+40.00, 52.20' RT
EL. 137.26

630-2-11	(CR6 @ 13 LF)
649-31-302	1 EA

PEDESTAL F
STA. 444+26.15, 90.13' RT

630-2-11	(CR1 @ 36 LF)
646-1-11	1 EA
665-1-11	1 EA

NOTES:

ALL CALLOUTS ARE BASED ON THE CONST. SR 500 UNLESS OTHERWISE NOTED.

*ROUTE BRIDGE MOUNTED CONDUIT UP PIER 2 INTO PIER DIAPHRAGM FOR BRIDGE MOUNTED SIGNALS, VIDEO DETECTION CAMERAS AND SIGNS. SEE STRUCTURAL PLANS FOR MOUNTING DETAILS.

**CITY OF MT DORA WILL INSTALL CONDUIT & CONDUCTORS FROM SERVICE POLE, THRU SWEEP INTO THE PULL BOX AND MAKE FINAL CONNECTIONS. PULL BOX TO BE INSTALLED BY SIGNAL CONTRACTOR.

REVISIONS				SCOTT G. HORLANDER, P.E. P.E. NO. 46624 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO FLORIDA 32801 CERTIFICATE OF AUTHORIZATION NUMBER 7865	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION PLAN SR 500 & SR 46	SHEET NO. T-6
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

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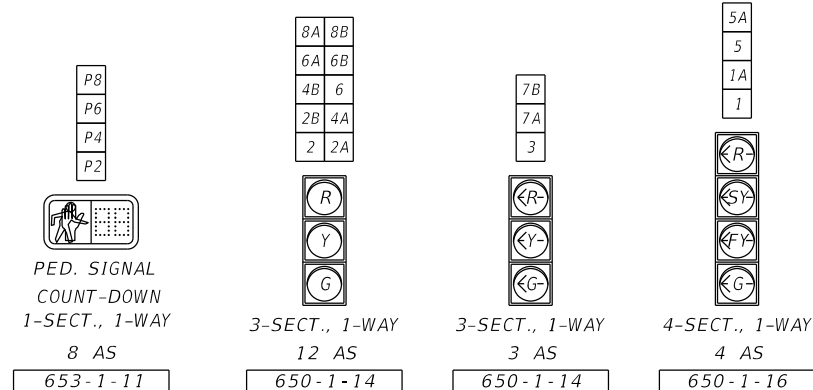


TABLE 1: TRAFFIC SIGNAL HEAD MOUNTING LOCATION

TRAFFIC SIGNAL HEAD	STATION*	OFFSET*
1A	217+53.2	6.8' RT
2A	216+54.1	31.8' LT
2B	216+73.6	31.8' LT
3	216+60.6	6.8' RT
4A	216+47.2	31.8' LT
4B	216+62.6	31.8' LT
5A	216+91.9	31.8' LT
6A	217+67.9	6.8' RT
6B	217+82.6	6.8' RT
7A	216+78.4	31.8' LT
7B	216+94.7	31.8' LT
8A	216+76.6	6.8' RT
8B	216+93.3	6.8' RT

*BASED ON CONST. RAMP XX

TABLE 2: VIDEO DETECTOR CHART

VIDEO DETECTOR CAMERA	STATION*	OFFSET*	DETECTION ZONE	DELAY TIME (SEC)
V1	216+93.3	31.8' LT	DZ 5	-
V2	216+58.3	31.8' LT	DZ 2	-
V3	216+76.0	31.8' LT	DZ 4 & 7	-
V4	217+48.9	6.8' RT	DZ 1	-
V5	217+75.2	6.8' RT	DZ 6	-
V6	216+84.9	6.8' RT	DZ 3 & 8	-
			DZ 8R	5

*BASED ON CONST. RAMP XX
DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY PROJECT ENGINEER.

