

CONTRACT PLANS COMPONENTS

SIGNALIZATION PLANS

INDEX OF SIGNALIZATION PLANS

SHEET NO.	SHEET DESCRIPTION
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T-8	STANDARD MAST ARM TABULATION
T-9	MAST ARM ASSEMBLIES DATA TABLE
T-10 - T-11	REPORT OF CORE BORINGS
*UTV-1	VERIFIED UTILITY LOCATE SHEET

* THIS SHEET INCLUDED IN THE INDEX OF SIGNALIZATION PLANS ONLY TO INDICATE THAT IT IS PART OF THE SIGNALIZATION PLANS. THIS SHEET IS CONTAINED IN A SEPARATE DIGITALLY SIGNED AND SEALED DOCUMENT.

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2020-21 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2020 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

LAKE COUNTY, FLORIDA

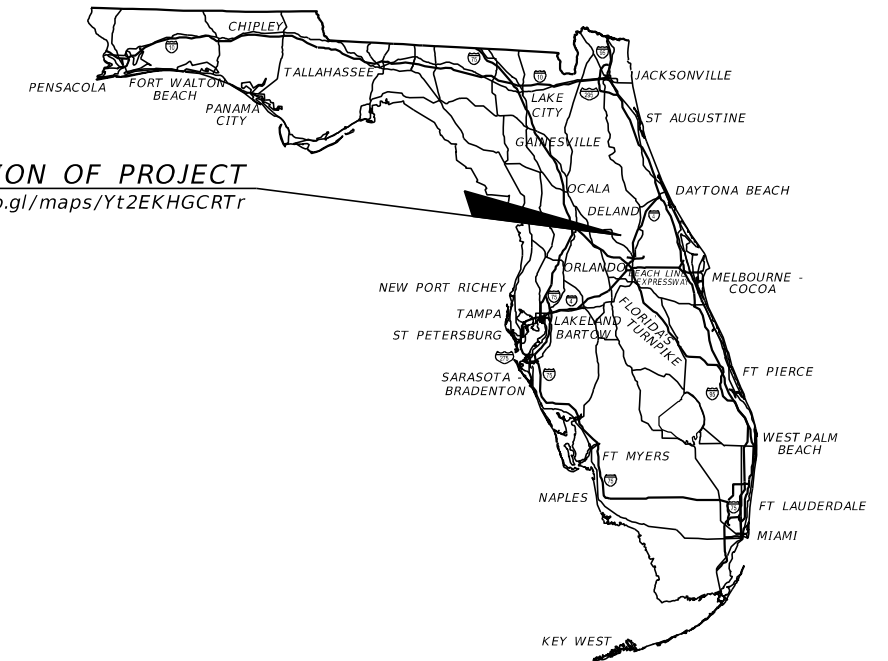
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
350 N. SINCLAIR AVE.
TAVARES, FLORIDA 32778

FINANCIAL PROJECT ID 441364-2-58-01
(FEDERAL FUNDS) (FAN: D520-052-B)

COUNTY ROAD NO. 42
FROM STATE ROAD NO. 44 TO MARION COUNTY LINE

SIGNALIZATION PLANS

LOCATION OF PROJECT
<https://goo.gl/maps/Yt2EKHGCRtr>



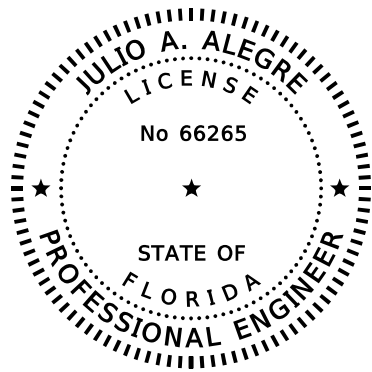
**SIGNALIZATION PLANS
ENGINEER OF RECORD:**

JULIO A. ALEGRE P.E. NO.: 66265
PROTEAN DESIGN GROUP
100 EAST PINE STREET, SUITE 600
ORLANDO, FL 32801
(407) 246-0044
CONTRACT NO.: C-A162
VENDOR NO.: F59-3473441

LAKE COUNTY PROJECT MANAGER:

GEORGE GADIEL, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
	2021	T-1



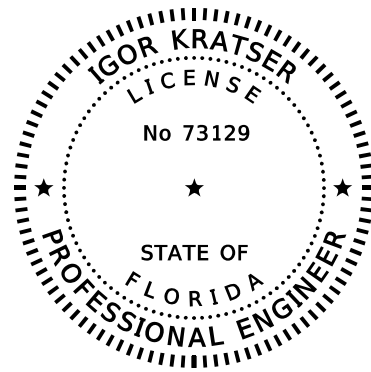
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PROTEAN DESIGN GROUP
100 EAST PINE STREET, SUITE 600
ORLANDO, FL 32801
JULIO A. ALEGRE, P.E. NO.: 66265

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

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



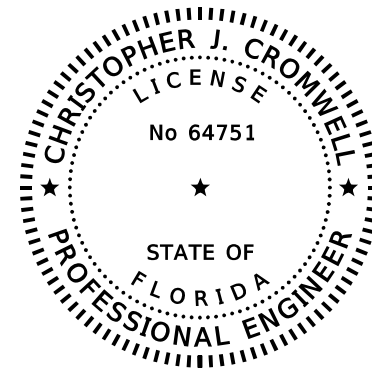
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TEST LAB, INC.
4112 WEST OSBORNE AVENUE
TAMPA, FL 33614
IGOR (IGON) KRATSER, P.E. NO.: 73129

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

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-10 - T-11	REPORT OF CORE BORINGS



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

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PATEL, GREENE & ASSOCIATES, LLC
12570 TELECOM DRIVE
TEMPLE TERRACE, FL 33637
CHRISTOPHER J. CROMWELL, P.E. NO.: 64751

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

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-9	MAST ARM ASSEMBLIES DATA TABLE

REVISIONS				JULIO A. ALEGRE, P.E. P.E. NO.: 66265 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO, FL 32801	LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION			SHEET NO. T-2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					CR 42	LAKE	441364-2-58-01	

