

MANATEE COUNTY CONTRACT PLANS

FINANCIAL PROJECT ID 433592-4-58-01

(FEDERAL FUNDS)

MANATEE COUNTY (13010)

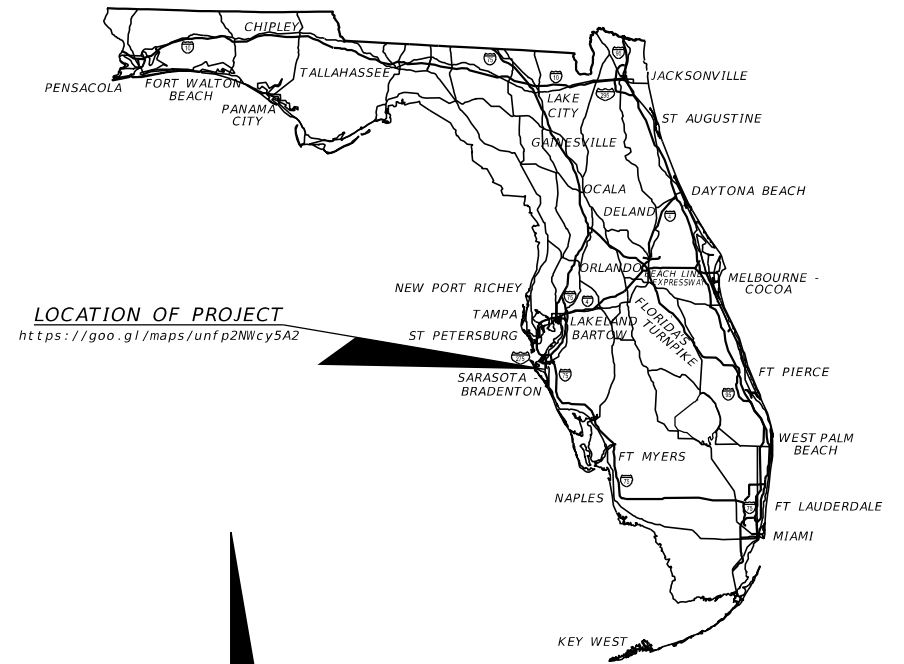
STATE ROAD NO. 45 (US 41)

FROM 69TH AVE (BAY DRIVE) TO CORTEZ ROAD

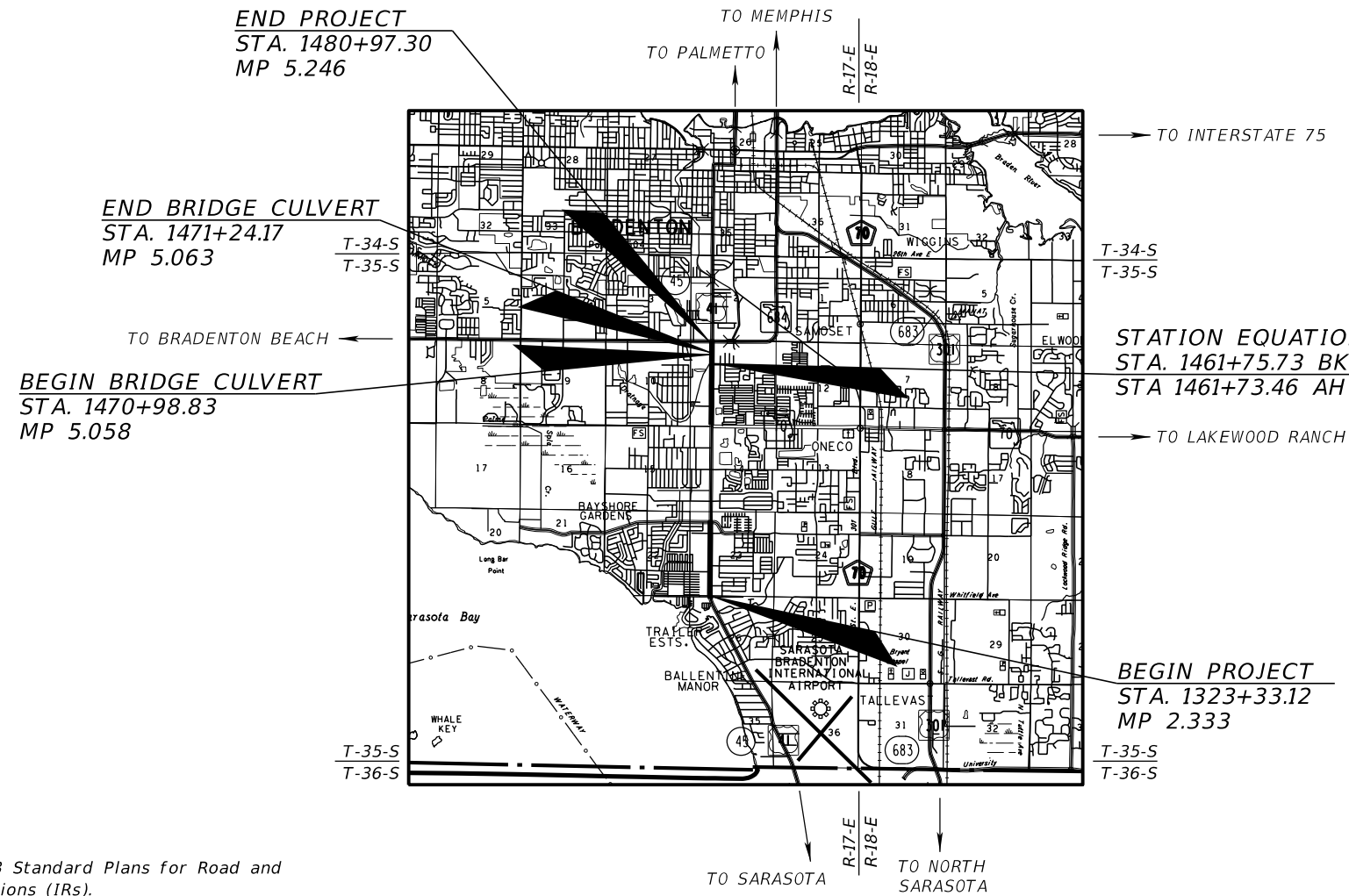
LIGHTING PLANS

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LOCATION OF PROJECT
<https://goo.gl/maps/unfp2Nwcy5A2>



LIGHTING PLANS

ENGINEER OF RECORD:

JULIO C. DELGADO, P.E. NO.: 61661
SCALAR CONSULTING GROUP INC.
8751 W. BROWARD BOULEVARD, SUITE 307
PLANTATION, FLORIDA 33324
CONTACT NO.: (954) 716-6624
CONTRACT NO.: C9N99
VENDOR NO.: 451909667

FDOT PROJECT MANAGER:

AMY BLAIR, P.E.

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY2022-23 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>

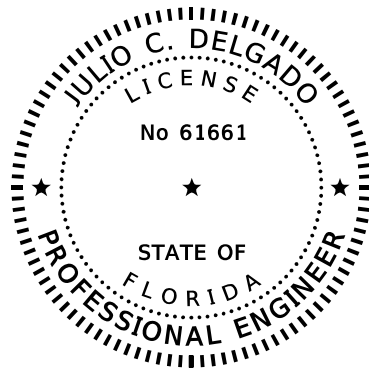
GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2022 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
22-TA004373DJ	23	L-1

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

THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY



ON THE DATE ADJACENT TO THE SEAL

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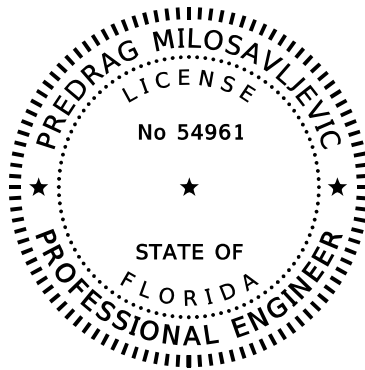
SCALAR CONSULTING GROUP INC.
8751 W. BROWARD BOULEVARD, SUITE 307
PLANTATION, FLORIDA 33324
JULIO C. DELGADO, P.E. NO. 61661

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

LIGHTING PLANS

SHEET NO.	SHEET DESCRIPTION
L-1	KEY SHEET
L-2	SIGNATURE SHEET
L-3 TO L-5	TABULATION OF QUANTITIES
L-6	GENERAL NOTES
L-7	LIGHTING DATA TABLE & LEGEND
L-8	LIGHTING DATA TABLE
L-9	LIGHTING PROJECT LAYOUT
L-10 TO L-27	LIGHTING PLAN
L-30	LOAD CENTER DETAILS
L-31	SERVICE POINT DETAILS

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SCALAR CONSULTING GROUP INC.
5713 CORPORATE WAY, SUITE 200
WEST PALM BEACH, FLORIDA 33407
PREDRAG MILOSAVLJEVIC, P.E. NO. 54961

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SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

LIGHTING PLANS

SHEET NO.	SHEET DESCRIPTION
L-2	SIGNATURE SHEET
L-28 TO L-29	LIGHT POLE SPREAD FOOTING DETAILS

REVISIONS				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			SHEET NO. L-2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 45	MANATEE	433592-4-58-01	

SIGNATURE SHEET

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET	
			L-10		L-11		L-12		L-13		L-14		L-15		L-16		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	237		198		594		262		587		479		182		2539	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	303		409				300				126		363		1501	
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24" COVER SIZE	EA	9		11		3		11		4		9		4		51	
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS			1												1	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF			18												18	
639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA			1												1	
641-2-11	PRESTRESSED CONCRETE POLE, F&I, TYPE P-11 PEDESTAL	EA			1												1	
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 8 - 6	LF	2028		4578		4566		4717		3351		3608		1827		24675	
715-1-13	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 4 - 2	LF			150												150	
715-1-60	LIGHTING CONDUCTORS, REMOVE & DISPOSE, CONTRACTOR OWNS	LF	1011														1011	
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA			1												1	
715-11-213	LUMINAIRE, F&I- REPLACE EXISTING LUMINAIRE ON EXISTING POLE/ARM, ROADWAY, POLE TOP	EA																
715-61-400	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 45' MOUNTING HEIGHT, 0' ARM LENGTH	EA	1		1		1										3	
715-62-152	LIGHT POLE COMPLETE, F&I, STANDARD POLE SPECIAL FOUNDATION, 30' MOUNTING HEIGHT, 15' ARM LENGTH	EA	1														1	
715-62-400	LIGHT POLE COMPLETE, F&I, STANDARD POLE SPECIAL FOUNDATION, 45' MOUNTING HEIGHT, 0' ARM LENGTH	EA	2		3		2		5		4		4		4		24	
715-66-166	LIGHT POLE COMPLETE, F&I, UTILITY CONFLICT POLE SPECIAL FOUNDATION	EA	1						1								2	
	30' MOUNTING HEIGHT, 16' ARM LENGTH																	
715-69-000	LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	EA	2														2	
715-500-1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA	5		4		3		6		4		4		4		30	

REVISIONS				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			TABULATION OF QUANTITIES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		L-3
					SR 45	MANATEE	433592-4-58-01		

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TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET	
			L-17		L-18		L-19		L-20		L-21		L-22		L-23		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			265		584		440		495		460		323		2567	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF					5		153		97				330		585	
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24" COVER SIZE	EA			2		5		7		7		6		4		31	
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS																
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF																
639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA																
641-2-11	PRESTRESSED CONCRETE POLE, F&I, TYPE P-11 PEDESTAL	EA																
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 8 - 6	LF																
715-1-13	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 4 - 2	LF			915		2103		3081		3456		3169		3681		16405	
715-1-60	LIGHTING CONDUCTORS, REMOVE & DISPOSE, CONTRACTOR OWNS	LF																
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA																
715-11-213	LUMINAIRE, F&I- REPLACE EXISTING LUMINAIRE ON EXISTING POLE/ARM, ROADWAY, POLE TOP	EA	2														2	
715-61-400	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 45' MOUNTING HEIGHT, 0' ARM LENGTH	EA											3		3		6	
715-62-152	LIGHT POLE COMPLETE, F&I, STANDARD POLE SPECIAL FOUNDATION, 30' MOUNTING HEIGHT, 15' ARM LENGTH	EA																
715-62-400	LIGHT POLE COMPLETE, F&I, STANDARD POLE SPECIAL FOUNDATION, 45' MOUNTING HEIGHT, 0' ARM LENGTH	EA			2		4		3		4		1		1		15	
715-66-166	LIGHT POLE COMPLETE, F&I, UTILITY CONFLICT POLE SPECIAL FOUNDATION	EA																
	30' MOUNTING HEIGHT, 16' ARM LENGTH	EA																
715-69-000	LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	EA																
715-500-1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA			2		4		3		4		4		4		21	

REVISIONS				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			TABULATION OF QUANTITIES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 45	MANATEE	433592-4-58-01		L-4

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TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			L-24		L-25		L-26		L-27											
			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	594		350			24		47							1015		6121	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	119		283			580		474							1456		3542	
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24" COVER SIZE	EA	15		6			6		9							36		118	
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1														1		2	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	15														15		33	
639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA	1														1		19	
641-2-11	PRESTRESSED CONCRETE POLE, F&I, TYPE P-11 PEDESTAL	EA	1														1		2	
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 8 - 6	LF																	24675	
715-1-13	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 4 - 2	LF	4483		2235			2100		1899							10717		27272	
715-1-60	LIGHTING CONDUCTORS, REMOVE & DISPOSE, CONTRACTOR OWNS	LF																	1011	
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA	1														1		2	
715-11-213	LUMINAIRE, F&I- REPLACE EXISTING LUMINAIRE ON EXISTING POLE/ARM, ROADWAY, POLE TOP	EA																	2	
715-61-400	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 45' MOUNTING HEIGHT, 0' ARM LENGTH	EA	1		1												2		11	
715-62-152	LIGHT POLE COMPLETE, F&I, STANDARD POLE SPECIAL FOUNDATION, 30' MOUNTING HEIGHT, 15' ARM LENGTH	EA																	1	
715-62-400	LIGHT POLE COMPLETE, F&I, STANDARD POLE SPECIAL FOUNDATION, 45' MOUNTING HEIGHT, 0' ARM LENGTH	EA	3		2			4		1							10		49	
715-66-166	LIGHT POLE COMPLETE, F&I, UTILITY CONFLICT POLE SPECIAL FOUNDATION	EA	1		1					2							4		6	
	30' MOUNTING HEIGHT, 16' ARM LENGTH																			
715-69-000	LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	EA																	2	
715-500-1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA	5		4			4		3							16		67	

REVISIONS DATE DESCRIPTION DATE DESCRIPTION				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			TABULATION OF QUANTITIES	SHEET NO. L-5
ROAD NO.		COUNTY	FINANCIAL PROJECT ID						
SR 45		MANATEE	433592-4-58-01						

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LIGHTING GENERAL NOTES

1. THE LIGHTING SYSTEM WILL BE MAINTAINED BY MANATEE COUNTY UPON FINAL ACCEPTANCE.
2. PRIOR TO ANY EQUIPMENT ORDER, SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. THESE MUST SPECIFICALLY INCLUDE:
 - A) LUMINAIRE PHOTOMETRICS (INCLUDING ELECTRONIC .IES PHOTOMETRIC FILES) IF THE LUMINAIRE PROVIDED IS DIFFERENT FROM THE LUMINAIRES LISTED AS THE BASIS OF DESIGN IN THE LIGHTING DATA TABLE & LEGEND SHEET. LUMINAIRE PHOTOMETRICS TO FOLLOW FDM SECTION 231 REQUIREMENTS.
 - B) LOAD CENTER ELECTRICAL EQUIPMENT
3. ALL ACCESS KEYS FOR LIGHTING LOAD CENTER CABINETS SHALL BE PROVIDED TO MANATEE COUNTY (941-708-7510).
4. SEE THE ROADWAY COMPONENT'S UTILITY ADJUSTMENT SHEETS UNDER FPID 433592-4-58-01 FOR UTILITY AGENCY OWNERS AND THEIR CONTACT INFORMATION AND FOR TEST HOLE (TH#) INFORMATION.
5. CONTACT THE MAINTAINING AGENCY (MANATEE COUNTY PUBLIC WORKS, 941-708-7510) REGARDING POLE SEQUENCING NAMES AND NUMBERS.
6. ALL REMOVED EQUIPMENT AND HARDWARE SHALL BE RETURNED TO THE MAINTAINING AGENCY:

ALSO SUBMIT A COPY OF THE EQUIPMENT SPECIFICATION OR DESIGN DATA TO:
 MR. VISHAL KAKKAD
 MANATEE COUNTY
 TRAFFIC DESIGN DIVISION MANAGER
 2101 47TH TERRACE EAST
 BRADENTON, FL 34203-3785

MANATEE COUNTY TRAFFIC OPERATIONS DIVISION
 2904 12TH ST. CT. E.
 BRADENTON, FL 34208

CONTACT AARON BURKETT, TRAFFIC OPERATIONS DIVISION MANAGER, AT 941-708-7509 (AARON.BURKETT@MYMANATEE.ORG).