TABLE 3: INTERNALLY ILLUMINATED STREET NAME SIGN MOUNTING LOCATION

STREET NAME SIGN	STATION*	OFFSET*
A1	217+14.6	9.5' RT
A2	216+36.1	34.3' LT
B1	216+18.9	34.5' LT
B2	218+06.1	9.2' RT

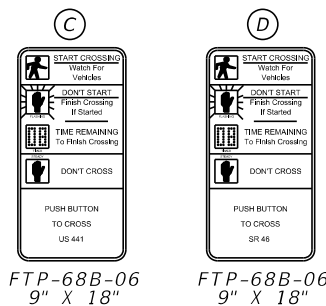
*BASED ON CONST. RAMP XX

NOTES:

- THE MAJOR STREET IS SR 500, MOVEMENTS 2 AND 6. THE MINOR STREET IS SR 46, MOVEMENTS 4 AND 8.
- THE DIMENSIONS FOR THE VIDEO DETECTION ZONES ARE AS FOLLOWS:
DETECTION ZONES 1, 3, 5 & 8R = 6' x 40'
DETECTION ZONES 2 & 6 = 30' x 360'
DETECTION ZONES 4, 7 & 8 = 18' x 40'
- TRAFFIC SIGNAL HEADS (650-1-AB) & VEHICLE VIDEO DETECTION CAMERAS (660-4-12) SHALL BE MOUNTED TO THE BOX GIRDER WEBS, INTERNALLY ILLUMINATED STREET NAME SIGNS (700-5-22) SHALL BE MOUNTED TO BRIDGE UNDERDECK. SEE STRUCTURAL PLANS FOR MOUNTING DETAILS AND TABLES 1, 2 & 3 (THIS SHEET) FOR MOUNTING LOCATIONS.

LEGEND:

- DZ = VIDEO DETECTION ZONE
CR = CONDUIT RUN
CR1: 1 RUN W/
(1) 2" CONDUIT - SIGNALS
CR2: 2 RUNS W/
(1) 2" CONDUIT - SIGNALS
(1) 2" CONDUIT - SPARE
CR3: 1 RUN W/
(1) 2" CONDUIT - POWER CONDUCTORS
CR4: 2 RUNS W/
(1) 2" CONDUIT - SIGNALS
(1) 2" CONDUIT - VIDEO DETECTION
- CR5: 2 RUNS W/
(1) 2" CONDUIT - SIGNALS & SIGN
(1) 2" CONDUIT - SPARE
CR6: 1 RUN W/
(1) 2" CONDUIT - SIGNALS & SIGN
CR7: 3 RUNS W/
(1) 2" CONDUIT - SIGNALS
(1) 2" CONDUIT - SIGN
(1) 2" CONDUIT - VIDEO DETECTION



INTERNALLY ILLUMINATED STREET NAME SIGNS
SEE GUIDE SIGN WORK SHEET FOR DETAILS

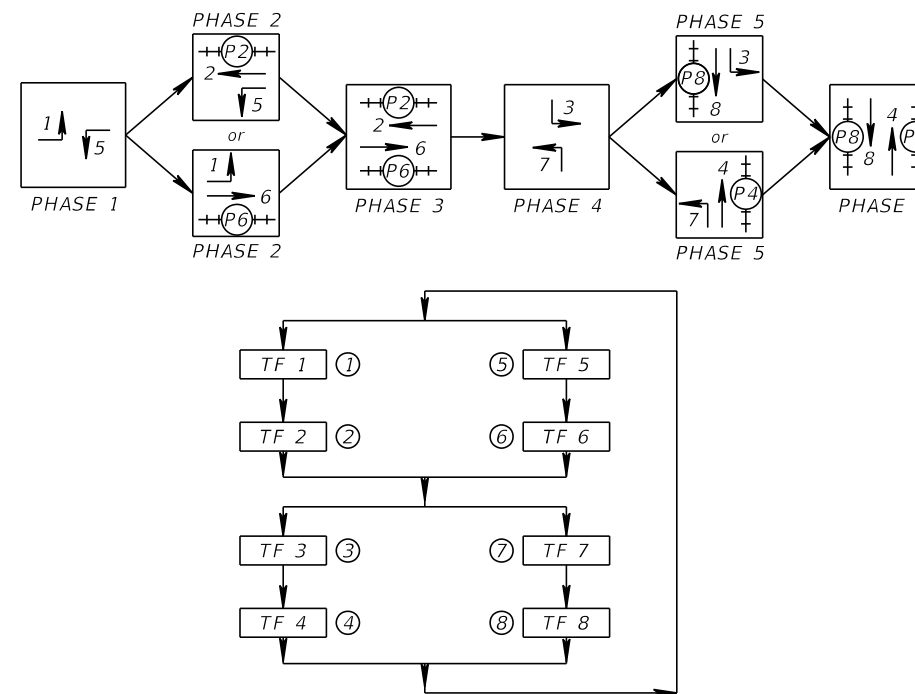


INTERNALLY ILLUMINATED STREET NAME SIGN NOTES:

- SIGN "B" ON MAST ARM POLES 1 AND 2 SHALL BE DOUBLE SIDED.
- ALL SIGNS SHALL BE MOUNTED SUCH THAT THEY ARE NORMAL TO THE APPROACHING TRAFFIC.
- WIRING FOR THE SIGNS MOUNTED TO THE BRIDGE UNDERDECK SHALL BE ROUTED THROUGH THE BRIDGE BARRIER WALL AND BRIDGE DECK. SEE STRUCTURAL PLANS FOR ADDITIONAL DETAILS.