SIGNATURE SHEET

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			T-5		T-6															
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	39														39		39	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	60														60		60	
632-7-1	SIGNAL CABLE - NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1														1		1	
635-2-11	PULL & SPLICE BOX, F&I, (13 X 24)	EA	4														4		4	
639-1-111	ELECTRICAL POWER SERVICE, F&I, OVERHEAD, METER FURNISHED BY POWER COMPANY	AS	1														1		1	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	29														29		29	
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1														1		1	
649-21-21	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 78'	EA	1														1		1	
650-1-11	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 1 SECTION, 1 WAY	AS			8												8		8	
670-5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	1														1		1	
685-1-13	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE WITH CABINET	EA	1														1		1	
700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA			2												2		2	

<table border="1"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <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>				REVISIONS				DATE	DESCRIPTION	DATE	DESCRIPTION					JULIO A. ALEGRE, P.E. P.E. NO.: 66265 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO, FL 32801			LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION <hr/> ROAD NO. COUNTY FINANCIAL PROJECT ID CR 42 LAKE 441364-2-58-01			TABULATION OF QUANTITIES		SHEET NO. T-3
REVISIONS																								
DATE	DESCRIPTION	DATE	DESCRIPTION																					

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. UNLESS OTHERWISE NOTED ALL REMOVED EQUIPMENT SHALL BE TURNED OVER TO LAKE COUNTY TRAFFIC OPERATIONS AT 28127 CR 561, TAVARES, FL 32778 AS DIRECTED BY THE ENGINEER, EXCEPT CONCRETE POLES WHICH SHALL BE DISPOSED OF BY THE CONTRACTOR. NOTIFY LAKE COUNTY TRAFFIC OPERATIONS JAMES GLOBIG, (EMAIL: JGLOBIG@LAKECOUNTYFL.GOV) TWO BUSINESS DAYS PRIOR TO BEGINNING ANY CONSTRUCTION AND TO REQUEST ATTENDANCE TO THE PRE-CONSTRUCTION MEETING.
2. STAKE ALL POLE LOCATIONS AND HAVE IT APPROVED BY THE ENGINEER PRIOR TO POLE INSTALLATION.
3. FURNISH LAKE COUNTY TRAFFIC OPERATIONS WITH EMERGENCY CONTACTS AND PHONE NUMBERS AND HAVE AN IMSA LEVEL II CERTIFIED SIGNAL TECHNICIAN ON CALL WITHIN A MAXIMUM TWO HOUR RESPONSE TIME. CONTACT INFORMATION SHALL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING.
4. FURNISH LAKE COUNTY TRAFFIC OPERATIONS, TWO COMPLETE SETS OF AS-BUILT PLANS THAT INCLUDE CONDUIT AND PULL BOX LOCATIONS, AT FINAL INSPECTION.







CONTROLLER

1. A MANUAL PUSH-BUTTON CORD SHALL BE FURNISHED IN ALL CONTROLLER CABINETS.
2. THE MOUNTING OF ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL CABINET SHALL BE PROHIBITED.
3. UNINTERRUPTABLE POWER SUPPLY (UPS) SHALL BE STAND ALONE WITHIN ITS OWN CABINET, INSTALLED ON A CONCRETE PAD ADJACENT TO THE CABINET BASE.
4. A GENERATOR PAD, 3'x3'x4" CONCRETE SHALL BE INSTALLED WITH 5/8" EYEBOLT INSTALLED IN THE PAD ADJACENT TO THE CABINET BASE.
5. THE CABINET CONCRETE BASE SHALL BE A MINIMUM OF 32"x48" TO ACCOMMODATE TYPE.
6. GROUNDING FOR THE CONTROLLER ASSEMBLY SHALL MEASURE 25 OHMS. OR LESS.
7. THE CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION WHEN POSSIBLE.

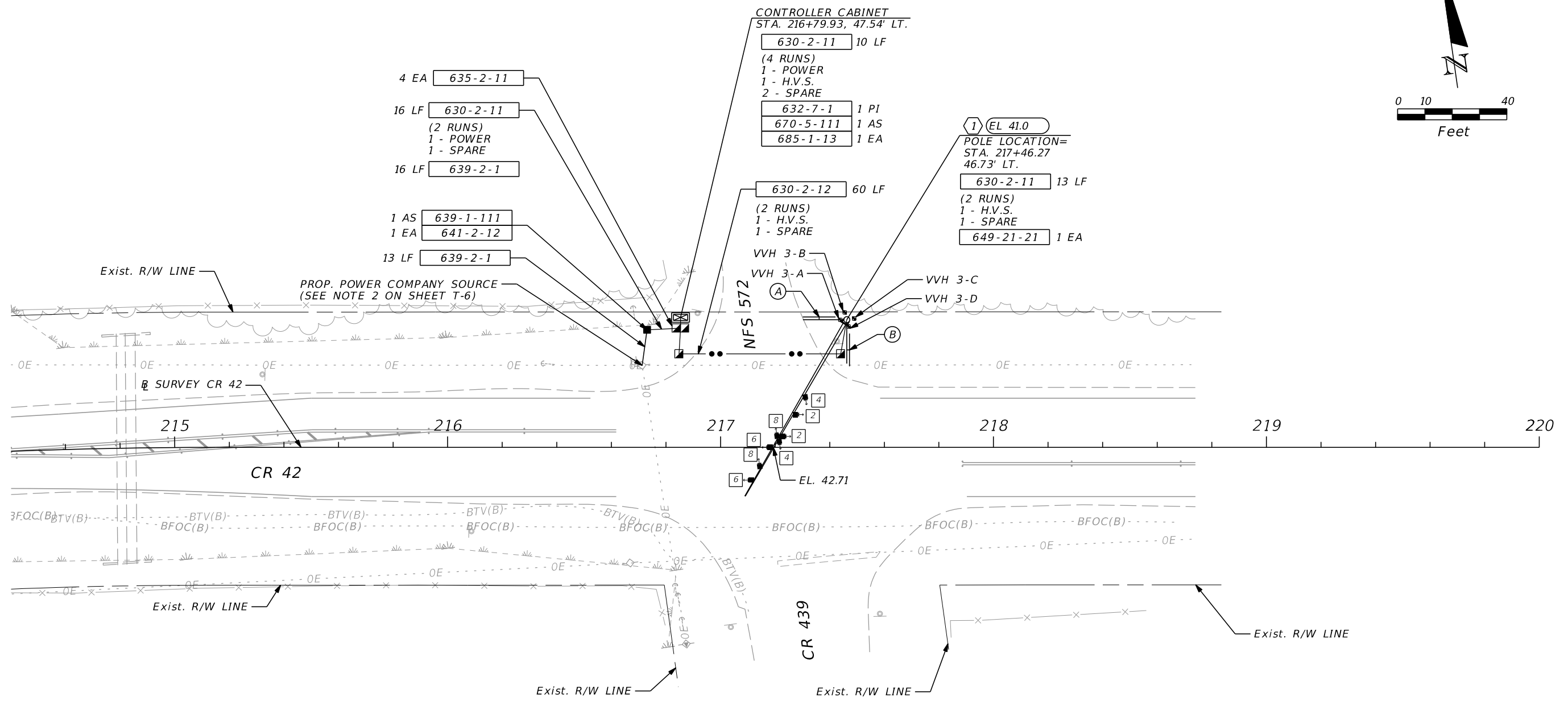
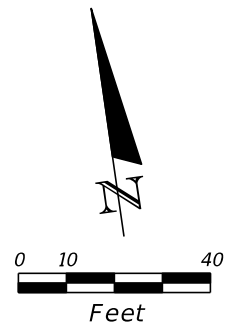
SIGNAL HEADS