REVISIONS				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		L-6
						SR 45	MANATEE		433592-4-58-01

LEGEND

LUMINAIRE LABEL	SYMBOLS	DESCRIPTION
A		175 WATT LED LUMINAIRE WITH 4000K COLOR TEMPERATURE. WIRED FOR 480 V OPERATION. DESIGNED FOR TYPE III DISTRIBUTION. SYMBOL CONSISTS OF NEW UTILITY CONFLICT POLE AND INCLUDES POLE CABLE DISTRIBUTION SYSTEM. LIGHTING DESIGN BASED ON MANUFACTURER AMERICAN ELECTRIC LIGHTING, ATB2_P601_480_R3.
B		337 WATT LED LUMINAIRE WITH 4000K COLOR TEMPERATURE. WIRED FOR 480 V OPERATION. DESIGNED FOR TYPE IV DISTRIBUTION. SYMBOL CONSISTS OF NEW STANDARD LIGHT POLE AND INCLUDES POLE CABLE DISTRIBUTION SYSTEM. LIGHTING DESIGN BASED ON MANUFACTURER HOLOPHANE, MGLED P3 40K 480 FT LT VT.
C		337 WATT LED LUMINAIRE WITH 4000K COLOR TEMPERATURE. WIRED FOR 480 V OPERATION. DESIGNED FOR TYPE IV DISTRIBUTION. SYMBOL CONSISTS OF LUMINAIRE FOR EXISTING LIGHT POLE RETROFIT. LIGHTING DESIGN BASED ON MANUFACTURER HOLOPHANE, MGLED P3 40K 480 FT LT VT.
D		175 WATT LED LUMINAIRE WITH 4000K COLOR TEMPERATURE. WIRED FOR 480 V OPERATION. DESIGNED FOR TYPE III DISTRIBUTION. SYMBOL CONSISTS OF NEW STANDARD LIGHT POLE AND INCLUDES POLE CABLE DISTRIBUTION SYSTEM. LIGHTING DESIGN BASED ON MANUFACTURER AMERICAN ELECTRIC LIGHTING, ATB2_P601_480_R3.
		EXISTING LIGHT POLE AND LUMINAIRE (TO REMAIN).
		EXISTING LIGHT POLE AND LUMINAIRE (TO BE REMOVED).
		2" HDPE CONDUIT, DIRECTIONAL BORE, WITH CONDUCTORS INSIDE (CONDUCTOR SIZE AS SHOWN ON PLAN SHEETS). TWO CONDUITS UNLESS OTHERWISE NOTED IN PLANS, ONE ACTIVE AND ONE SPARE. THE CONDUIT AND TRANSITION COUPLINGS SHALL BE UL LISTED.
		2" SCH 40 PVC CONDUIT, OPEN TRENCH, WITH CONDUCTORS INSIDE (CONDUCTOR SIZE AS SHOWN ON PLAN SHEETS).
		EXISTING LIGHTING CONDUCTORS (TO BE REMOVED).
		EXISTING LIGHTING CONDUIT/CONDUCTORS (TO REMAIN).
		PROPOSED SPECIAL FOUNDATION FOR LIGHT POLE. (SEE LIGHT POLE SPREAD FOOTING DETAILS FOR MORE INFORMATION).
		PULL BOX.
		EXISTING PULL BOX (TO REMAIN).
		PROPOSED LOAD CENTER (BASE MOUNTED) 240/480 V WITH PHOTOELECTRIC CONTROL (SEE PLAN SHEET FOR RATING) (METERED).
		EXISTING LOAD CENTER (TO REMAIN).
		NEW SERVICE POLE AND DISCONNECT 240/480 V 1 PHASE, 3 WIRE SERVICE. SEE PLAN SHEETS FOR FPL SERVICE POINTS.
		EXISTING FPL SERVICE POINT (TO REMAIN).
		PROPOSED 240/480 V SINGLE PHASE TRANSFORMER, POLE MOUNTED (COORDINATE W/ FPL FOR POWER CONNECTION).

CONVENTIONAL LIGHTING DESIGN CRITERIA

AVG. INITIAL INTENSITY (H.F.C.) 1.5 FOOT CANDLES STD.
 UNIFORMITY RATIO AVG./MIN. 4:1 OR LESS
 UNIFORMITY RATIO MAX./MIN. 10:1 OR LESS
 DESIGN WIND SPEED 140 MPH
 VEILING LUMINANCE 0.3:1 OR LESS

INTERSECTION LIGHTING ILLUMINATION CRITERIA (RETROFIT)

AVG. INITIAL INTENSITY (H.F.C.) 1.5 FOOT CANDLES STD.
 (1.0 FOOT CANDLES MIN.)
 UNIFORMITY RATIO AVG./MIN. 4:1 OR LESS
 UNIFORMITY RATIO MAX./MIN. 10:1 OR LESS
 DESIGN WIND SPEED 140 MPH

POLE DATA

POLE NO.	LUMINAIRE LABEL	CIRCUIT	STATION	LUMINAIRE WATTAGE	ARM LENGTH (FT.)	MOUNTING HEIGHT (FT.)	TILT (DEGREEES)	FOUNDATION	POLE SETBACK	PAY ITEM
69TH AVE. W. TO 63RD AVE. W. (SEGMENT 1)										
1	B	A-1	1322+24	337	POLE TOP	45'	0°	STANDARD	51' RT	715-61-400
2	D	A-1	1322+36	175	15'	30'	0°	SPREAD FOOTER	65' RT	715-62-152
3	A	A-1	1323+20	175	16'	30'	0°	SPREAD FOOTER	73' LT	715-66-166
4	B	A-1	1323+65	337	POLE TOP	45'	0°	SPREAD FOOTER	54' RT	715-62-400
5	B	A-1	1325+39	337	POLE TOP	45'	0°	SPREAD FOOTER	49' RT	715-62-400
6	B	A-1	1327+01	337	POLE TOP	45'	0°	SPREAD FOOTER	46' RT	715-62-400
7	B	A-1	1327+96	337	POLE TOP	45'	0°	SPREAD FOOTER	48' RT	715-62-400
8	B	A-1	1330+07	337	POLE TOP	45'	0°	STANDARD	54' RT	715-61-400
9	B	A-1	1331+43	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
10	B	A-1	1332+71	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
11	B	A-1	1334+56	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
12	B	A-1	1335+77	337	POLE TOP	45'	0°	STANDARD	49' RT	715-61-400
13	B	A-1	1337+83	337	POLE TOP	45'	0°	SPREAD FOOTER	49' RT	715-62-400
14	B	A-1	1338+20	337	POLE TOP	45'	0°	SPREAD FOOTER	57' RT	715-62-400
15	A	A-1	1338+84	175	16'	30'	0°	SPREAD FOOTER	71' LT	715-66-166
16	B	A-2	1340+01	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
17	B	A-2	1341+96	337	POLE TOP	45'	0°	SPREAD FOOTER	46' RT	715-62-400
18	B	A-2	1343+16	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
19	B	A-2	1344+81	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
20	B	A-2	1346+17	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
21	B	A-2	1347+42	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
22	B	A-2	1348+67	337	POLE TOP	45'	0°	SPREAD FOOTER	48' RT	715-62-400
23	B	A-2	1349+85	337	POLE TOP	45'	0°	SPREAD FOOTER	48' RT	715-62-400
24	B	A-2	1350+93	337	POLE TOP	45'	0°	SPREAD FOOTER	48' RT	715-62-400
25	B	A-2	1352+28	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
26	B	A-2	1353+56	337	POLE TOP	45'	0°	SPREAD FOOTER	49' RT	715-62-400
27	B	A-2	1354+81	337	POLE TOP	45'	0°	SPREAD FOOTER	50' RT	715-62-400
28	B	A-3	1356+53	337	POLE TOP	45'	0°	SPREAD FOOTER	48' RT	715-62-400
29	B	A-3	1358+18	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
30	B	A-3	1360+08	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
31	C	EXIST.	1362+01	337	POLE TOP	EXIST.	0°	N/A	46' RT	715-11-213
32	C	EXIST.	1363+27	337	POLE TOP	EXIST.	0°	N/A	48' RT	715-11-213
53RD AVE. W. TO CORTEZ RD. (SEGMENT 2)										
33	B	B-1	1431+41	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
34	B	B-1	1432+92	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
35	B	B-1	1434+55	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
36	B	B-1	1436+20	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
37	B	B-1	1437+95	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
38	B	B-1	1439+62	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
39	B	B-2	1441+39	337	POLE TOP	45'	0°	SPREAD FOOTER	45' RT	715-62-400
40	B	B-2	1442+90	337	POLE TOP	45'	0°	STANDARD	47' RT	715-61-400
41	B	B-2	1444+55	337	POLE TOP	45'	0°	SPREAD FOOTER	46' RT	715-62-400
42	B	B-2	1446+15	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
43	B	B-2	1447+63	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
44	B	B-2	1449+34	337	POLE TOP	45'	0°	SPREAD FOOTER	44' RT	715-62-400
45	B	B-2	1450+67	337	POLE TOP	45'	0°	SPREAD FOOTER	44' RT	715-62-400
46	B	B-2	1452+37	337	POLE TOP	45'	0°	SPREAD FOOTER	44' RT	715-62-400
47	B	B-2	1452+86	337	POLE TOP	45'	0°	STANDARD	60' RT	715-61-400
48	B	B-2	1454+02	337	POLE TOP	45'	0°	STANDARD	46' RT	715-61-400
49	B	B-2	1455+92	337	POLE TOP	45'	0°	STANDARD	46' RT	715-61-400
50	B	B-2	1457+57	337	POLE TOP	45'	0°	STANDARD	44' RT	715-61-400

REVISIONS				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			LIGHTING DATA TABLE & LEGEND	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 45	MANATEE	433592-4-58-01		

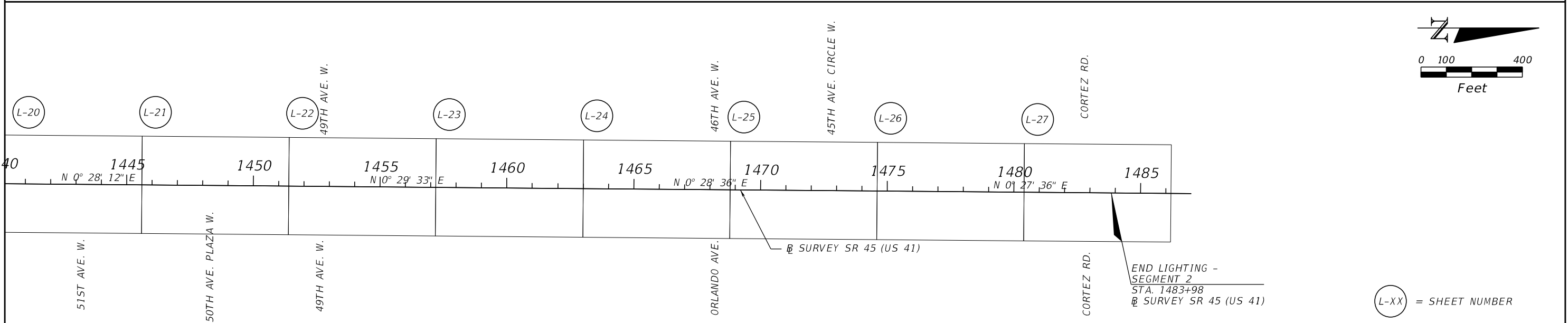
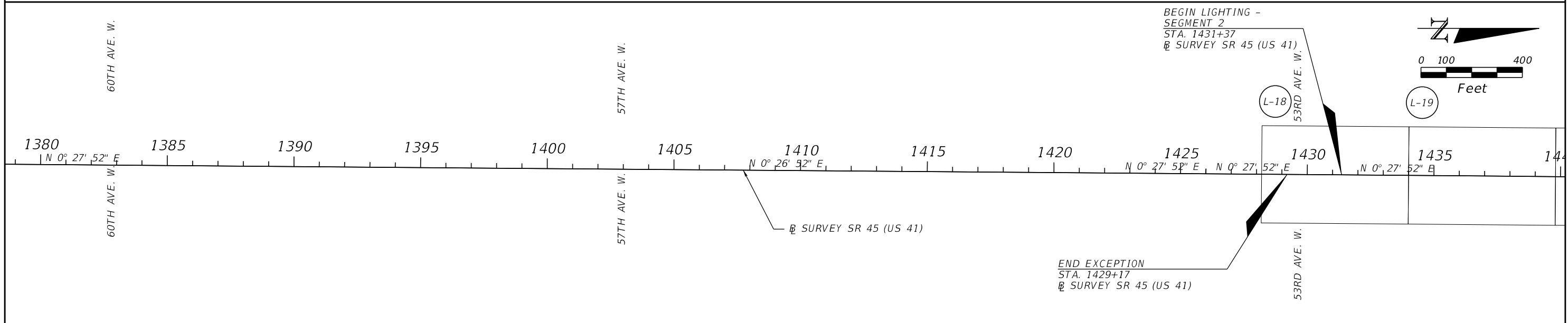
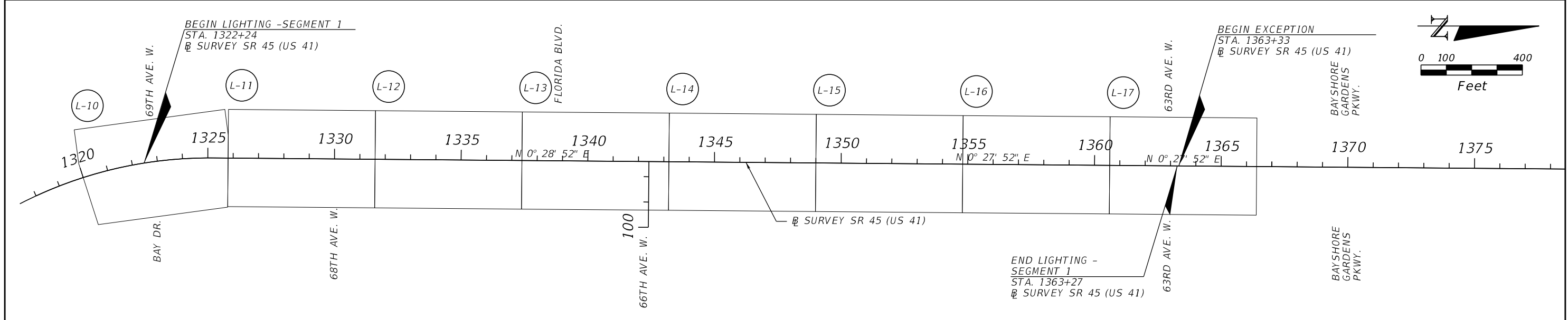
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POLE DATA

POLE NO.	LUMINAIRE LABEL	CIRCUIT	STATION	LUMINAIRE WATTAGE	ARM LENGTH (FT.)	MOUNTING HEIGHT (FT.)	TILT (DEGREEES)	FOUNDATION	POLE SETBACK	PAY ITEM
53RD AVE. W. TO CORTEZ RD. (SEGMENT 2 CONT.)										
51	B	B-2	1459+22	337	POLE TOP	45'	0°	SPREAD FOOTER	46' RT	715-62-400
52	B	B-2	1460+87	337	POLE TOP	45'	0°	STANDARD	44' RT	715-61-400
53	B	B-2	1462+10	337	POLE TOP	45'	0°	STANDARD	44' RT	715-61-400
54	B	B-2	1463+74	337	POLE TOP	45'	0°	SPREAD FOOTER	47' RT	715-62-400
55	B	B-3	1465+43	337	POLE TOP	45'	0°	SPREAD FOOTER	44' RT	715-62-400
56	B	B-3	1467+43	337	POLE TOP	45'	0°	SPREAD FOOTER	44' RT	715-62-400
57	B	B-3	1467+99	337	POLE TOP	45'	0°	STANDARD	61' LT	715-61-400
58	A	B-3	1468+52	175	16'	30'	0°	SPREAD FOOTER	75' RT	715-66-166
59	A	B-3	1469+19	175	16'	30'	0°	SPREAD FOOTER	44' LT	715-66-166
60	B	B-3	1470+18	337	POLE TOP	45'	0°	STANDARD	44' RT	715-61-400
61	B	B-3	1471+83	337	POLE TOP	45'	0°	SPREAD FOOTER	44' RT	715-62-400
62	B	B-3	1473+23	337	POLE TOP	45'	0°	SPREAD FOOTER	50' RT	715-62-400
63	B	B-3	1474+88	337	POLE TOP	45'	0°	SPREAD FOOTER	60' RT	715-62-400
64	B	B-3	1476+53	337	POLE TOP	45'	0°	SPREAD FOOTER	66' RT	715-62-400
65	B	B-3	1477+95	337	POLE TOP	45'	0°	SPREAD FOOTER	66' RT	715-62-400
66	B	B-3	1479+73	337	POLE TOP	45'	0°	SPREAD FOOTER	65' RT	715-62-400
67	B	B-3	1481+70	337	POLE TOP	45'	0°	SPREAD FOOTER	66' RT	715-62-400
68	A	B-3	1482+28	175	16'	30'	0°	SPREAD FOOTER	104' LT	715-66-166
69	A	B-3	1483+94	175	16'	30'	0°	SPREAD FOOTER	60' LT	715-66-166

REVISIONS				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			LIGHTING DATA TABLE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		L-8
					SR 45	MANATEE	433592-4-58-01		