TABLE 4: CONTROLLER TIMINGS

TIMING FUNCTION	1	2	3	4	5	6	7	8
MINIMUM GREEN	5	17	5	8	5	17	5	8
EXTENSION	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAXIMUM GREEN 1	20	50	20	40	20	50	20	40
MAXIMUM GREEN 2								
YELLOW CLEARANCE	5.1	5.1	4.9	4.4	5.1	5.1	4.4	4.9
ALL RED	5.4	2.7	5.3	3.4	5.3	2.7	5.7	3.4
PEDESTRIAN WALK		7		7		7		7
PED. CLEARANCE		29		30		26		39
RECALL		MIN				MIN		



REVISIONS				SCOTT G. HORLANDER, P.E. P.E. NO. 46624 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO FLORIDA 32801 CERTIFICATE OF AUTHORIZATION NUMBER 7865	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION PLAN SR 500 & SR 46 (CONT.)	SHEET NO. T-7
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

STANDARD MAST ARM ASSEMBLIES DATA TABLE																	Table Date 01-01-12		
STRUCTURE ID NUMBERS	ASSEMBLY NUMBERS ⁽¹⁾	FIRST ARM			SECOND ARM			UF (deg)	LL (deg)	POLE			SPECIAL DRILLED SHAFT ⁽⁴⁾						
		ARM TYPE	FAA ⁽²⁾ (ft.)	FBA ⁽²⁾ (in.)	ARM TYPE	FAA ⁽²⁾ (ft.)	FBA ⁽²⁾ (in.)			POLE TYPE	UAA ⁽³⁾ (ft.)	UB (ft.)	UCA ⁽³⁾ (in.)	DA (ft.)	DB (ft.)	RA	RB	RC	RD (in.)
POLE 1	E6-T4	E6	-	-	-	-	-	-	-	T4	22.0	19.0	18.95	16.5	-	-	-	-	-
POLE 2	E3-T2	E3	-	-	-	-	-	-	-	T2	24.0	21.0	12.67	16.5	-	-	-	-	-

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

- 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#
- 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".
- 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".
- 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.