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

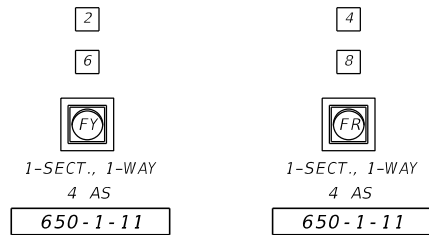
LEGEND

-  SIGNAL CONTROLLER CABINET (BASE MOUNT)
-  PULL BOX (SIGNALS, POWER)
-  PROPOSED CONC. PEDESTAL
-  CONDUIT (OPEN TRENCH)
-  CONDUIT (DIRECTIONAL BORE)
-  TRAFFIC SIGNAL (1-SECTION)
- H.V.S. HIGH VOLTAGE - SIGNAL

REVISIONS				JULIO A. ALEGRE, P.E. P.E. NO.: 66265 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO, FL 32801	LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION			SHEET NO. GENERAL NOTES T-4
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					CR 42	LAKE	441364-2-58-01	

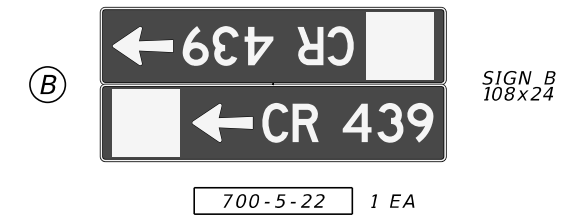
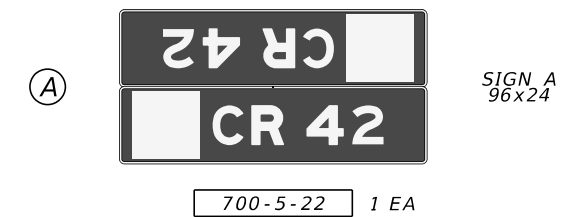


REVISIONS				JULIO A. ALEGRE, P.E. P.E. NO.: 66265 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO, FL 32801	LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION			SIGNALIZATION PLAN SHEET NO. T-5
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					CR 42	LAKE	441364-2-58-01	



**INTERNALLY ILLUMINATED
STREET NAME SIGNS**

SEE GUIDE SIGN WORKSHEET
FOR DETAILS



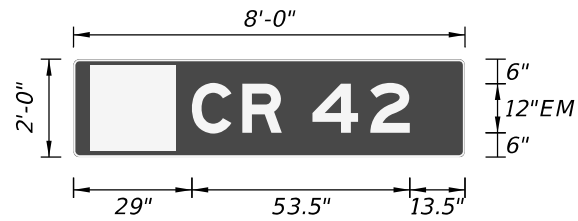
NOTES

1. THE MAJOR STREET IS CR 42, MOVEMENTS 2 AND 6.
THE MINOR STREETS ARE CR 439, MOVEMENT 4, AND NFS 572, MOVEMENT 8.
2. SECO ENERGY TO PROVIDE ELECTRIC POWER CONNECTION ON UTILITY POLE.
CONTRACTOR TO ROUTE ELECTRICAL SERVICE WIRE FROM UTILITY POLE TO
CONCRETE POLE FOR CONNECTION TO THE ELECTRICAL POWER SERVICE ASSEMBLY.
3. MOVEMENTS 2 AND 6 SHALL FLASH YELLOW. ALL OTHER MOVEMENTS SHALL
FLASH RED.

POSTED SPEEDS:
CR 42 - 55 MPH
CR 439 - 55 MPH
NFS 572 - 25 MPH (NOT POSTED)

REVISIONS				JULIO A. ALEGRE, P.E. P.E. NO.: 66265 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO, FL 32801	LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION			SIGNALIZATION PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		T-6
						CR 42	LAKE		441364-2-58-01

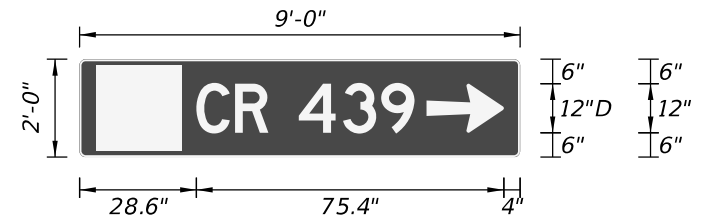
SIGN NAME	SIGN A	QTY	2	SIGN NUMBER	STATION(S)
PANEL	BORDER				
WIDTH	8'-0"	WIDTH	0.5"		
HEIGHT	2'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				
SYMBOL(S)	ANGLE	X	Y	WID	HT
County Logo	0	4	2	21	21
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH	



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	C	R	4	2	L			
SPACE	29	12.4	9.7	7.5	14.2	9.7	13.5	53.5
COPY								
SPACE								
COPY								
SPACE								
COPY								
SPACE								
COPY								
SPACE								
COPY								
SPACE								