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REVISIONS			
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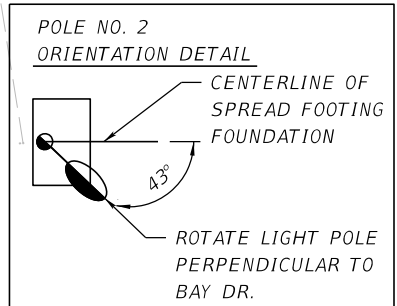
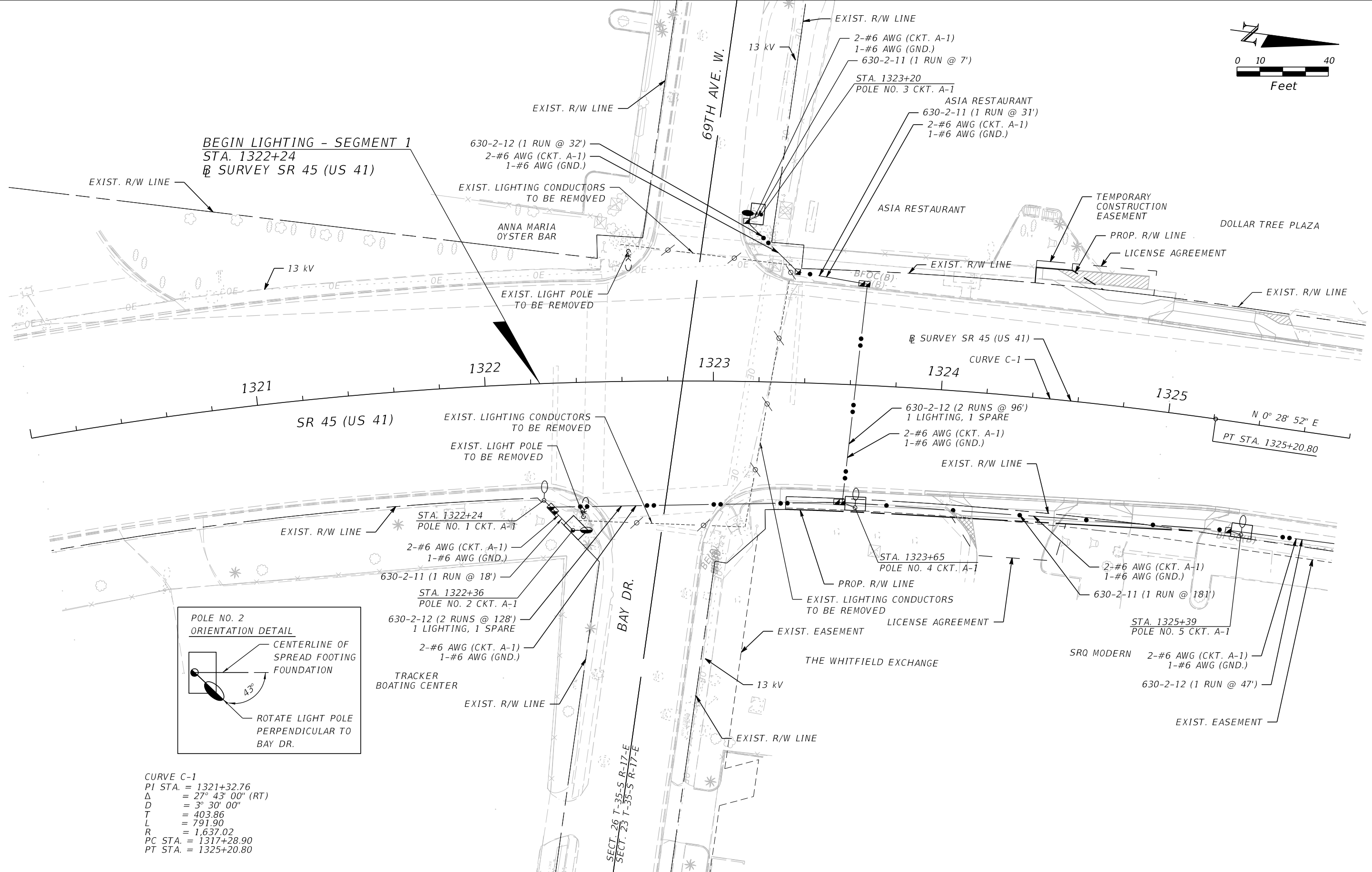
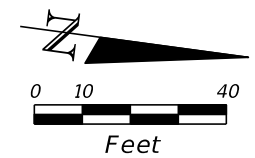
JULIO C. DELGADO, P.E.
P.E. LICENSE NUMBER 61661
SCALAR CONSULTING GROUP INC.
8751 W. BROWARD BOULEVARD, SUITE 307
PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PROJECT LAYOUT

SHEET NO.
L-9

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CURVE C-1
 PI STA. = 1321+32.76
 Δ = 27° 43' 00" (RT)
 D = 3° 30' 00"
 T = 403.86
 L = 791.90
 R = 1,637.02
 PC STA. = 1317+28.90
 PT STA. = 1325+20.80

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

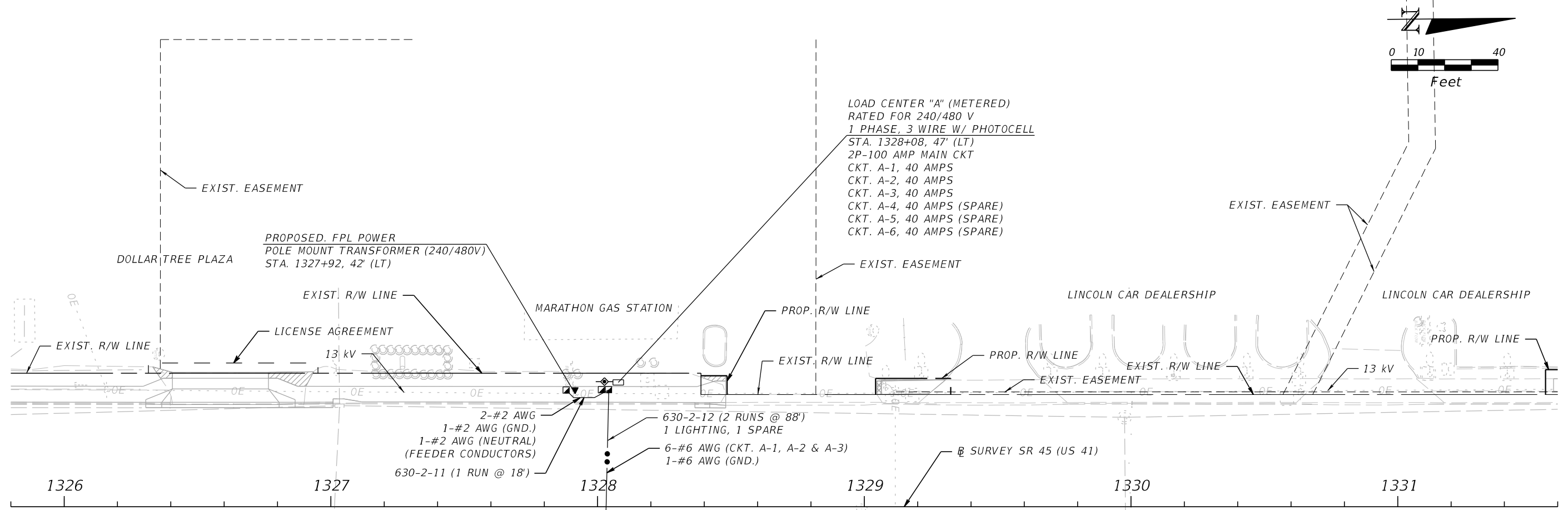
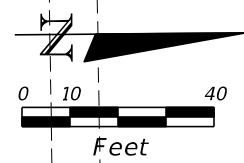
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 P.E. LICENSE NUMBER 61661
 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (1)

SHEET NO.
L-10

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DATE	DESCRIPTION	DATE	DESCRIPTION

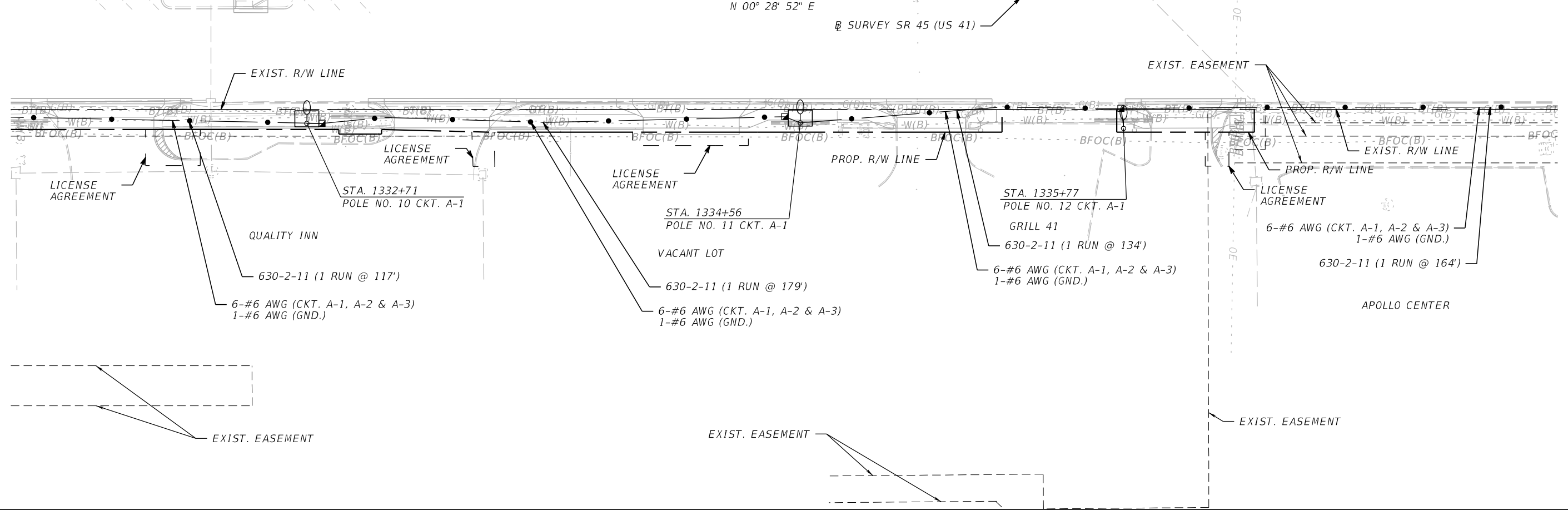
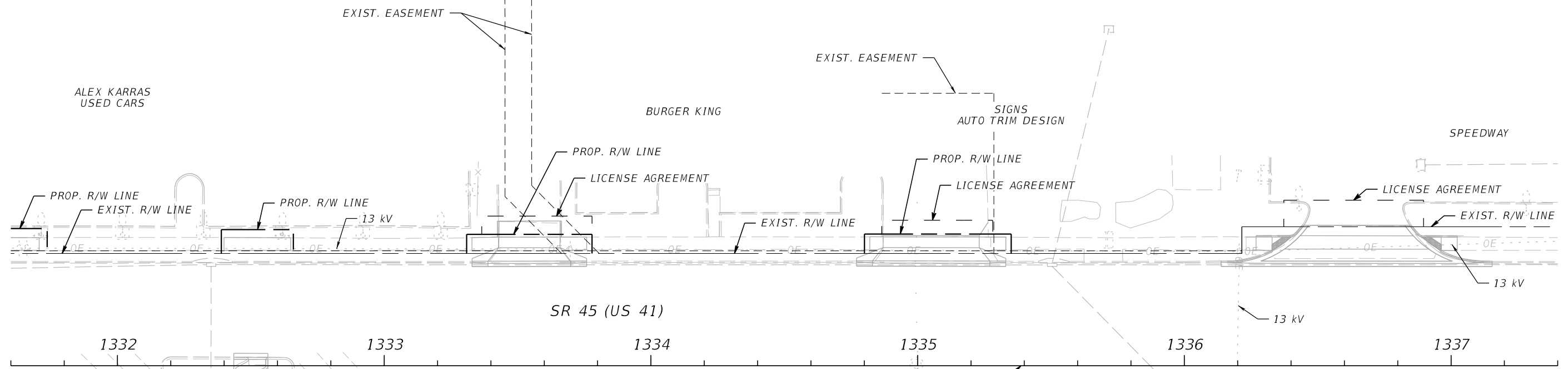
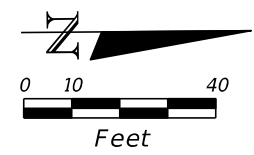
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MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (2)

SHEET NO.
L-11

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DATE	DESCRIPTION	DATE	DESCRIPTION

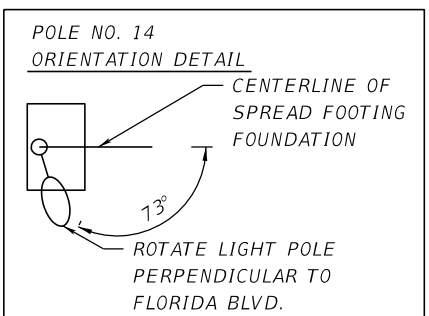
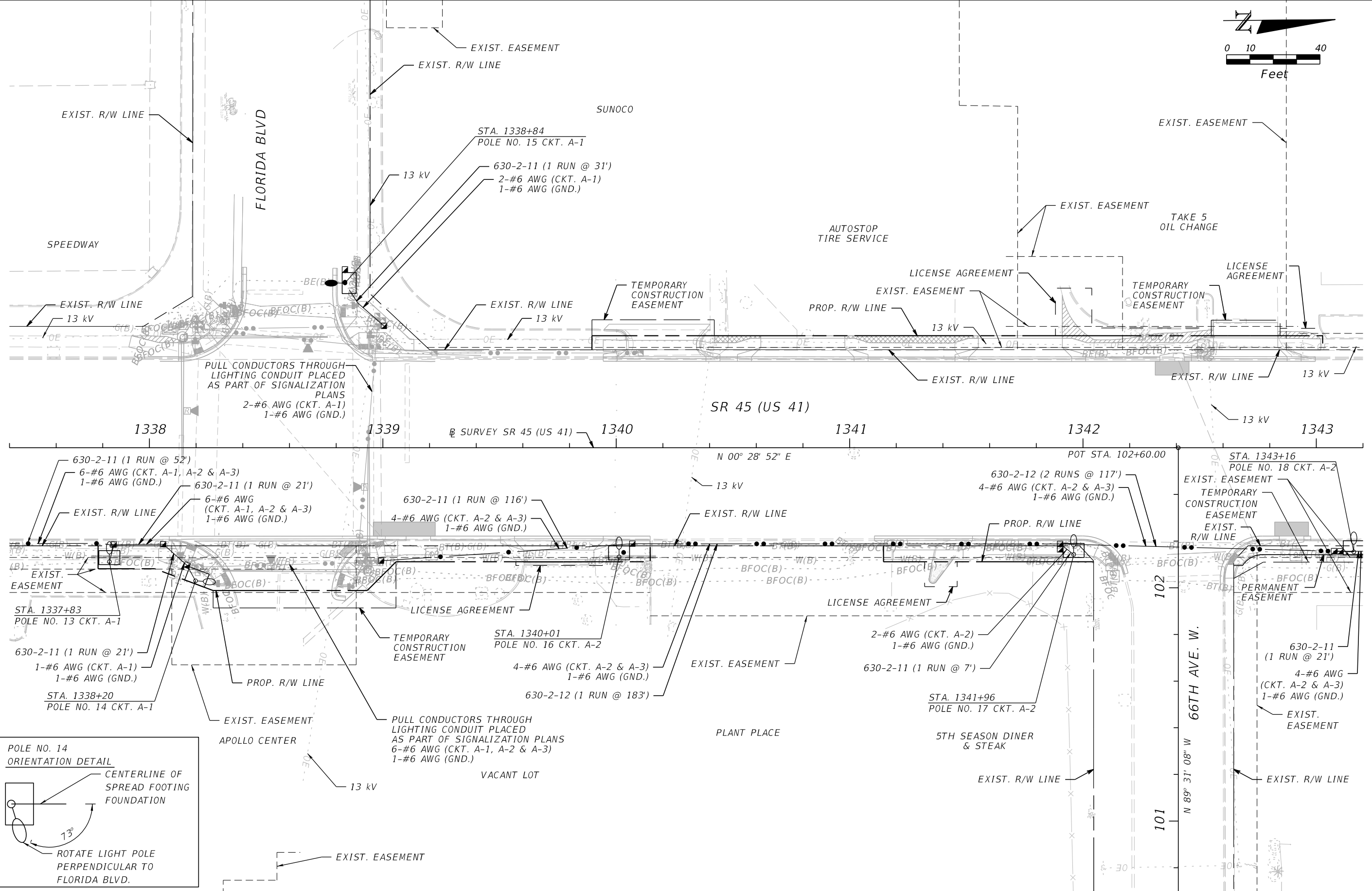
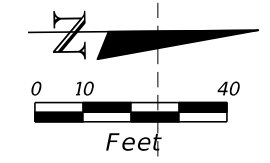
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MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (3)

SHEET NO.
L-12

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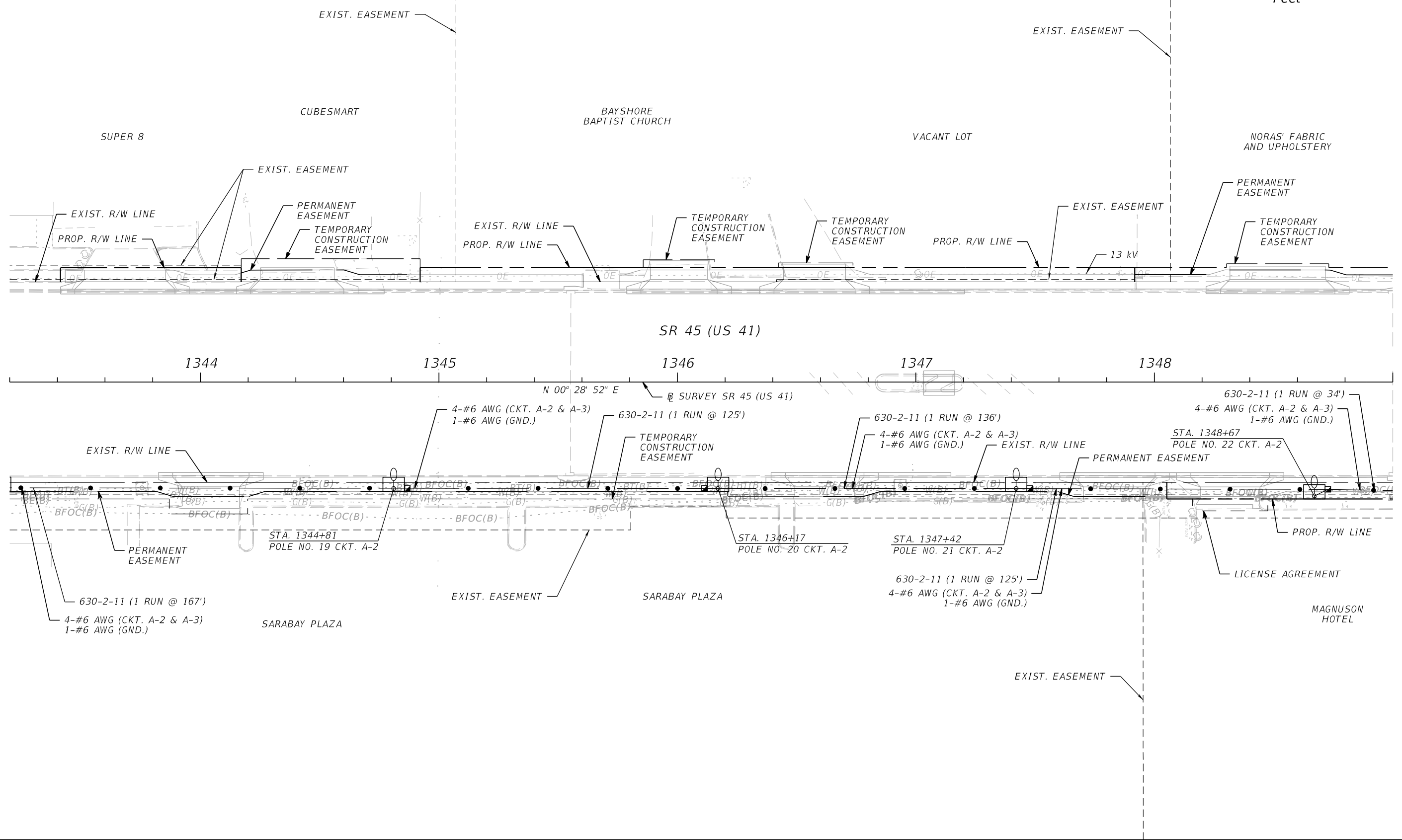
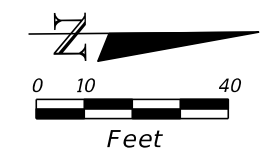