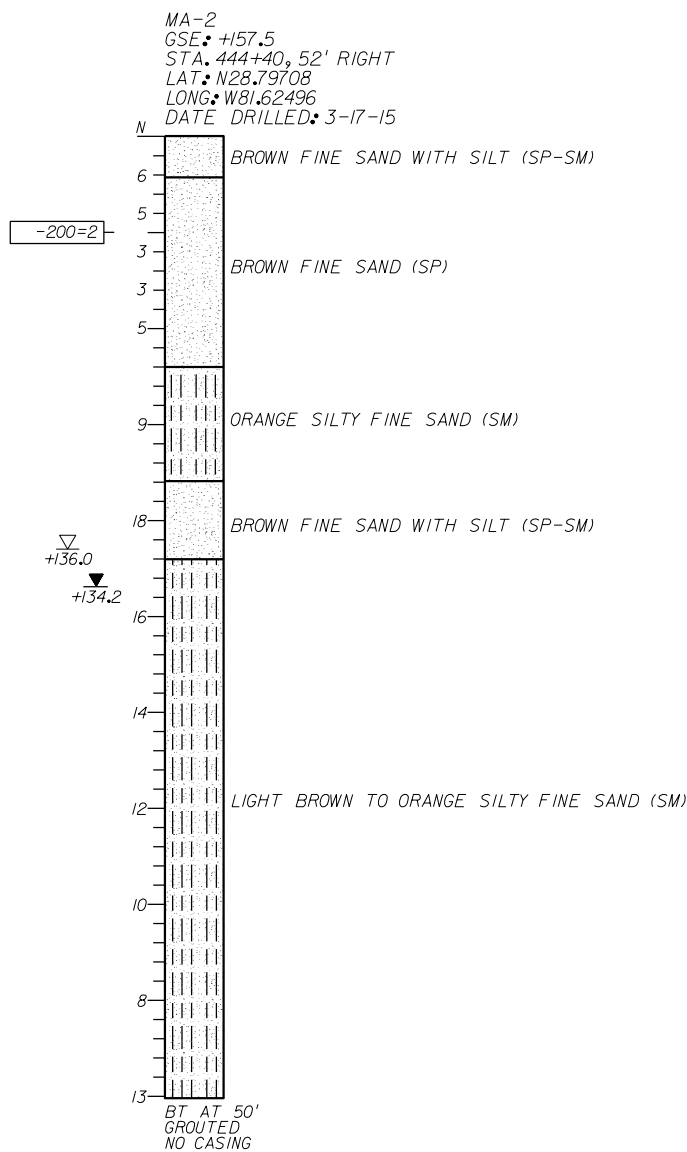
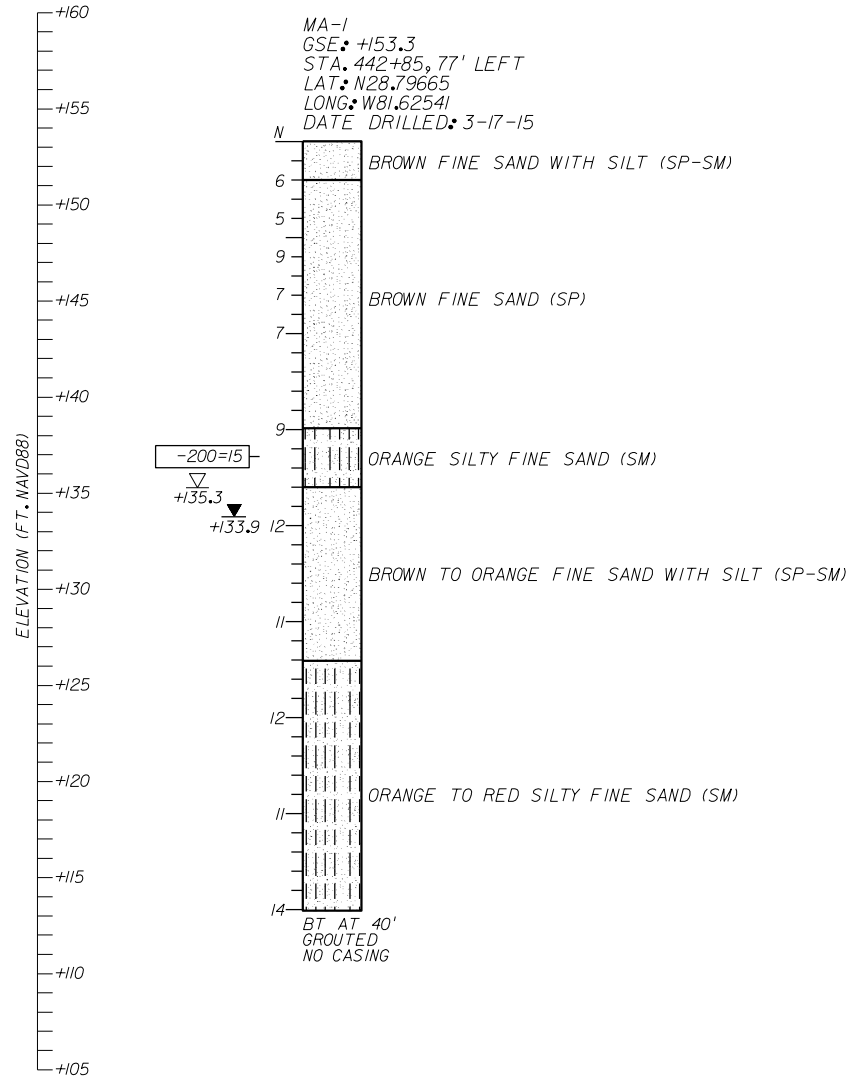
 Classification = Cohesionless (Fine Sand)
 Friction Angle = 30 Degrees (30°)
 Unit Weight = 50 lbs. / cu. ft. (assumed saturated)
 N-blowcount = 15

GENERAL NOTES:

- 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.
- Work with Index Nos. 17743 and 17745.