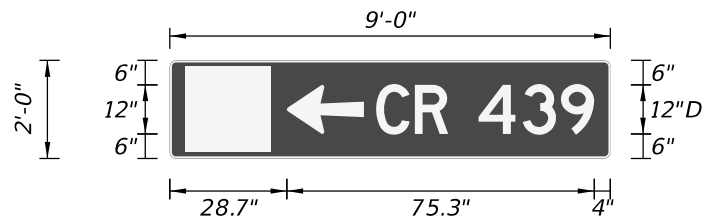
SIGN NAME	SIGN B	QTY	1	SIGN NUMBER	STATION(S)
PANEL	BORDER				
WIDTH	9'-0"	WIDTH	0.5"		
HEIGHT	2'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				
SYMBOL(S)	ANGLE	X	Y	WID	HT
AR_Type A	270	85.1	6	12	18.9
County Logo	0	4	2	21	21
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH	



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	C	R	4	3	9	L			
SPACE	28.6	9.5	8.2	7.5	10.8	9.4	8.2	25.9	53.5
COPY									
SPACE									
COPY									
SPACE									
COPY									
SPACE									
COPY									
SPACE									
COPY									
SPACE									

SIGN NAME	SIGN B	QTY	1	SIGN NUMBER	STATION(S)
PANEL	BORDER				
WIDTH	9'-0"	WIDTH	0.5"		
HEIGHT	2'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				
SYMBOL(S)	ANGLE	X	Y	WID	HT
AR_Type A	270	28.7	6	12	18.9
County Logo	0	4	2	21	21
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH	



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	C	R	4	3	9	L			
SPACE	50.6	9.5	8.2	7.5	10.8	9.4	8.2	4	53.5
COPY									
SPACE									
COPY									
SPACE									
COPY									
SPACE									
COPY									
SPACE									

SIGN NAME	QTY	1	SIGN NUMBER	STATION(S)	
PANEL	BORDER				
WIDTH	WIDTH				
HEIGHT	RADII				
LEGEND	COLOR				
COLOR					
SYMBOL(S)	ANGLE	X	Y	WID	HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH	

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	C	R	4	3	9	L			
SPACE									
COPY									
SPACE									
COPY									
SPACE									
COPY									
SPACE									
COPY									
SPACE									

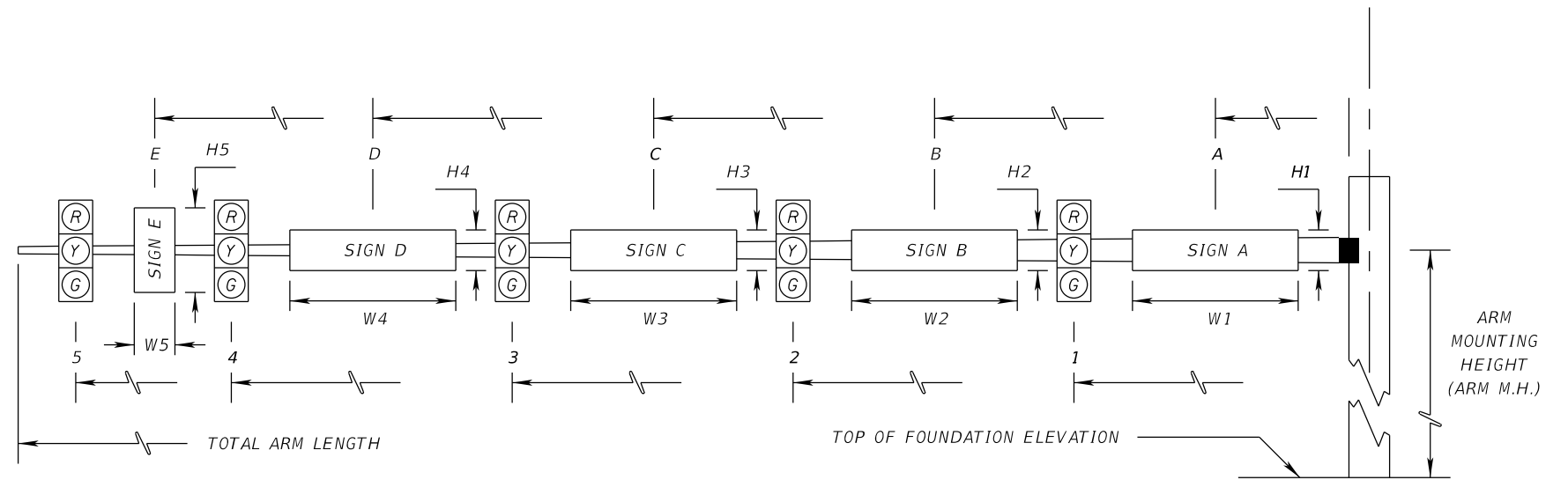
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JULIO A. ALEGRE, P.E.
P.E. NO.: 66265
PROTEAN DESIGN GROUP
100 EAST PINE STREET, SUITE 600
ORLANDO, FL 32801

LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CR 42	LAKE	441364-2-58-01

**GUIDE SIGN
WORKSHEET**

SHEET NO.
T-7



** DENOTES SIGN TO BE MOUNTED ON A SEPARATE SIGN CANTILEVER ARM AT A MOUNTING HEIGHT OF 18.5'

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUND. ELEVATION	RDWY ARM NO.	CROWN ELEV.	LUMI-NAIRE Y/N	TERM. COMP. Y/N	SIGNAL DATA													TOTAL ARM LENGTH	ARM M.H.	ANGLE BETWEEN DUAL ARMS 90/270	SIGN DATA						PAINT COLOR						
								SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE													DISTANCE FROM POLE/ HEIGHT AND WIDTH OF SIGN												
											1	*	2	*	3	*	4	*	5	*				6	*	7	*	8	*		A	H1	W1	B	H2	W2
1	T-5	217+46.27	41.0	1	42.71	N		N/A	Y	N	29.8	1	38.4	1	47.6	1	48.7	1	48.9	1	52.5	1	61.6	1	66.3	1	78	21.5		**	2	8				
---	---	-----	-----																										**	2	9					

ATTENTION: THE TABLES BELOW ARE FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL NOT USE INFORMATION BELOW FOR PLACEMENT OF THE SIGNALS AND/OR SIGNS (SEE INFORMATION IN THE TABLE ABOVE FOR ACTUAL SIGN INSTALLATION)

*** DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY
"VD" DENOTES VEHICLE DETECTION CAMERA

ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUND. ELEVATION	RDWY ARM NO.	CROWN ELEV.	LUMI-NAIRE Y/N	TERM. COMP. Y/N	SIGNAL DATA																												TOTAL ARM LENGTH	ARM M.H.								
								SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE																				TOTAL ARM LENGTH	ARM M.H.													
											1	*	2	*	3	*	4	*	5	*	6	*	7	*	8	*	9	*	10	*			11	*	12			*	13	*	14	*	15	*	
1	T-5	217+46.27	41.0	1	42.71	N		V	Y	N	23.5	3	33.7	3	34.8	VD	36.1	3	43.0	3	44.9	VD	48.7	3	48.9	3	52.3	4	52.5	4	57.5	VD	61.6	3	61.7	3	65.2	VD	70.9	3	78	21.5			
---	---	-----	-----																																										

*** DENOTES SIGN TO BE MOUNTED ON A SEPARATE SIGN CANTILEVER ARM AT A MOUNTING HEIGHT OF 18.5'

ID NO.	SHEET NO.	SIGN DATA												PAINT COLOR										
		DISTANCE FROM POLE/ HEIGHT AND WIDTH OF SIGN																						
		A	H1	W1	B	H2	W2	C	H2	W2	D	H2	W2											
1	T-5	**	2	8																				
---	---	**	2	9																				

<table border="1"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <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>				REVISIONS				DATE	DESCRIPTION	DATE	DESCRIPTION					JULIO A. ALEGRE, P.E. P.E. NO.: 66265 PROTEAN DESIGN GROUP 100 EAST PINE STREET, SUITE 600 ORLANDO, FL 32801			LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION ROAD NO. COUNTY FINANCIAL PROJECT ID CR 42 LAKE 441364-2-58-01			STANDARD MAST ARM TABULATION				SHEET NO. T-8
REVISIONS																										
DATE	DESCRIPTION	DATE	DESCRIPTION																							

STANDARD MAST ARM ASSEMBLIES DATA TABLE

Table Date 11-01-16

POLE NUMBER	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
		ARM ID	FAA (ft.)	ARM ID	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
POLE 1	A78/S/H - P6/S	A78/S/H	N/A	N/A	N/A	N/A	N/A	P6/S	24.50	21.50	DS/25/5.0

NOTES [NOTES DATE 11-01-16]:

- IF AN ENTRY APPEARS IN COLUMN FAA, A SHORTER ARM IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE ARM TIP AND THE ARM LENGTH SHORTENED FROM FA TO FAA. SAA SIMILAR.
- IF AN ENTRY APPEARS IN COLUMN UAA, A SHORTER POLE IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE POLE TIP AND THE POLE HEIGHT SHORTENED FROM UA TO UAA.
- 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 649-030 AND 649-031.

FOUNDATION DATA TABLE

POLE NUMBER	SOIL TYPE	EFFECTIVE SOIL WEIGHT (PCF)	SOIL FRICTION ANGLE (DEGREES)	AVERAGE SPT N-VALUE
POLE 1	SAND	45.0	28	11

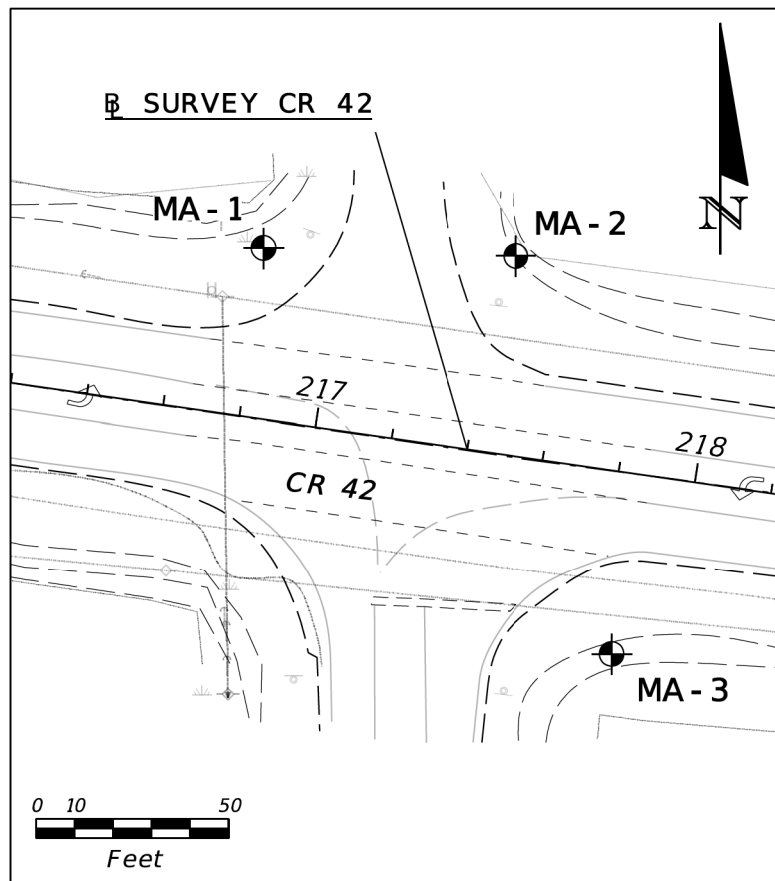
NOTES:

- FOUNDATION DESIGN BASED ON DATA CONTAINED IN THE GEOTECHNICAL REPORT DATED MAY 2020, PREPARED BY TEST LAB, INC. AND SIGNED AND SEALED BY IGOR (IGON) KRATSER, P.E..
- FOR SOIL ASSUMPTIONS AND VALUES USED IN DESIGN, SEE FOUNDATION DATA TABLE. WATER TABLE IS ASSUMED TO BE AT THE SOIL SURFACE.