REVISIONS				MANATEE COUNTY			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				SR 45	MANATEE	433592-4-58-01	L-13

JULIO C. DELGADO, P.E.
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 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

LIGHTING PLAN (4)

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

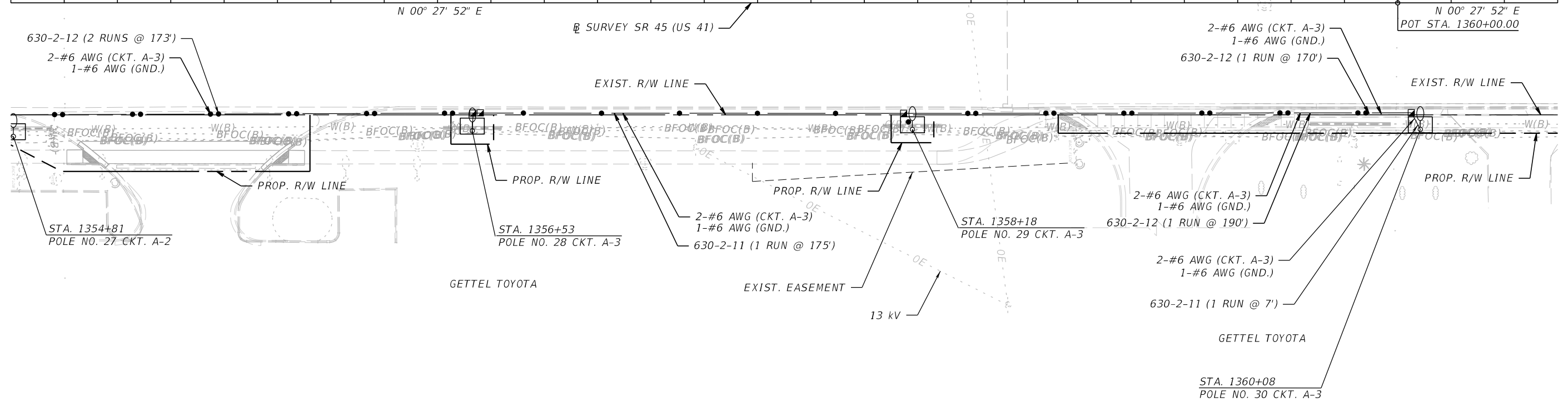
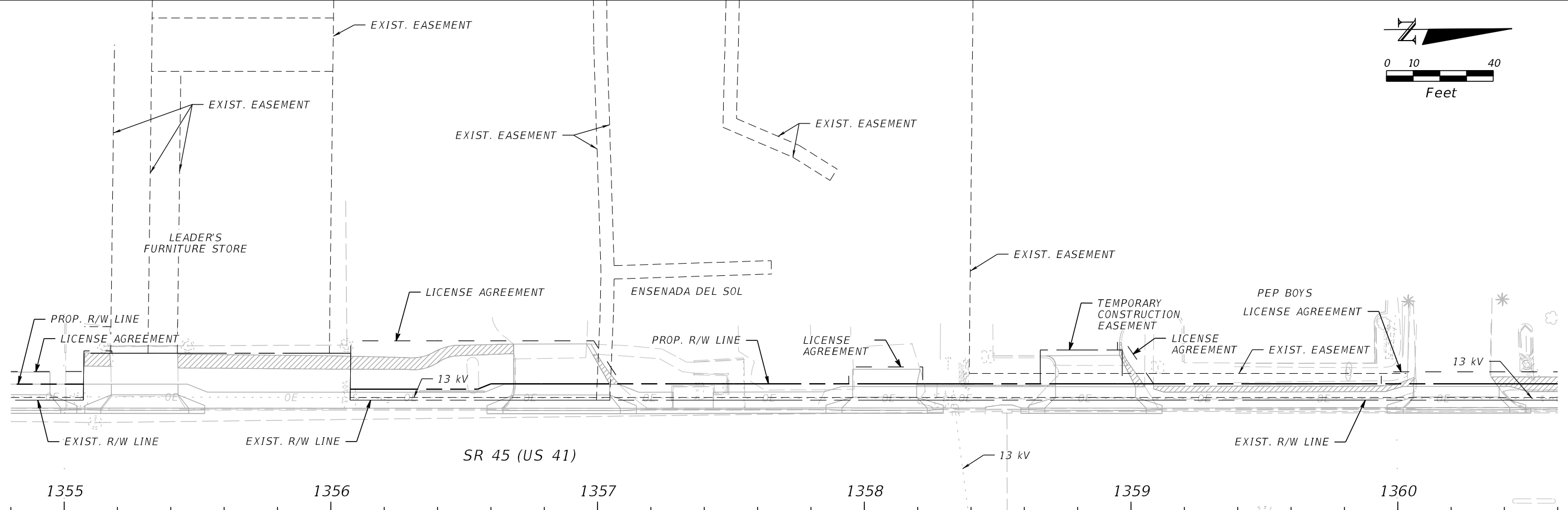
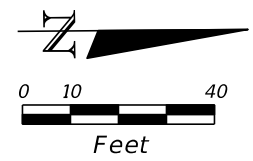
JULIO C. DELGADO, P.E.
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 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (5)

SHEET NO.
L-14

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

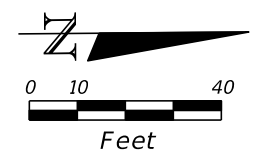
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 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (7)

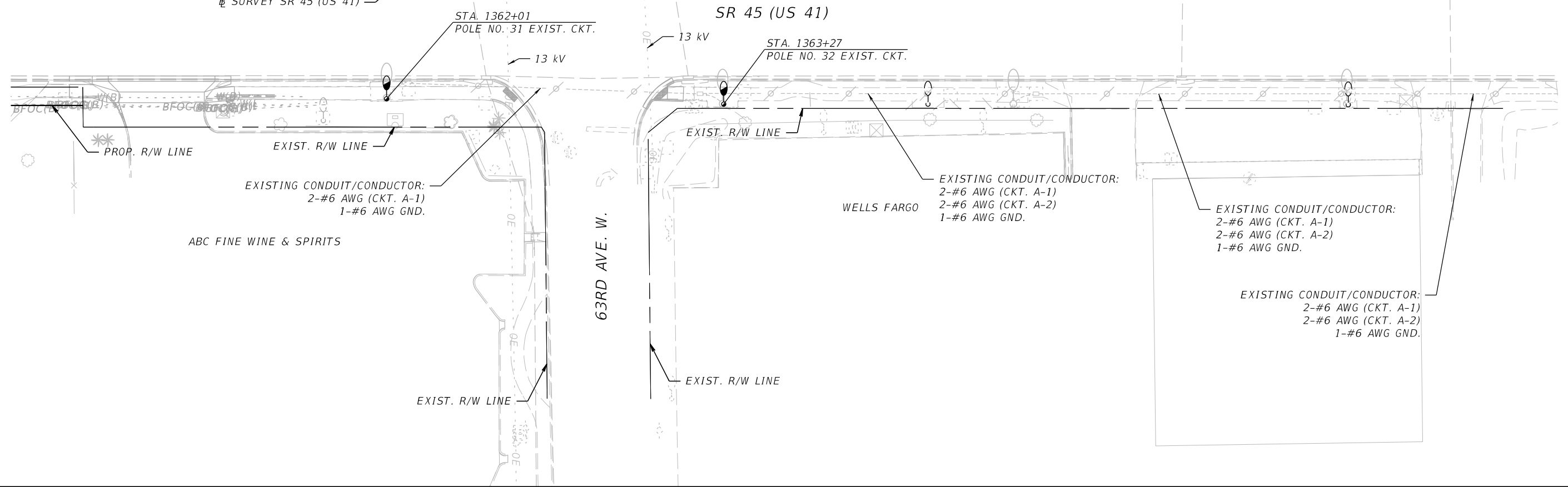
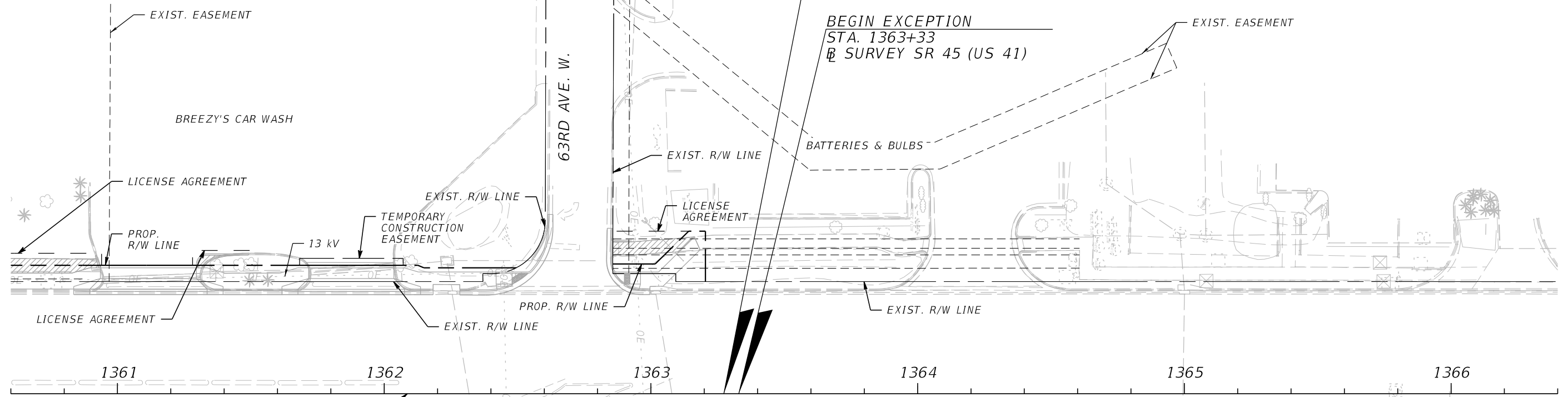
SHEET NO.
L-16

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END LIGHTING -
SEGMENT 1
STA. 1363+27
B SURVEY SR 45 (US 41)

BEGIN EXCEPTION
STA. 1363+33
B SURVEY SR 45 (US 41)



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

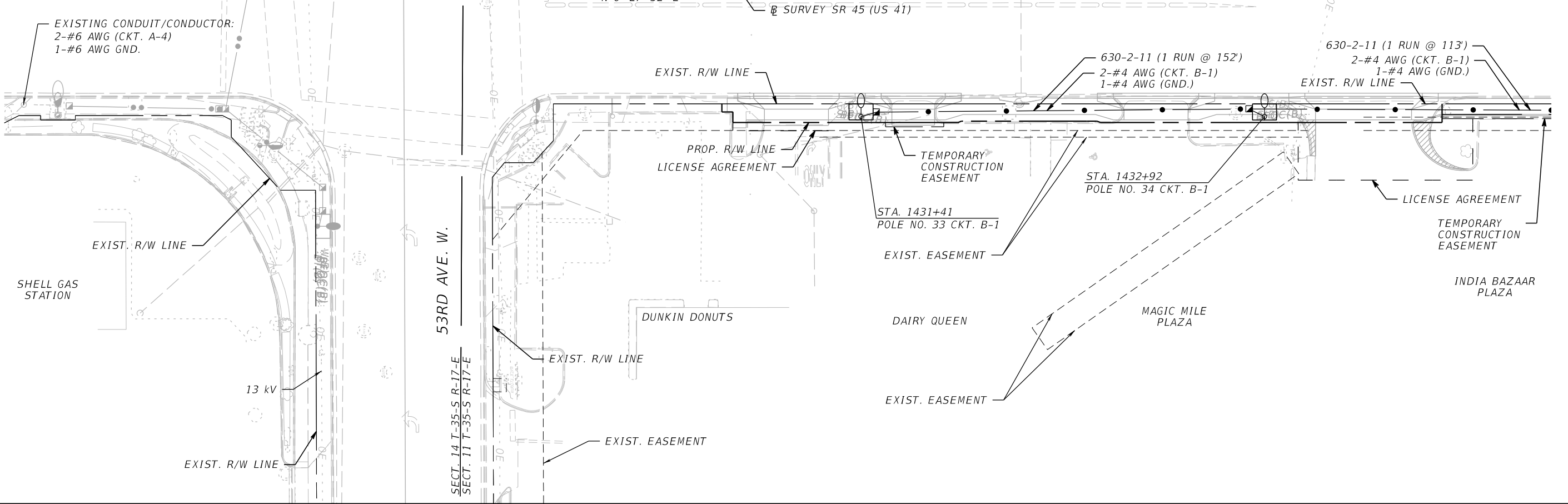
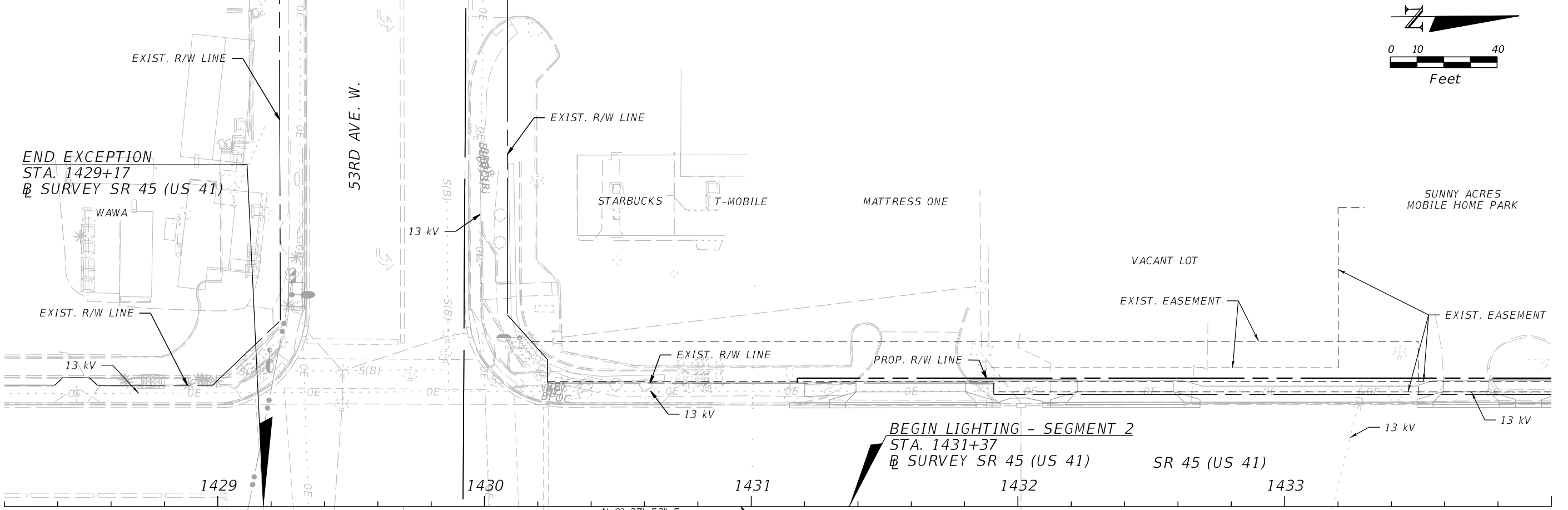
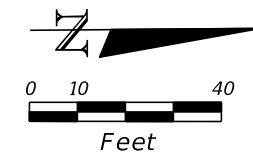
JULIO C. DELGADO, P.E.
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SCALAR CONSULTING GROUP INC.
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PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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LIGHTING PLAN (8)

SHEET NO.
L-17

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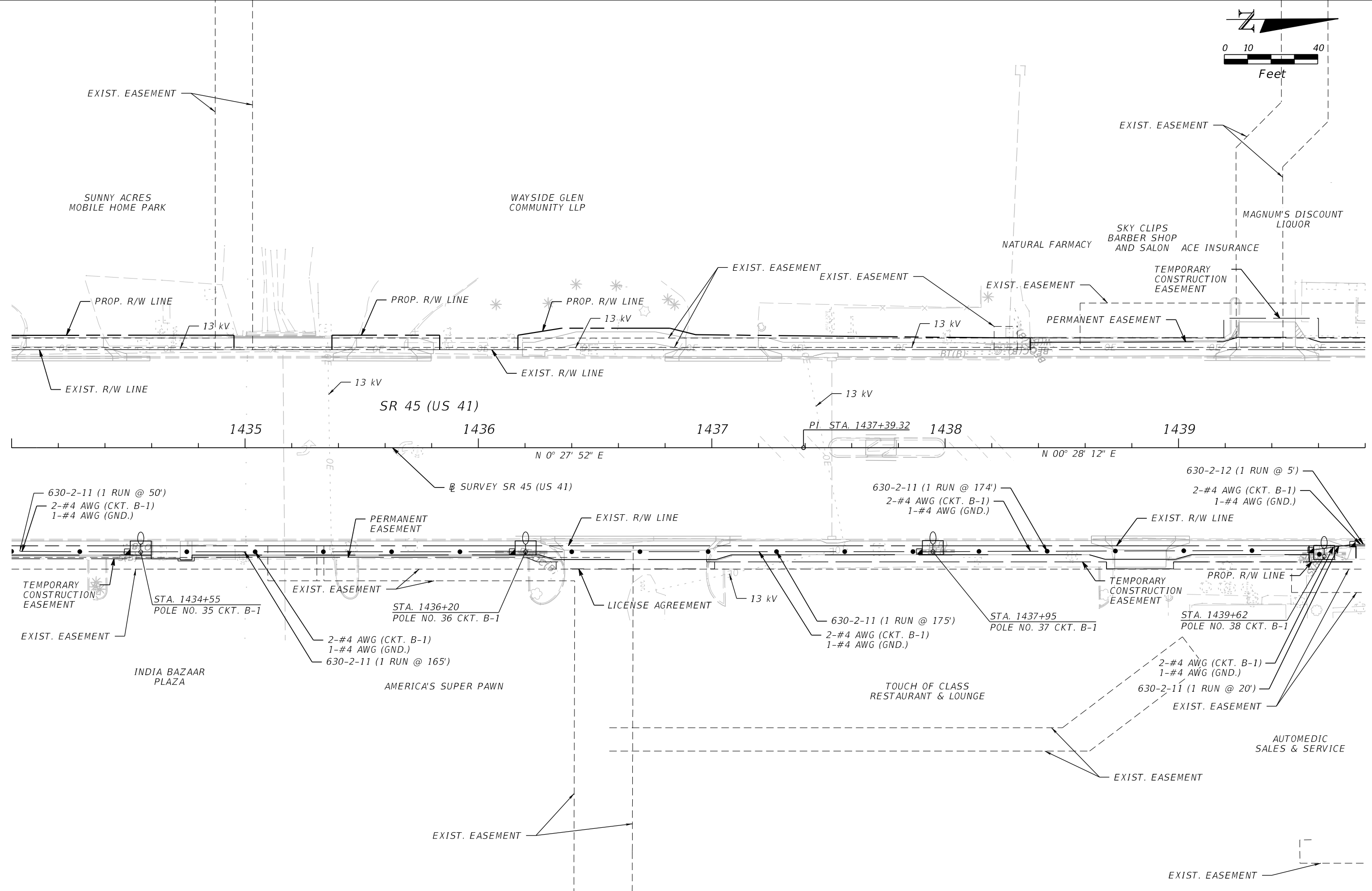
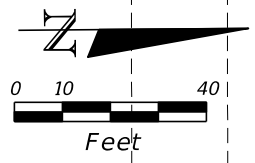
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MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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LIGHTING PLAN (9)