REVISIONS				MOFFATT & NICHOL 1025 GREENWOOD BLVD, STE 371 LAKE MARY, FL 32746 PHONE (407) 562-2030 CERT. OF AUTH. NO. 4877	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			STANDARD MAST ARM ASSEMBLIES DATA TABLE	SHEET NO. T-10
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				SR 46	LAKE	238275-2-52-01			

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LEGEND

▽ +135.3 ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION (FT. NAVD88)

▽ +133.9 ENCOUNTERED GROUNDWATER ELEVATION (FT. NAVD88) 24 HRS. AFTER DRILLING BORING

GSE GROUND SURFACE ELEVATION (FT. NAVD88)

N STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT

(SP) UNIFIED SOIL CLASSIFICATION SYMBOL

BT BORING TERMINATED AT SPECIFIED DEPTH (FEET) INDICATED

-200= PERCENT PASSING NO. 200 U.S. STANDARD SIEVE (FM 1-T 088)

SOILS LEGEND

□ SAND

▨ SAND AND SILT

GENERAL NOTES

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND THE LABORATORY TESTING SHOWN.

THE BORING LOCATIONS WERE NOT SURVEYED. BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY GPS UNIT (TRIMBLE 7X) FOR HORIZONTAL AND VERTICAL CONTROL. GROUND SURFACE ELEVATIONS ESTIMATED FROM PROJECT CROSS SECTIONS. BORING LOCATION (SB-1) REFERENCES SR 46 CENTERLINE. BORING LOCATION (SB-2) REFERENCES US 44 CENTERLINE.

BASED ON REVIEW OF THE U.S. GEOLOGICAL SURVEY MAP ENTITLED "POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER IN ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AND VICINITY, FLORIDA, SEPTEMBER 2008" FOR THE PROJECT AREA, THE MAXIMUM ELEVATION OF THE ARTESIAN HEAD IS ESTIMATED TO BE +55 FT. NAVD88. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN HEAD LEVELS UP TO +55 FT. NAVD88.

SPLIT SPOON SAMPLER: AVERAGE HAMMER DROP: 30 IN.
 INSIDE DIAMETER: 1.375 IN. HAMMER WEIGHT: 140 LBS.
 OUTSIDE DIAMETER: 2.0 IN. HAMMER TYPE: AUTOMATIC

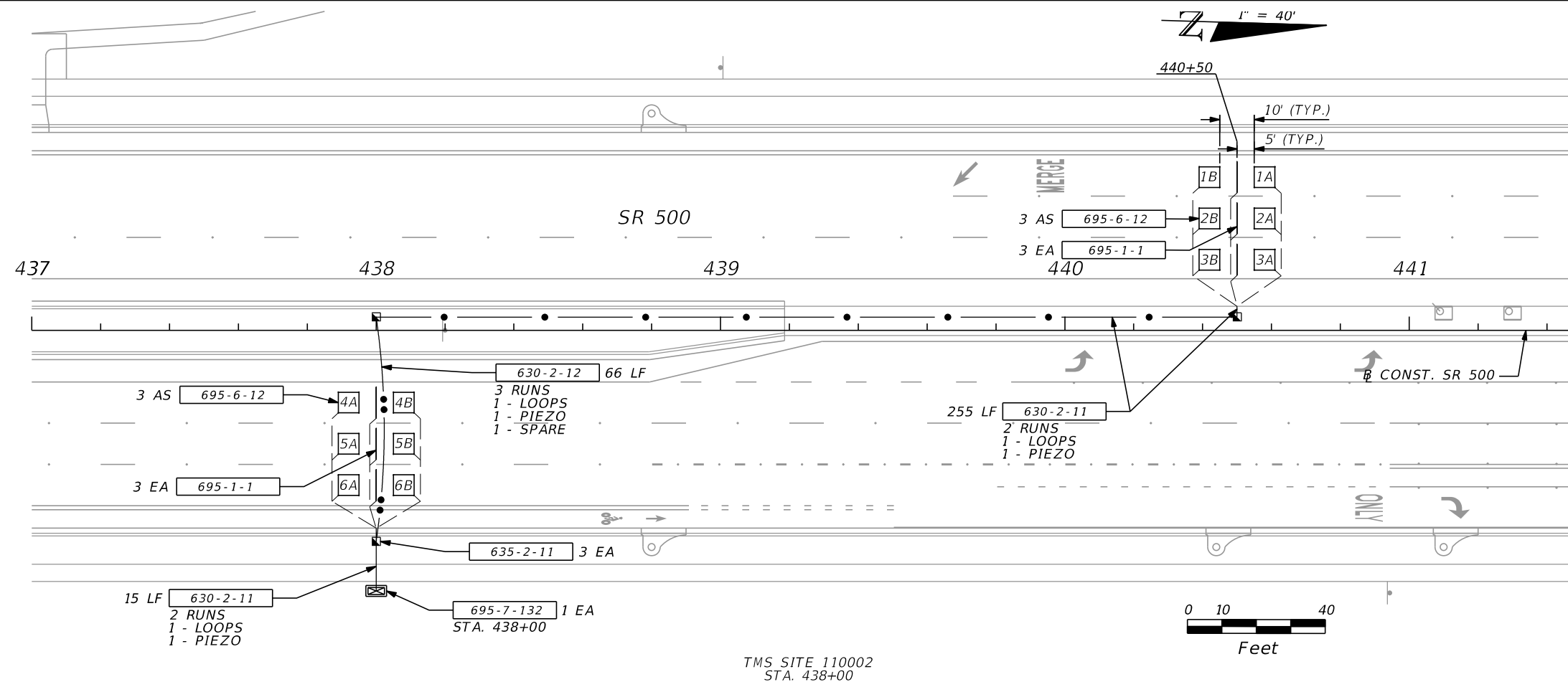
CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