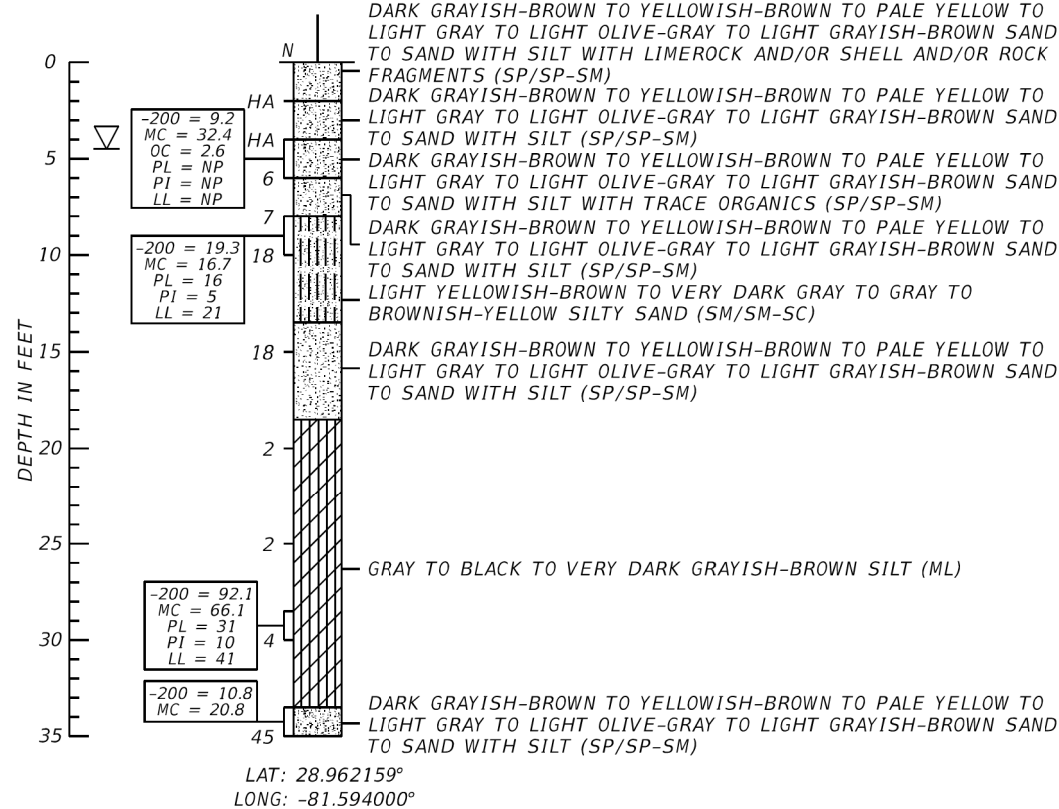
REVISIONS				CHRISTOPHER J. CROMWELL, P.E. P.E. LICENSE NUMBER 64751 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FL 33637	LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION			MAST ARM ASSEMBLIES DATA TABLE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		T-9
					CR 42	LAKE	441364-2-58-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.
 Drawn By : JML 01-20
 Designed By : VLT 01-20
 Checked By : JF 01-20

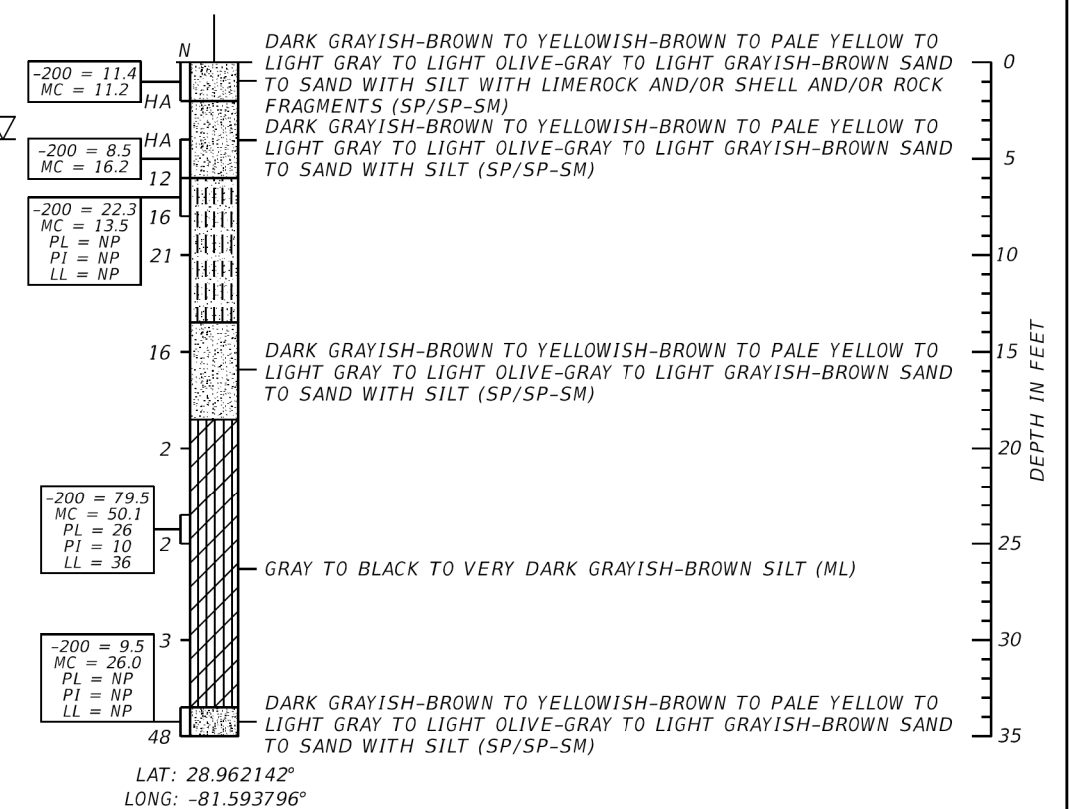
BORING LOCATION PLAN



BOR # MA-1
 STA. 216 + 80
 REF. SURVEY CR 42
 OFF. 44' LT
 ELEV. N/A
 DATE 12/13/2019



BOR # MA-2
 STA. 217 + 45
 REF. SURVEY CR 42
 OFF. 51' LT
 ELEV. N/A
 DATE 12/13/2019



RECOMMENDED SOIL PARAMETERS

BORING #	USCS SOIL CLASSIFICATION	DEPTH (FEET)		UNIT WEIGHT (PCF)		COHESION/SHEAR STRENGTH (PSF)	INTERNAL FRICTION ANGLE
		FROM	TO	SATURATED/TOTAL	EFFECTIVE		
MA-1	SP/SP-SM	0.0	8.0	105	42.6	0	29
	SM/SM-SC	8.0	13.5	110	47.6	1800	0
	SP/SP-SM	13.5	18.5	110	47.6	0	30
	ML	18.5	33.5	110	47.6	350	0
	SP/SP-SM	33.5	35.0	125	62.6	0	34
MA-2	SP/SP-SM/SM/SM-SC	0.0	4.0	100	37.6	0	28
	SP/SP-SM	4.0	13.5	110	47.6	0	30
	ML	13.5	18.5	110	47.6	250	0
	SP/SP-SM	18.5	33.5	110	47.6	0	34