SHEET NO.
L-18

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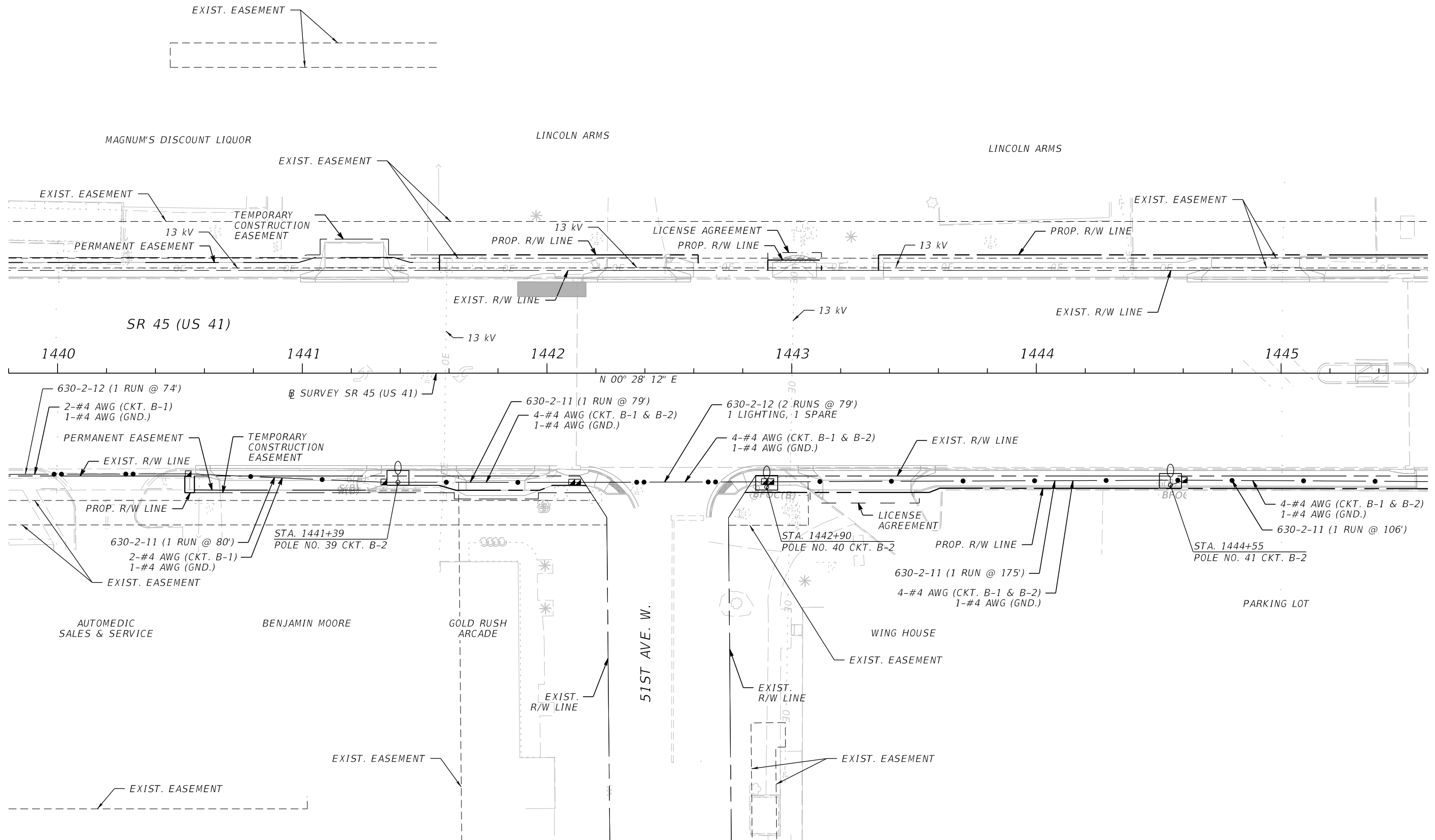
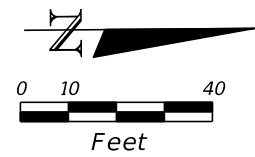
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 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (10)

SHEET NO.
L-19

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REVISIONS			
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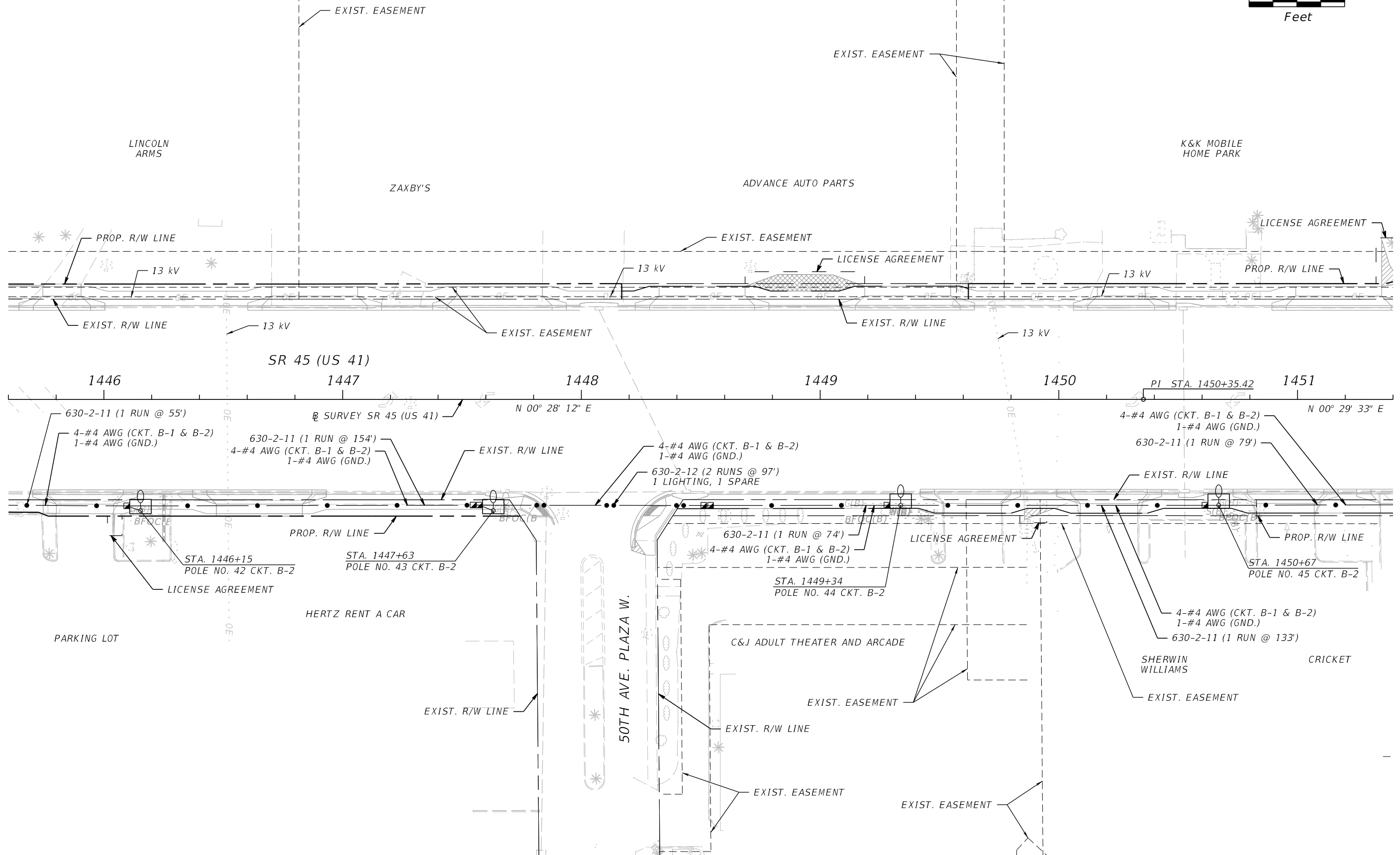
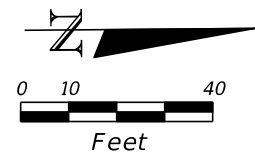
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 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (11)

SHEET NO.
L-20

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REVISIONS			
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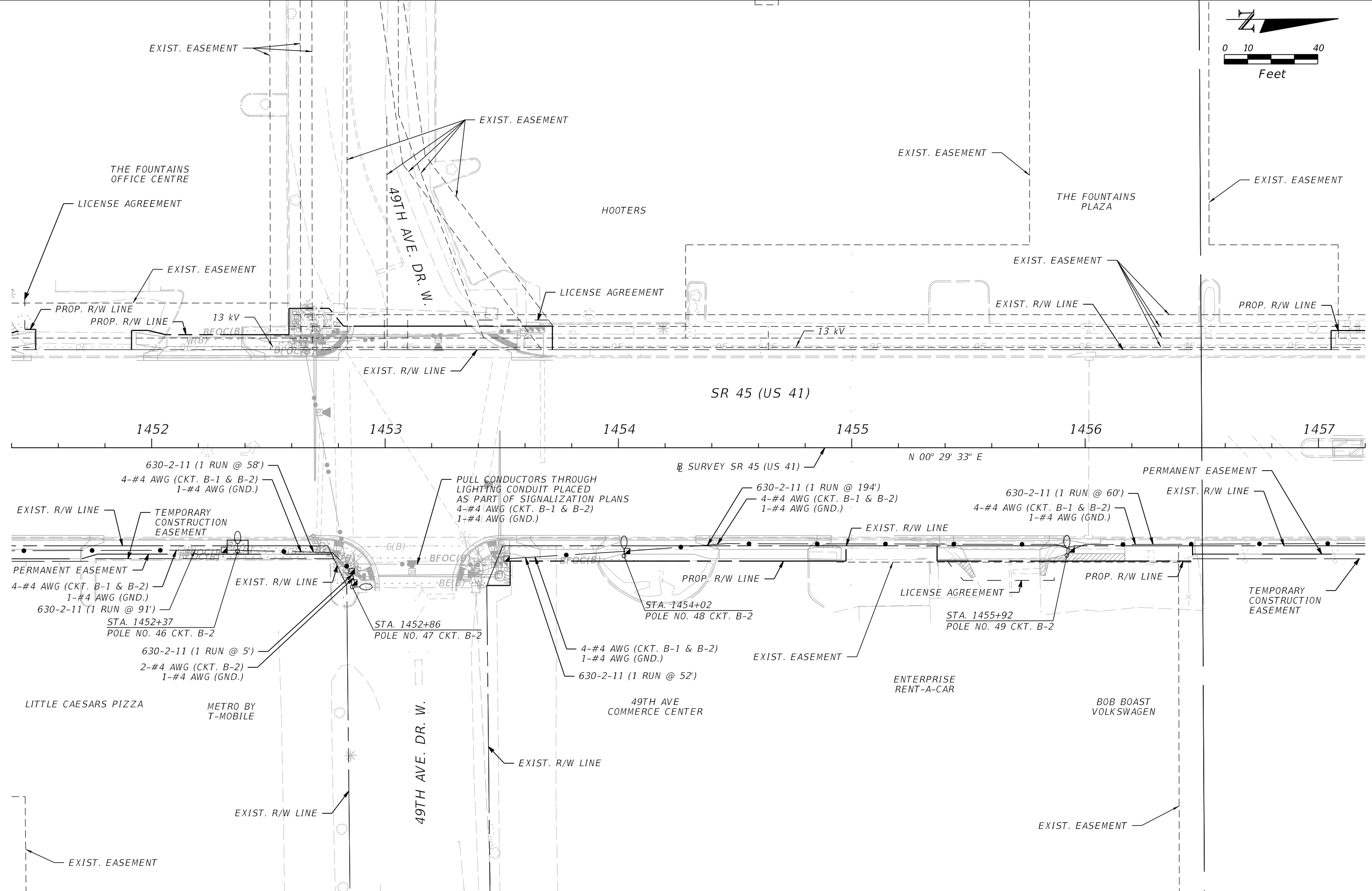
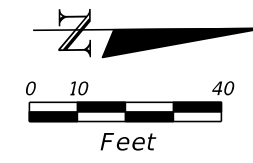
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P.E. LICENSE NUMBER 61661
SCALAR CONSULTING GROUP INC.
8751 W. BROWARD BOULEVARD, SUITE 307
PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (12)

SHEET NO.
L-21

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

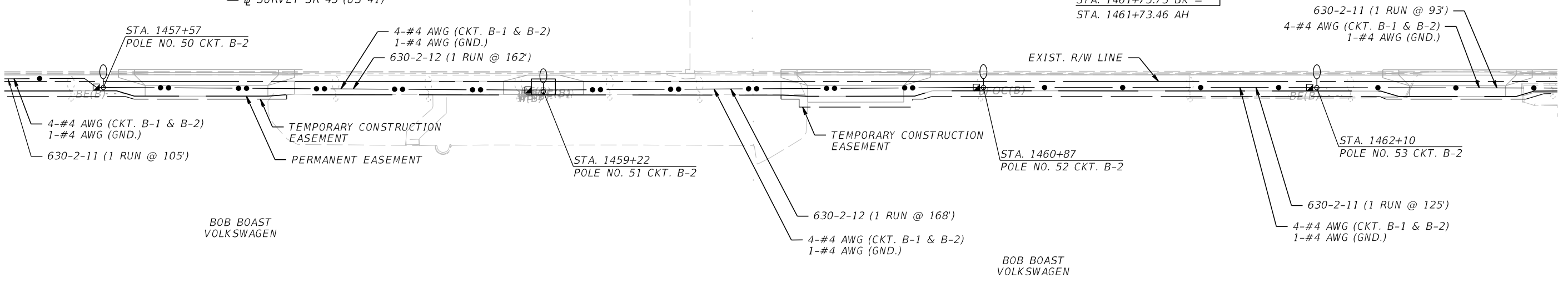
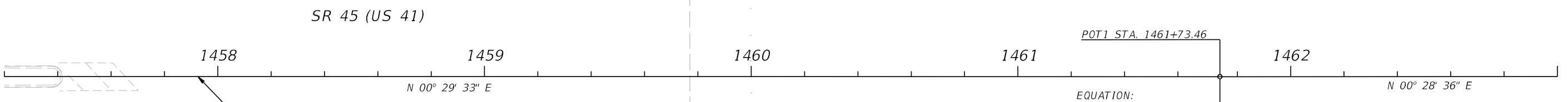
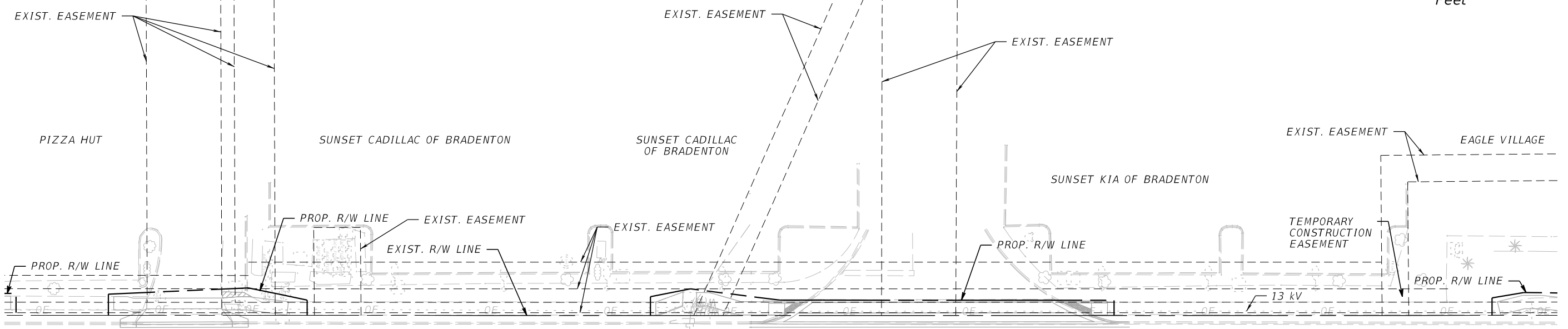
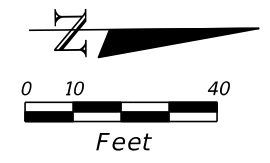
JULIO C. DELGADO, P.E.
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MANATEE COUNTY		
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LIGHTING PLAN (13)