GRANULAR SOILS	N VALUE (blows per foot)	RELATIVE DENSITY
SANDS	0-3	VERY LOOSE
	3-8	LOOSE
	8-24	MEDIUM DENSE
	24-40	DENSE
	OVER 40	VERY DENSE
NON-GRANULAR SOILS	N VALUE (blows per foot)	CONSISTENCY
SILTS, CLAYS, MUCK, PEAT	0-1	VERY SOFT
	1-3	SOFT
	3-6	FIRM
	6-12	STIFF
	12-24	VERY STIFF
	OVER 24	HARD

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<p style="text-align: center;">REVISIONS</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				DATE	DESCRIPTION	DATE	DESCRIPTION					<p style="text-align: center;">GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC. (GEC) 919 Lake Baldwin Lane Orlando, FL 32814 T 407-898-1818 F 407-898-1837 Certificate of Authorization No. 5882 CRAIG G. BALLOCK P.E. 71571</p>		<p style="text-align: center;">STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION</p> <table border="1"> <thead> <tr> <th>ROAD NO.</th> <th>COUNTY</th> <th>FINANCIAL PROJECT ID</th> </tr> </thead> <tbody> <tr> <td>SR 46</td> <td>LAKE</td> <td>238275-2-52-01</td> </tr> </tbody> </table>		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SR 46	LAKE	238275-2-52-01	<p style="text-align: center;">REPORT OF SPT BORING RESULTS FOR MASP</p>		<p style="text-align: center;">SHEET NO. T-11</p>
DATE	DESCRIPTION	DATE	DESCRIPTION																					
ROAD NO.	COUNTY	FINANCIAL PROJECT ID																						
SR 46	LAKE	238275-2-52-01																						

FIGURE 32



TMS SITE 110002
STA. 438+00

STANDARD NOTES FOR TRAFFIC MONITORING SITES

1. NOTIFY THE DISTRICT TRAFFIC OPERATIONS OFFICE ALONG WITH PROJECT ADMINISTRATOR AT LEAST TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK. CONTACT THE DISTRICT DATA COLLECTION MANAGER AT (386) 943-5380 TO CONFIRM LOCATION. ANY CHANGES MUST BE APPROVED BY THE DISTRICT TRAFFIC OPERATIONS OFFICE.
2. PROVIDE A NEW PEDESTAL-MOUNTED TYPE III TRAFFIC COUNT CABINET W/ 2 BACKPLANES, FURNISHED AND INSTALLED PER DESIGN STANDARDS.
3. IMMEDIATELY AFTER COMPLETION OF INSTALLATION, CONTACT THE DISTRICT DATA COLLECTION MANAGER @ 386-943-5380 PRIOR TO FINAL ACCEPTANCE.

REVISIONS				SCOTT G. HORLANDER, P.E. P.E. NO. 46624 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO FLORIDA 32801 CERTIFICATE OF AUTHORIZATION NUMBER 7865	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TRAFFIC MONITORING SITE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		T-12
					SR 46	LAKE	238275-2-52-01		

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