LEGEND

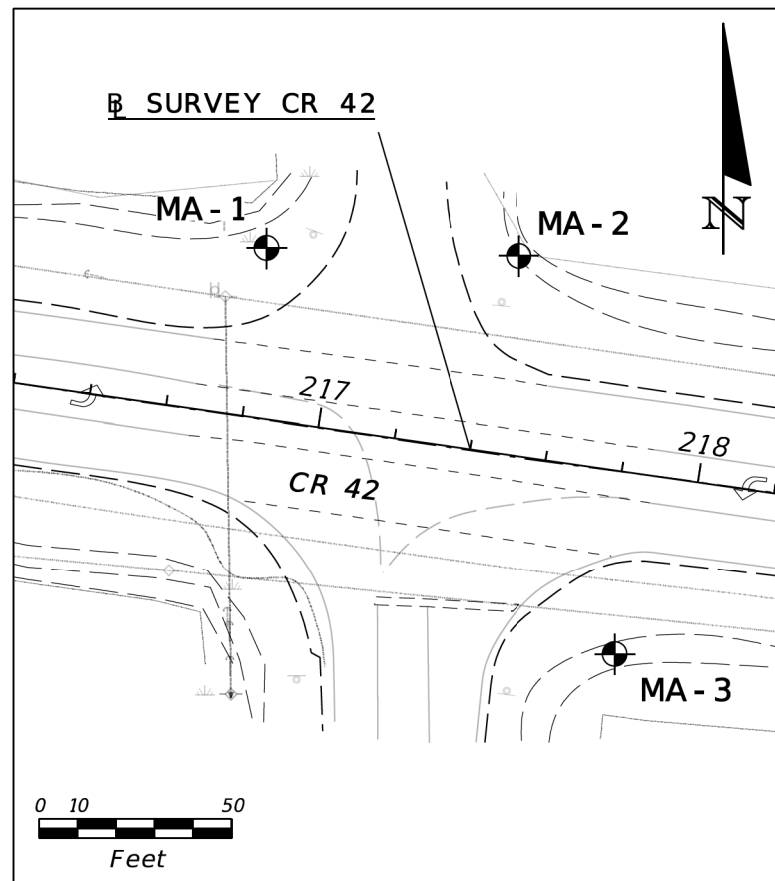
- DARK GRAYISH-BROWN TO YELLOWISH-BROWN TO PALE YELLOW TO LIGHT GRAY TO LIGHT OLIVE-GRAY TO LIGHT GRAYISH-BROWN SAND TO SAND WITH SILT (SP/SP-SM)
- LIGHT YELLOWISH-BROWN TO VERY DARK GRAY TO GRAY TO BROWNISH-YELLOW SILTY SAND (SM/SM-SC)
- DARK GRAY CLAYEY SAND (SC)
- GRAY TO BLACK TO VERY DARK GRAYISH-BROWN SILT (ML)
- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND/OR LABORATORY TESTING
- BASELINE SURVEY CR 42
- GROUNDWATER TABLE AT TIME OF DRILLING
- APPROXIMATE SPT BORING LOCATION
- 200 FINES PASSING THE #200 STANDARD SIEVE (%)
- MC MOISTURE CONTENT (%)
- OC ORGANIC CONTENT (%)
- PL PLASTIC LIMIT (%)
- PI PLASTICITY INDEX (%)
- LL LIQUID LIMIT (%)

NOTES:

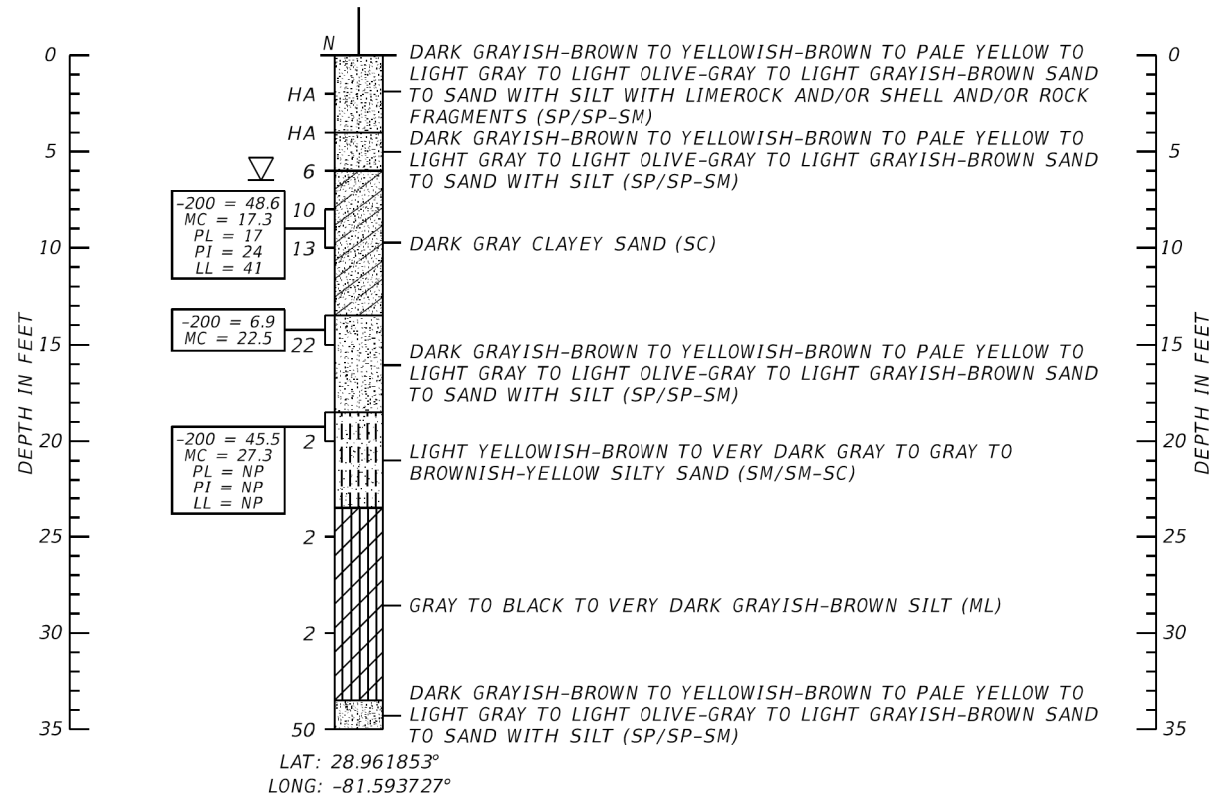
- STATION AND OFFSET WERE DETERMINED USING THE MICROSTATION DESIGN FILES PROVIDED BY PATEL, GREENE & ASSOCIATES IN CONJUNCTION WITH THE RECORDED GPS COORDINATES OBTAINED BY TEST LAB, INC. IN THE FIELD AT THE BORING LOCATION.
- BASED ON A REVIEW OF THE POTENTIOMETRIC SURFACE MAPS, THE POTENTIOMETRIC SURFACE ELEVATION OF THE UPPER FLORIDAN AQUIFER ALONG THE PROJECT ALIGNMENT IS REPORTED AT APPROXIMATELY ±40 FEET, NGVD 29. ARTESIAN CONDITIONS WERE NOT ENCOUNTERED AT THE TIME OF OUR FIELD ACTIVITIES. HOWEVER, THE CONTRACTOR'S DEWATERING EQUIPMENT AND METHODS SHALL BE ADEQUATE TO HANDLE ARTESIAN WATER UP TO HEAD ELEVATION OF ±40 FEET, NGVD 29.
- DUE TO THE LOOSE/SOFT CONDITIONS OF THE SOILS IN SOME AREAS, THE CONTRACTOR SHOULD ANTICIPATE THE NEED FOR TEMPORARY CASING TO STABILIZE THE EXCAVATION DURING CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHOULD ANTICIPATE THAT CONCRETE VOLUME OVERRUNS MAY OCCUR DURING THE SHAFT INSTALLATION PROCESS.