SHEET NO.
L-22

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

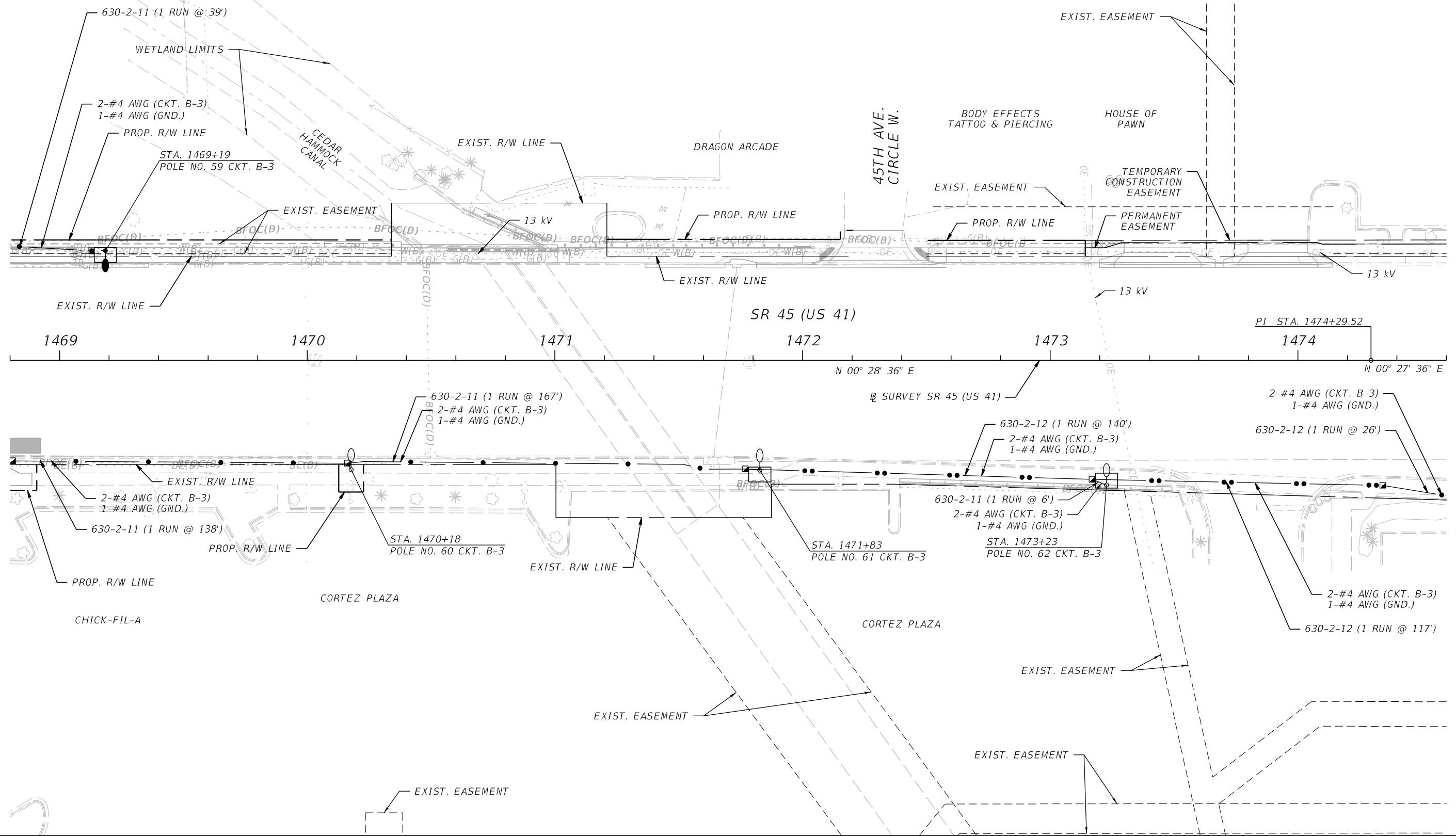
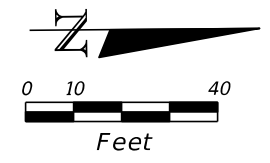
JULIO C. DELGADO, P.E.
 P.E. LICENSE NUMBER 61661
 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (14)

SHEET NO.
L-23

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

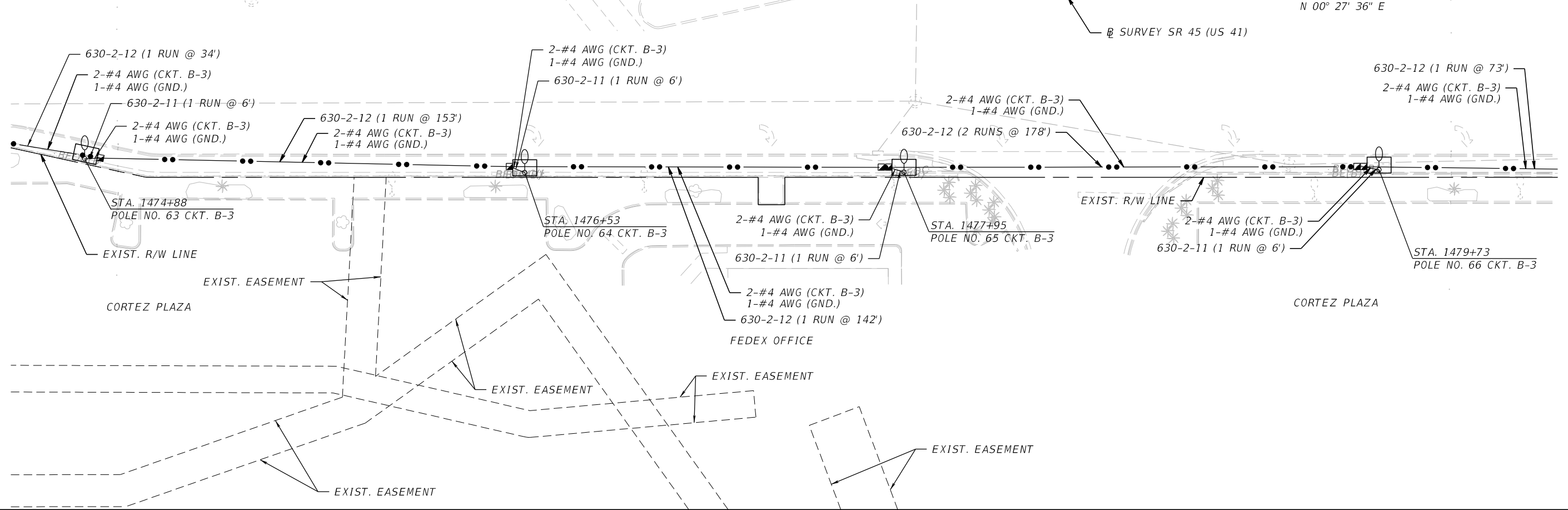
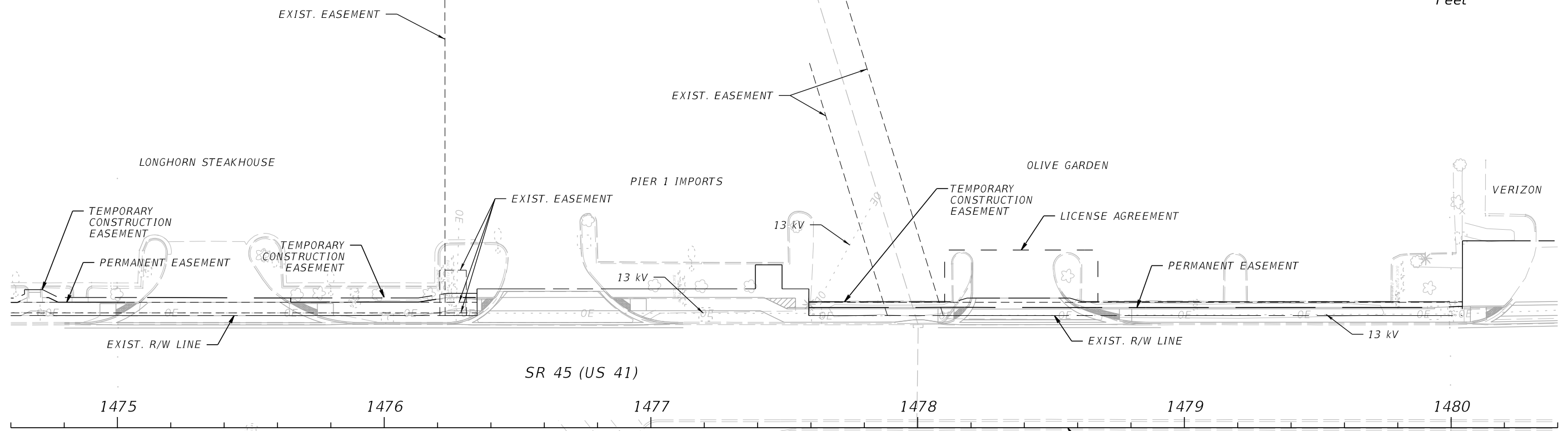
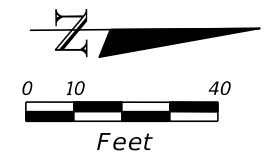
JULIO C. DELGADO, P.E.
 P.E. LICENSE NUMBER 61661
 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (16)

SHEET NO.
L-25

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



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

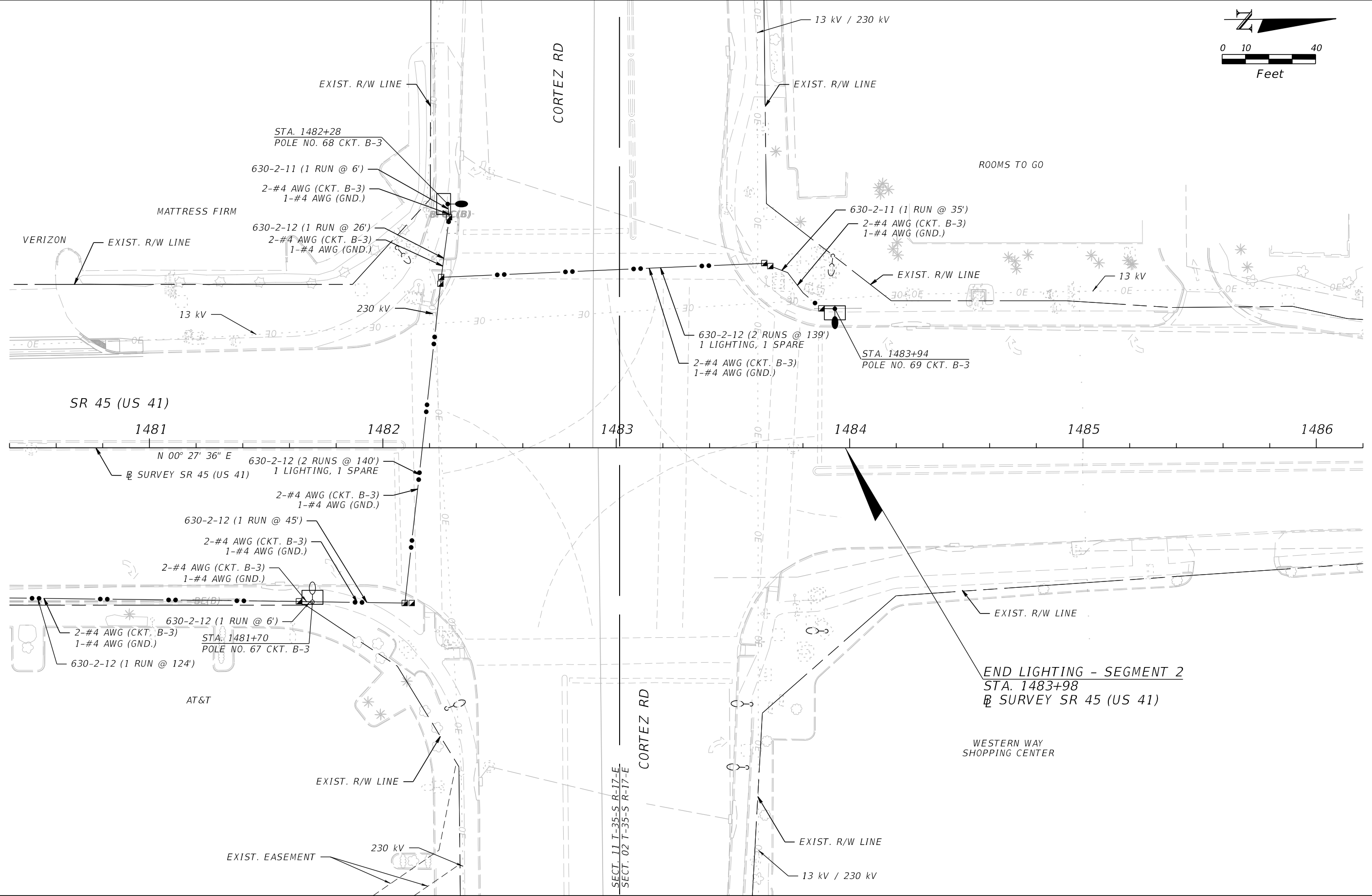
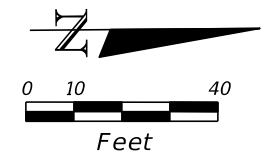
JULIO C. DELGADO, P.E.
 P.E. LICENSE NUMBER 61661
 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (17)

SHEET NO.
L-26

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



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JULIO C. DELGADO, P.E.
 P.E. LICENSE NUMBER 61661
 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LIGHTING PLAN (18)

SHEET NO.
L-27

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

GENERAL NOTES

DESIGN SPECIFICATIONS:

A) AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 1ST EDITION (2015) WITH 2020 INTERIM REVISIONS.

B) AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 6TH EDITION (2013) WITH 2018 INTERIM REVISIONS.

DESIGN GUIDELINES:

A) FDOT STRUCTURES MANUAL (JANUARY 2022)

B) FDOT DESIGN MANUAL - 2022

DESIGN METHOD:

LOAD RESISTANCE FACTOR DESIGN

CONSTRUCTION SPECIFICATIONS:

FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION - JANUARY 2022

CONCRETE:

CLASS	MINIMUM 28-DAY COMPRESSIVE STRENGTH	LOCATION
II	f'c = 3,400 PSI	LIGHT POLE SPREAD FOOTING

REINFORCING STEEL:

REINFORCING STEEL - GRADE 60 CARBON STEEL PER SPECIFICATIONS SECTION 931.

CONCRETE COVER:

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCE UNLESS SHOWN AS "MINIMUM COVER." SEE FDOT STANDARD SPECIFICATIONS FOR ALLOWABLE REINFORCEMENT PLACEMENT TOLERANCES.

8. DO NOT EMBED ELECTRICAL PULL BOXES IN THE SPREAD FOOTING FOUNDATION.

9. SOIL PARAMETERS USED IN DESIGN PER GEOTECHNICAL REPORT BY GREGORY STEPHENS, P.E. OF ARDAMAN & ASSOCIATES DATED 04/19/2018 (REV. 04/18/2019):
 SOIL TYPE = SANDY
 SUBMERGED SOIL UNIT WEIGHT = 45.6 PCF
 WATER TABLE ELEVATION AT FINISHED GRADE
 INTERNAL ANGLE OF FRICTION F = 29 DEGREES
 TOTAL SOIL UNIT WEIGHT = 108 PCF
 ULTIMATE SOIL BEARING PRESSURE = 5,375 PSF
 FOR ADDITIONAL INFORMATION SEE SOIL BORING DATA SHEETS IN SIGNAL PLANS.

10. COST OF LIGHT POLE SPREAD FOOTINGS, INCLUDING REINFORCEMENT STEEL AND SIDEWALK DEMOLITION AND DISPOSAL, SHALL BE INCLUDED IN PAY ITEM FOR INDIVIDUAL POLES. NO SEPARATE PAY ITEMS FOR LIGHT POLE FOOTINGS COST.

11. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITY LINES AT THE FOOTINGS PRIOR TO CONSTRUCTION. CONTACT SUNSHINE STATE ON CALL OF FLORIDA, INC. BEFORE BEGINNING OF EXCAVATION. SEE UTILITY ADJUSTMENTS SHEETS AND VERIFIED UTILITY LOCATE SHEETS.

12. AGGREGATE#57 SHALL BE IN ACCORDANCE WITH SECTION 901 OF THE SPECIFICATIONS. COST OF EXCAVATION, SOIL DISPOSAL, SEMICIRCLE STEEL PIPE, PREFORMED JOINT FILLER, GEOSYNTHETIC MATERIAL AND AGGREGATE FILL SHALL BE INCLUDED IN THE PAY ITEM FOR THE PARTICULAR POLE. GEOSYNTHETIC MATERIAL SHALL WRAP THE AGGREGATE #57.

13. FILL JOINTS BETWEEN NEW FOOTINGS AND SURROUNDING SIDEWALK OR CURB AND UTILITY PIPES SHALL BE PREFORMED EXPANSION JOINT MATERIAL IN ACCORDANCE WITH SECTION 932 OF THE SPECIFICATIONS. NO SEPARATE PAY ITEM FOR THE JOINT COST.