REVISIONS				TEST LAB, INC. 4112 W OSBORNE AVENUE TAMPA, FL 33614 PHONE: (813) 872-7821 - FAX: (813) 872-1876 IGOR (IGON) KRATSER, P.E. # 73129	LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION			SHEET NO. T-10
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					CR 42	LAKE	441364-2-58-01	REPORT OF CORE BORINGS

BORING LOCATION PLAN



BOR # MA-3
 STA. 217 + 85
 REF. SURVEY CR 42
 OFF. 47' RT
 ELEV. N/A
 DATE 12/14/2019



AUTOMATIC HAMMER	
GRANULAR MATERIALS - RELATIVE DENSITY	SPT N-VALUE (BLOW/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3 TO 8
MEDIUM DENSE	8 TO 24
DENSE	24 TO 40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOW/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1 TO 3
FIRM	3 TO 6
STIFF	6 TO 12
VERY STIFF	12 TO 24
HARD	GREATER THAN 24

RECOMMENDED SOIL PARAMETERS

BORING #	USCS SOIL CLASSIFICATION	DEPTH (FEET)		UNIT WEIGHT (PCF)		COHESION/SHEAR STRENGTH (PSF)	INTERNAL FRICTION ANGLE
		FROM	TO	SATURATED/TOTAL	EFFECTIVE		
MA-3	SP/SP-SM	0.0	6.0	105	42.6	0	29
	SC	6.0	13.5	110	47.6	1100	0
	SP/SP-SM	13.5	18.5	115	52.6	0	32
	SM/SM-SC/ML	18.5	33.5	110	47.6	200	0
	SP/SP-SM	33.5	35.0	125	62.6	0	34

LEGEND

- DARK GRAYISH-BROWN TO YELLOWISH-BROWN TO PALE YELLOW TO LIGHT GRAY TO LIGHT OLIVE-GRAY TO LIGHT GRAYISH-BROWN SAND TO SAND WITH SILT (SP/SP-SM)
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 - GROUNDWATER TABLE AT TIME OF DRILLING
 - BASELINE SURVEY CR 42
 - FINES PASSING THE #200 STANDARD SIEVE (%)
 - MOISTURE CONTENT (%)
 - ORGANIC CONTENT (%)
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					CR 42	LAKE	441364-2-58-01	

REPORT OF CORE BORINGS

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SUMMARY OF VERIFIED UTILITIES

Vvh #	UTILITY DESCRIPTION (Owner, type)	SIZE	MATERIALS	B SURVEY CR 42			EXISTING GROUND ELEVATION	UTILITY ELEVATION	COMMENTS
				STATION	OFFSET	LT/RT			
Vvh 3-A	EXPLORATORY-VACUUMED 3.85', PROBES 12.00'; NO UTILITY FOUND	N/A	N/A	217+43.88	46.66'	LT	40.96'	N/A	
Vvh 3-B	EXPLORATORY-VACUUMED 3.30', PROBES 12.00'; NO UTILITY FOUND	N/A	N/A	217+45.51	49.40'	LT	40.29'	N/A	
Vvh 3-C	EXPLORATORY-VACUUMED 1.50', PROBES 12.00'; NO UTILITY FOUND	N/A	N/A	217+48.93	47.15'	LT	40.08'	N/A	
Vvh 3-D	EXPLORATORY-VACUUMED 3.55', PROBES 12.00'; NO UTILITY FOUND	N/A	N/A	217+46.92	44.26'	LT	40.87'	N/A	

<table border="1"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <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>				REVISIONS				DATE	DESCRIPTION	DATE	DESCRIPTION					LAKE COUNTY PUBLIC WORKS ENGINEERING DIVISION			VERIFIED UTILITY LOCATE SHEET		SHEET NO.
REVISIONS																					
DATE	DESCRIPTION	DATE	DESCRIPTION																		
ROAD NO.		COUNTY	FINANCIAL PROJECT ID		UTV-1																
CR 42		LAKE	441364-2-58-01																		