14. * IF THE DIMENSION TO TOP OF WATER MAINS, SANITARY SEWERS, GAS MAINS OR DRAINAGE PIPES IS LESS THAN 2FT PROVIDE UTILITY TREATMENT SHOWN IN DETAIL A. IF THE UTILITY IS LESS THAN 1'-0" TO THE BOTTOM OF THE FOOTER, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

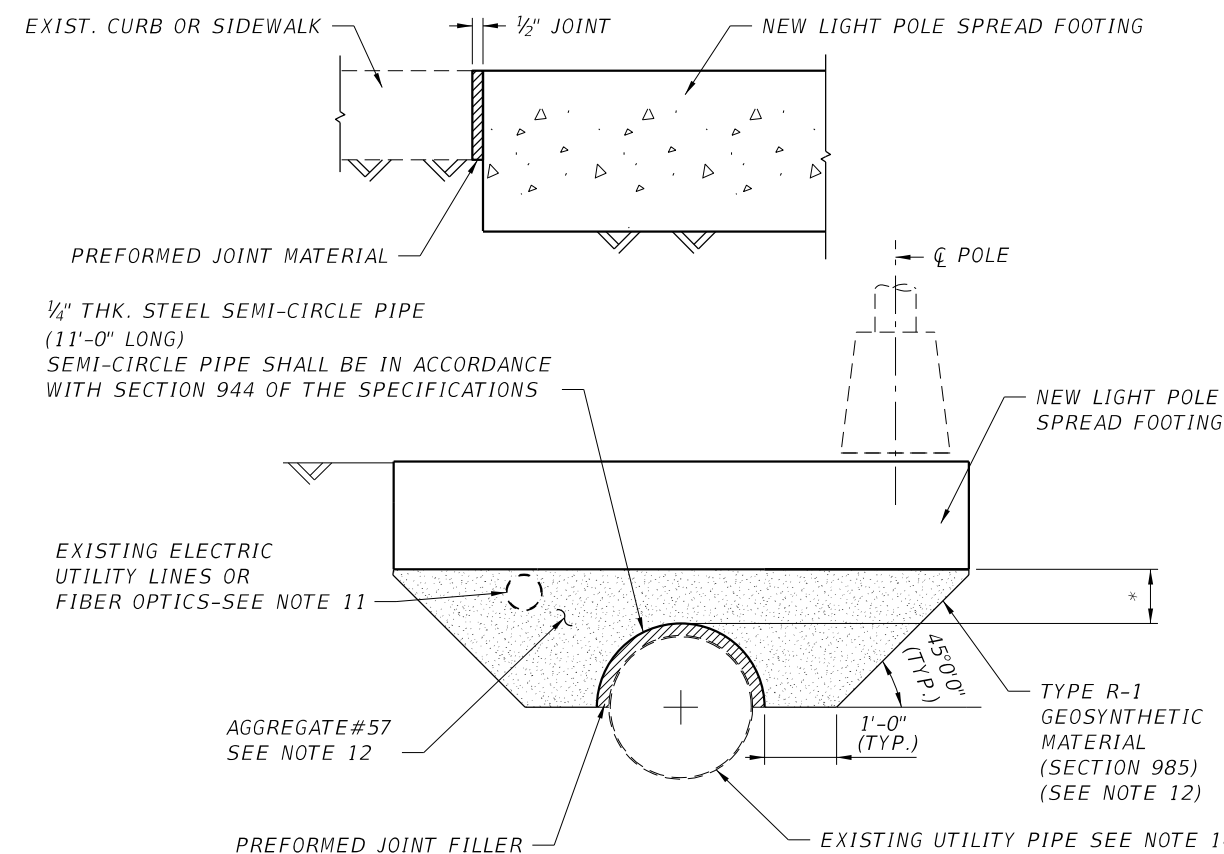
LIGHT POLE SPREAD FOOTING NOTES:

- DESIGN WIND SPEED = 140 MPH
- COMPACT SOIL UNDER SPREAD FOOTING IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS - SECTION 455.
- MATERIAL FOR BOLTS, WASHERS AND NUT SHALL BE PER STANDARD PLANS INDEX 715-002. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 4½" INCH CONCRETE COVER AT THE BOTTOM OF THE FOOTING. SHIFT FOOTING REINFORCEMENT AS REQUIRED TO CLEAR BOLTS. ANCHOR BOLT CONFIGURATION AND ANCHOR PLATES SHALL BE COMPATIBLE WITH THE LIGHT POLE TRANSFORMER BASE AND ACCOMMODATE THE FOOTING DIMENSIONS. PROVIDE DESIGN CALCULATIONS BASED ON LOADS PROVIDED BELOW, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
- FOR CONDUITS DETAILS REFER TO STANDARD PLANS INDEX 715-002.
- DESIGN LOADS: (EXTREME EVENT I LOAD COMBINATION LIMIT STATE)

POLE NO.	MOMENT IN TRANSVERSE DIRECTION (KIP-FT)	SHEAR IN TRANSVERSE DIRECTION (KIPS)	TORSION (KIP-FT)	AXIAL (KIP)	MOMENT IN LONGITUDINAL DIRECTION (KIP-FT)	SHEAR IN LONGITUDINAL DIRECTION (KIP)
*	20.03	0.73	0.07	0.36	19.63	0.74

* FOR SPREAD FOOTING LOCATIONS, SEE LIGHTING DATA TABLE & LEGEND SHEETS.

- IF A POLE IS FURNISHED WHICH PRODUCES GREATER LOADS THAN ARE LISTED ABOVE, REDESIGN THE SPREAD FOOTING AND SUBMIT DRAWINGS AND CALCULATIONS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA, TO THE ENGINEER FOR REVIEW AND APPROVAL.
- WORK SPREAD FOOTING DETAILS SHEET WITH LIGHTING PLANS, UTILITY ADJUSTMENT SHEETS AND STANDARD PLANS INDEX 715-002 (EXCEPT AS MODIFIED ON THESE SHEETS AND THE REQUIRED MODIFICATIONS TO ACCOMMODATE THE SPECIAL FOOTING DIMENSIONS).



DETAIL A: UNDERGROUND UTILITIES AT SPREAD FOOTINGS

REVISIONS				DRAWN BY: HJS	MANATEE COUNTY			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				CHECKED BY: PZM/HNS	SR 45	MANATEE	433592-4-58-01	L-28
				DESIGNED BY: HJS				
				CHECKED BY: PZM				

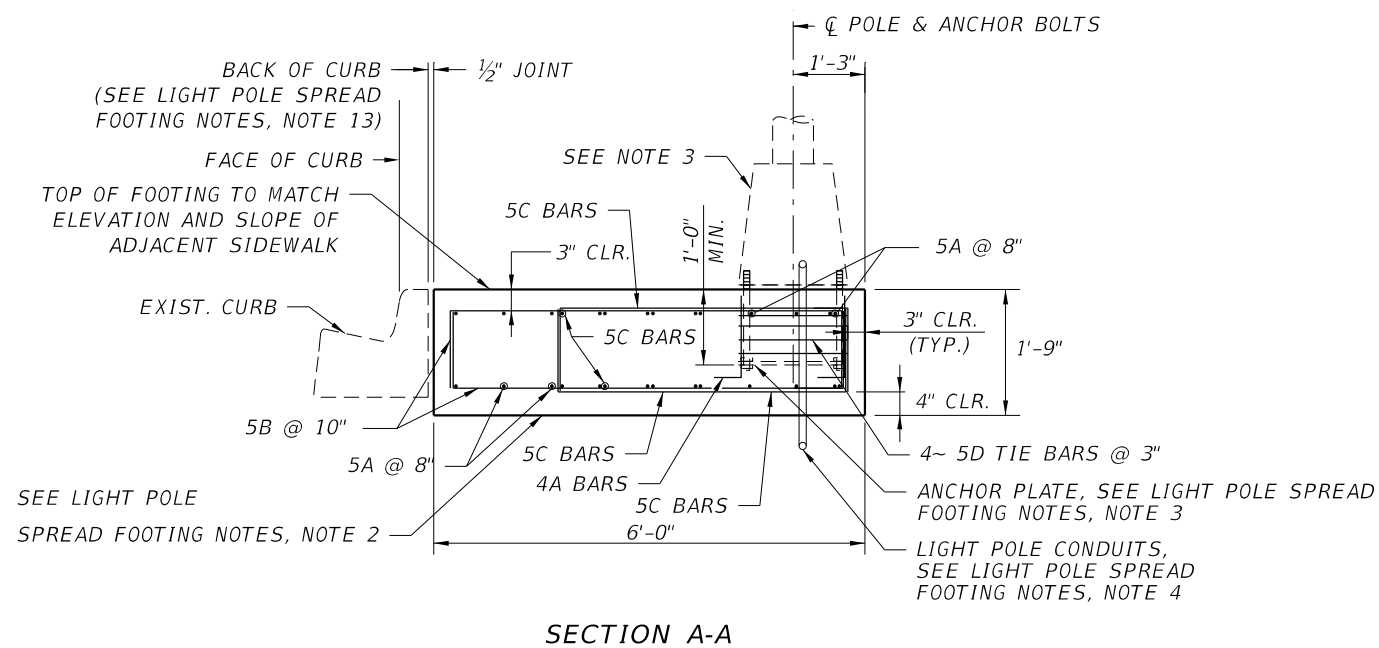
PREDRAG MILOSAVLJEVIC, PE
 PE LICENSE NUMBER 54961
 SCALAR CONSULTING GROUP INC.
 5713 CORPORATE WAY, SUITE 200
 WEST PALM BEACH, FL 33407

5/4/2023
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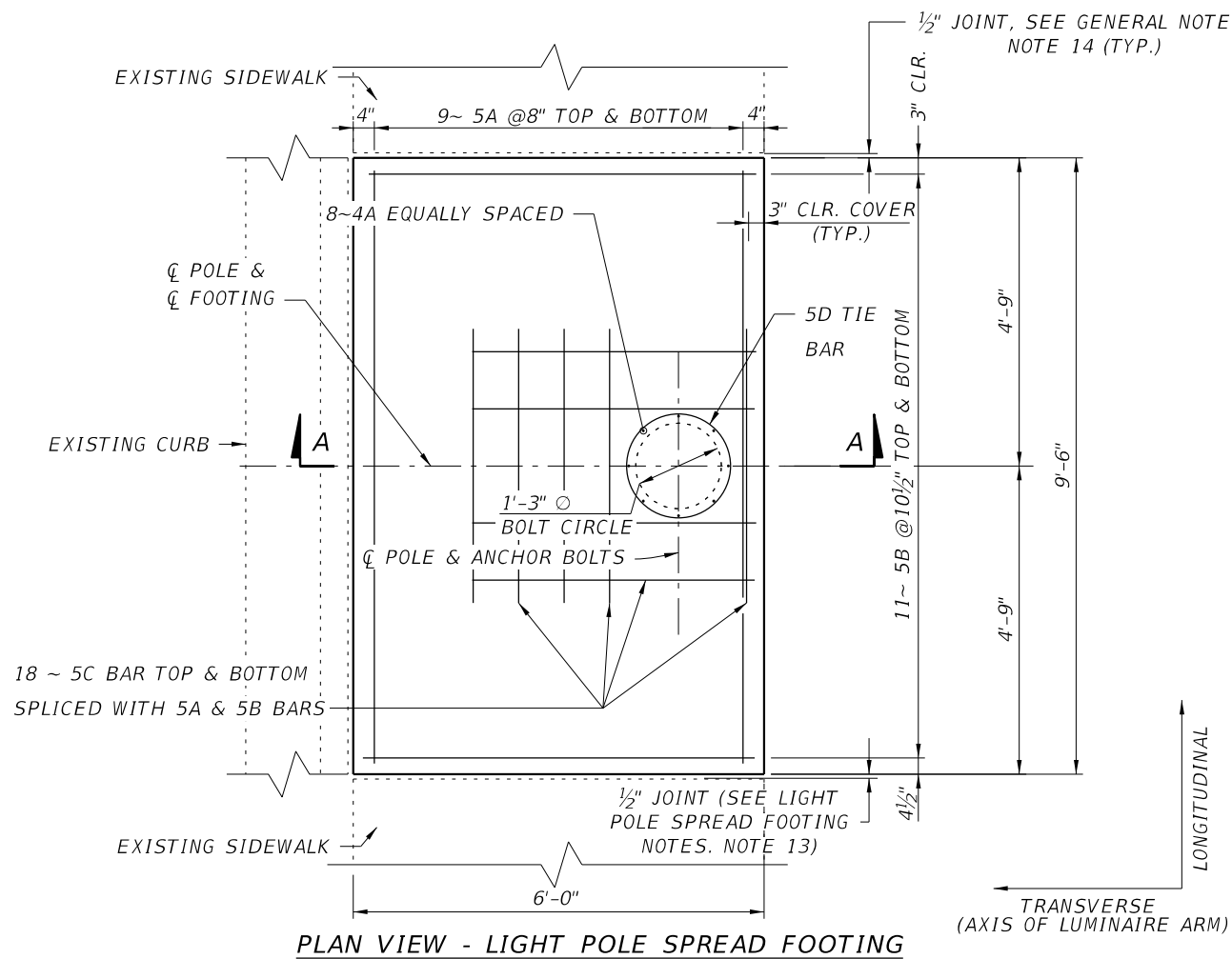
P:\2016\SP16D1001 (US 41 - 69th to Cortez)\43359215201\struct\B2MiscStr03.DGN

LIGHT POLE SPREAD FOOTING DETAILS (1)

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SECTION A-A

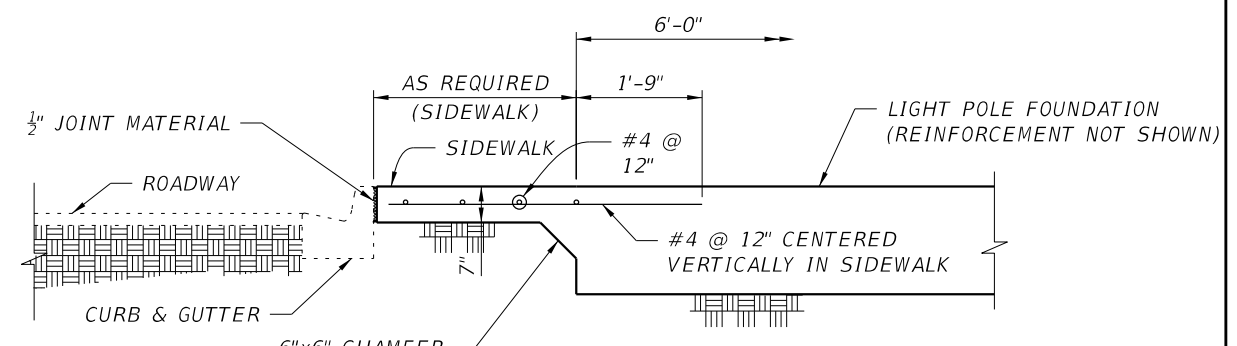


PLAN VIEW - LIGHT POLE SPREAD FOOTING

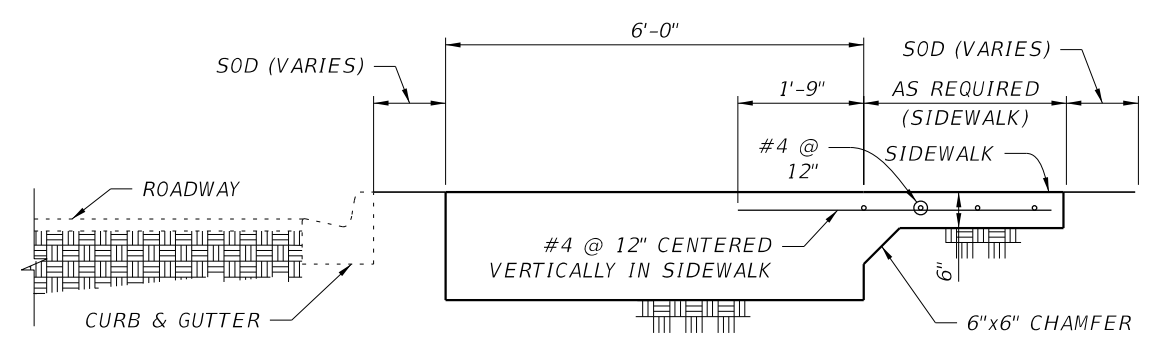
MARK	LENGTH	NO	TYP	STY	B		C		D	
					FT	IN	FT	IN	FT	IN
FOR ONE FOOTING										
4	A	1	10	8	10	1	2		8	
5	A	11	2	18	11		9	0	1	1
5	B	7	10	22	11		5	6	1	2
5	C	6	2	18	11		4	0	1	1
5	D	5	3	4	24				9	

ITEM	UNIT	QUANTITY
CONCRETE	CY	3.69
STEEL	LB	537

NOTE: THE ESTIMATED QUANTITIES DO NOT INCLUDE CONCRETE AND REINFORCEMENT FOR THE INTEGRAL SIDEWALK.



SIDEWALK AT LIGHT POLE FOUNDATIONS DETAIL NO. 1
(SEE NOTE 6)



SIDEWALK AT LIGHT POLE FOUNDATIONS DETAIL NO. 2
(SEE NOTE 6)

- NOTES:
1. WORK THIS SHEET WITH FDOT INDEX NO. 415-001 BAR BENDING DETAILS.
 2. ADJUST SPACING OF BARS A, B AND 5C TO CLEAR ANCHOR BOLTS.
 3. ALL POLES SHALL HAVE BREAKAWAY TRANSFORMER IN ACCORDANCE WITH STANDARD PLAN INDEX 715-002.
 4. FOR LIST OF POLES SEE POLE DATA & LEGEND SHEET.
 5. THE CONTRACTOR SHALL VERIFY EXISTING UNDERGROUND UTILITIES AND INFORM THE ENGINEER ABOUT ANY CONFLICTS.
 6. WHERE SPREAD FOOTING NEEDS TO BE INCORPORATED IN ADJACENT SIDEWALK, THE TOP SURFACE OF THE FOOTING SHALL BE CAST FLUSH WITH THE TOP SURFACE OF THE SIDEWALK AND SHALL RECEIVE THE SAME SURFACE TREATMENT AS THE ADJACENT SIDEWALK. EXTEND REINFORCEMENT FULL LENGTH OF LIGHT POLE FOUNDATION.
 7. CONSTRUCTION COSTS ASSOCIATED WITH THE SIDEWALK AT LIGHT POLE FOUNDATIONS WILL BE INCLUDED IN CONSTRUCTION COST OF THE LIGHT POLE SPREAD FOOTING.

REVISIONS				PREDRAG MILOSAVLJEVIC, PE PE LICENSE NUMBER 54961 SCALAR CONSULTING GROUP INC. 5713 CORPORATE WAY, SUITE 200 WEST PALM BEACH, FL 33407	DRAWN BY: HJS CHECKED BY: PZM/HNS DESIGNED BY: HJS CHECKED BY: PZM	MANATEE COUNTY			SHEET NO. L-29
DATE	DESCRIPTION	DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 45	MANATEE	433592-4-58-01		

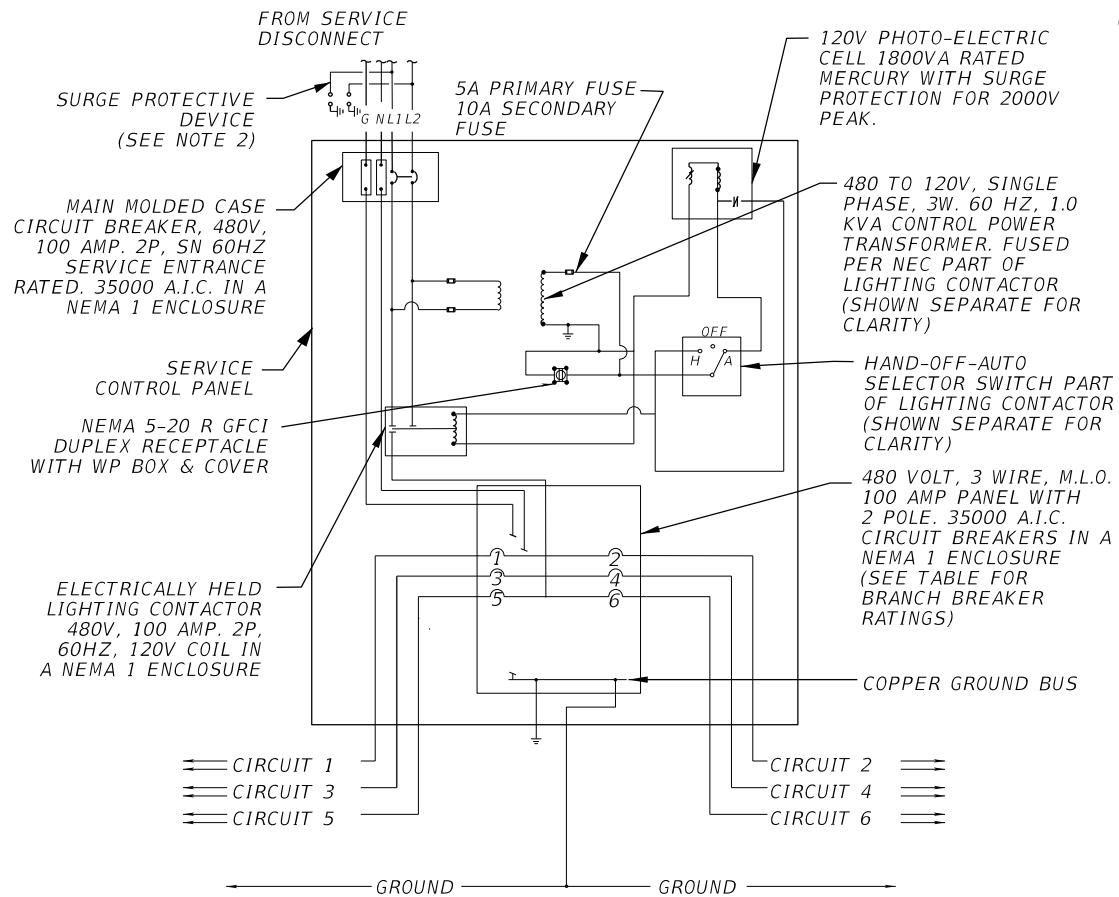
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

PROP. LOAD CENTER "A" (BASE MOUNTED, METERED)
 240/480 V, 1 PHASE, 3 WIRE, 2P-100 AMP MAIN CIRCUIT BREAKER
 STA.1328+08, 47' LT.

LOAD CENTER AND CIRCUIT DESIGNATION	MAIN & CIRCUIT BREAKER SIZES	TOTAL CONNECTED LOAD (AMPS)	TOTAL CONNECTED LOAD (KVA)
A-1	40 AMPS 2P (BRANCH)	12.37	2.97
A-2	40 AMPS 2P (BRANCH)	10.95	2.63
A-3	40 AMPS 2P (BRANCH)	2.74	0.66
A-4	40 AMPS 2P (BRANCH)	Spare	
A-5	40 AMPS 2P (BRANCH)	Spare	
A-6	40 AMPS 2P (BRANCH)	Spare	
CONTINUOUS LOAD		12511.2	VA
20% SPARE CAPACITY		2502.2	VA
25% CONTINUOUS LOAD		3753.4	VA
TOTAL LOAD		18766.8	VA
TOTAL LOAD IN AMPS		39.1	A

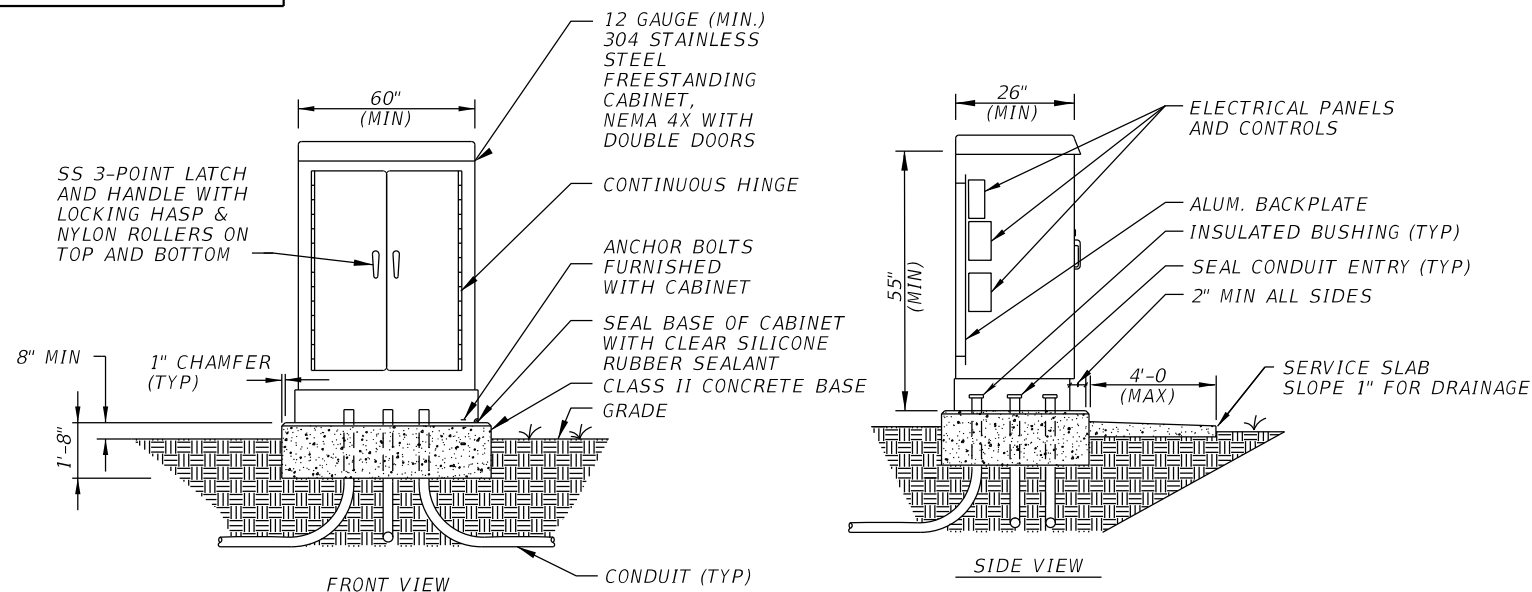
PROP. LOAD CENTER "B" (BASE MOUNTED, METERED)
 240/480 V, 1 PHASE, 3 WIRE, 2P-100 AMP MAIN CIRCUIT BREAKER
 STA.1464+20, 50' LT.

LOAD CENTER AND CIRCUIT DESIGNATION	MAIN & CIRCUIT BREAKER SIZES	TOTAL CONNECTED LOAD (AMPS)	TOTAL CONNECTED LOAD (KVA)
B-1	40 AMPS 2P (BRANCH)	5.48	1.31
B-2	40 AMPS 2P (BRANCH)	14.60	3.50
B-3	40 AMPS 2P (BRANCH)	11.94	2.86
B-4	40 AMPS 2P (BRANCH)	Spare	
B-5	40 AMPS 2P (BRANCH)	Spare	
B-6	40 AMPS 2P (BRANCH)	Spare	
CONTINUOUS LOAD		15367.3	VA
20% SPARE CAPACITY		3073.5	VA
25% CONTINUOUS LOAD		4610.2	VA
TOTAL LOAD		23051.0	VA
TOTAL LOAD IN AMPS		48.0	A



LOAD CENTER SCHEMATIC DIAGRAM
 N.T.S.

- GENERAL NOTES:
- ALL WIRING INSIDE SERVICE CONTROL PANEL SHALL BE INSTALLED IN INTERMEDIATE METAL CONDUIT.
 - SURGE PROTECTIVE DEVICE (SPD): SPD UNIT SHALL BE WIRED INSIDE THE ENCLOSURE AS PER FDOT STANDARD INDEX 639-001. SPD UNIT SHALL BE MOUNTED ON THE OUTSIDE OF THE ENCLOSURE AND COMPLY WITH UL 1449 LATEST ADOPTED EDITION.
 - SHOP DRAWINGS REQUIRED FOR ALL EQUIPMENT ASSOCIATED WITH THE LOAD CENTER.



GENERAL NOTES

STUB-OUT ONE (1) SPARE 2" PVC CONDUIT BELOW GRADE AND BEYOND CONCRETE BASE. CAP ENDS AND INDICATE LOCATION OF STUB-OUT INSIDE CABINET

LOAD CENTER ENCLOSURE DETAIL

N.T.S.

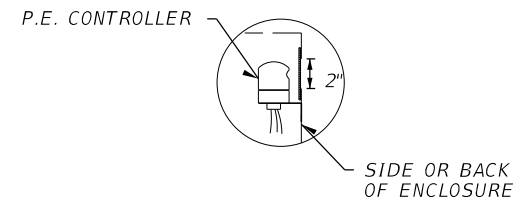


PHOTO ELECTRIC CONTROLLER DETAIL

N.T.S.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

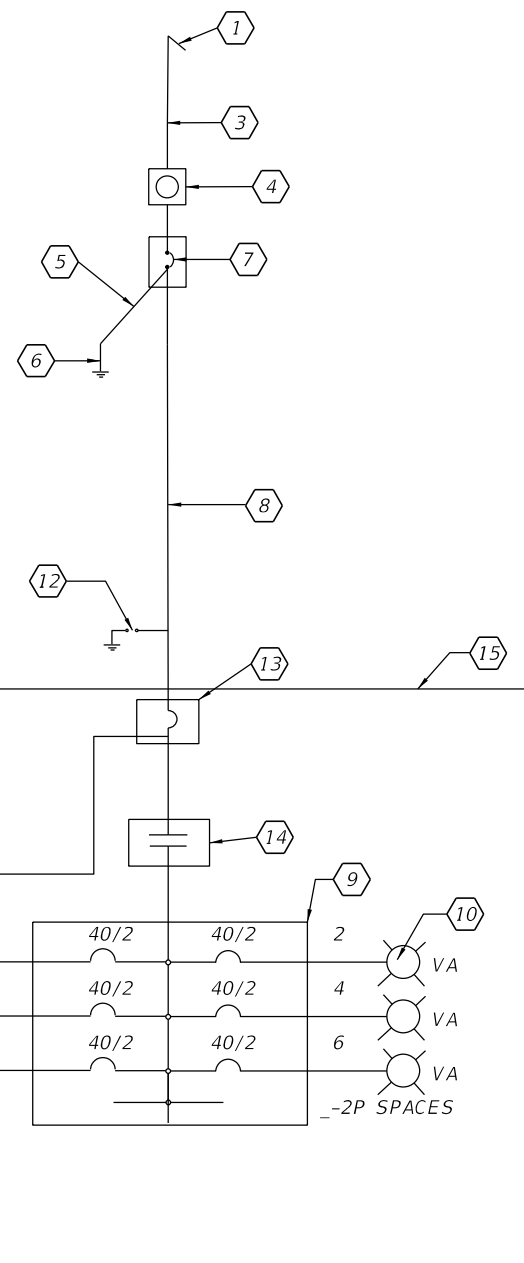
JULIO C. DELGADO, P.E.
 P.E. LICENSE NUMBER 61661
 SCALAR CONSULTING GROUP INC.
 8751 W. BROWARD BOULEVARD, SUITE 307
 PLANTATION, FLORIDA 33324

MANATEE COUNTY		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 45	MANATEE	433592-4-58-01

LOAD CENTER DETAILS

SHEET NO.
 L-30

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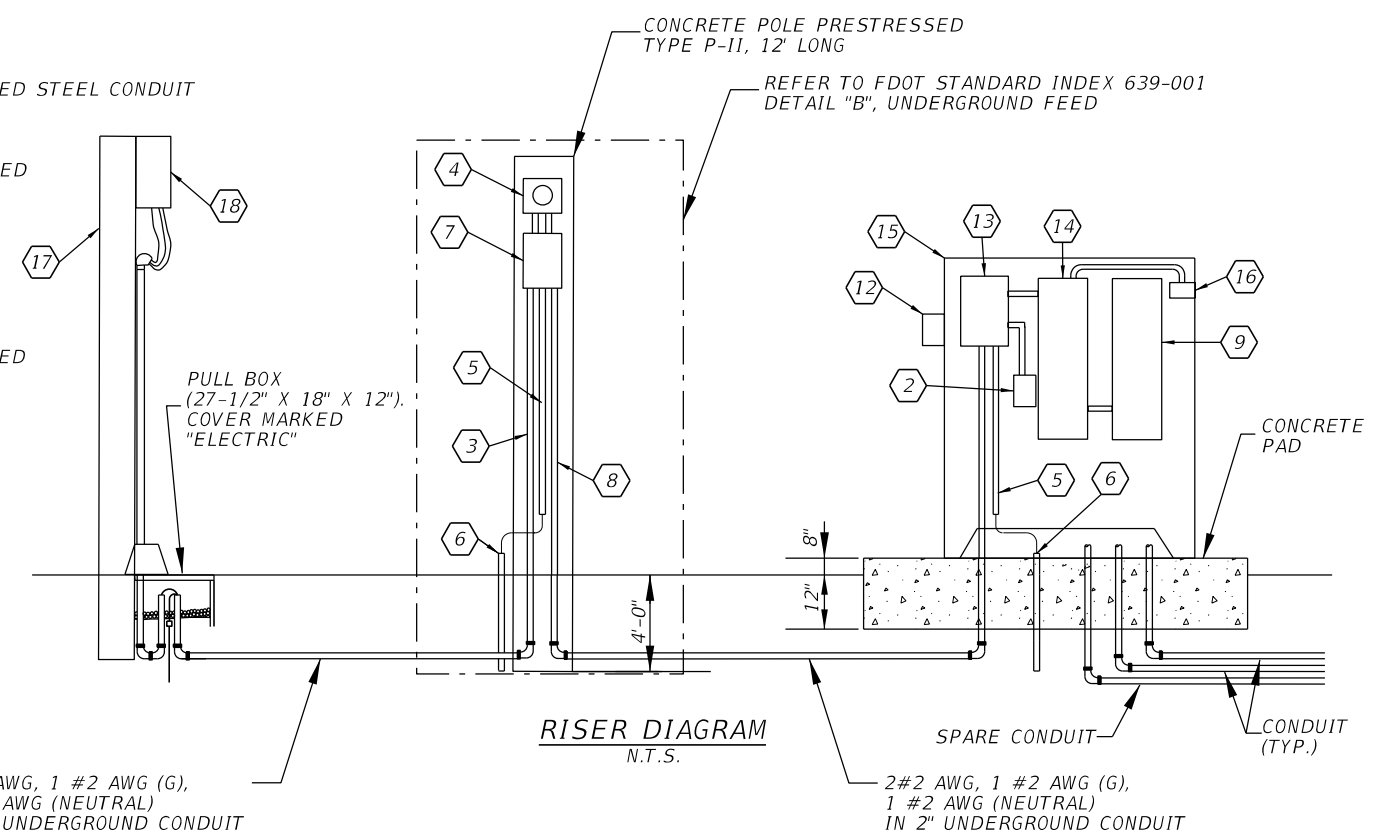


ONE LINE DIAGRAM
N.T.S.

REFER TO PROP. LOAD CENTER "A" AND PROP. LOAD CENTER "B" TABLE.

KEYED NOTES

- 1 240/480 V SINGLE PHASE 3-WIRE FLORIDA POWER & LIGHT ELECTRIC SERVICE. SAFETY SWITCH ON SEVICE SIDE OF METER WHEN REQUIRED BY POWER COMPANY.
- 2 NOT USED.
- 3 2#2 AWG, 1#2 AWG (G), 1#2 AWG (NEUTRAL) IN 2" RIGID GALVANIZED STEEL CONDUIT
- 4 METER AS REQUIRED. HEIGHT SPECIFIED BY POWER COMPANY.
- 5 1#2 AWG INSULATED COPPER GROUND WIRE IN 1" RIGID GALVANIZED STEEL CONDUIT
- 6 COPPER CLAD GROUND ROD(S), MIN. 5/8" DIA. 40' LONG, 6' MIN. SEPARATION BETWEEN THEM
- 7 480V ENCLOSED BREAKER NEMA 4X SERVICE ENTRANCE RATED WITH NEUTRAL AND GROUND KITS. 100 AMP, 35000 AIC
- 8 2#2 AWG, 1#2 AWG (G), 1#2 AWG (NEUTRAL) IN 2" RIGID GALVANIZED STEEL CONDUIT
- 9 PANEL BOARD, 100 AMP, 240/480V, SINGLE PHASE, 3-WIRE WITH CIRCUIT BREAKERS AND GROUND BAR AS INDICATED
- 10 ROADWAY LUMINAIRE CONNECTED TO CIRCUIT 2
- 11 CONTROL TRANSFORMER 1 KVA SINGLE PHASE, 480V PRIMARY 120V SECONDARY
- 12 SURGE PROTECTIVE DEVICE (SPD)
- 13 MAIN CIRCUIT BREAKER 100 AMPS, 2-POLE, 240/480V, 35000 AIC
- 14 100 AMPS, 2-POLE, ELECTRICALLY HELD CONTACTOR
- 15 FREE STANDING NEMA 4X STAINLESS STEEL ENCLOSURE WITH TWO DOORS
- 16 PHOTOELECTRIC SWITCH
- 17 FLORIDA POWER & LIGHT CONCRETE SERVICE POLE
- 18 FLORIDA POWER & LIGHT TRANSFORMER



RISER DIAGRAM
N.T.S.

REVISIONS				JULIO C. DELGADO, P.E. P.E. LICENSE NUMBER 61661 SCALAR CONSULTING GROUP INC. 8751 W. BROWARD BOULEVARD, SUITE 307 PLANTATION, FLORIDA 33324	MANATEE COUNTY			SERVICE POINT DETAILS SHEET NO. L-31
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 45	MANATEE	433592-4-58-01	

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

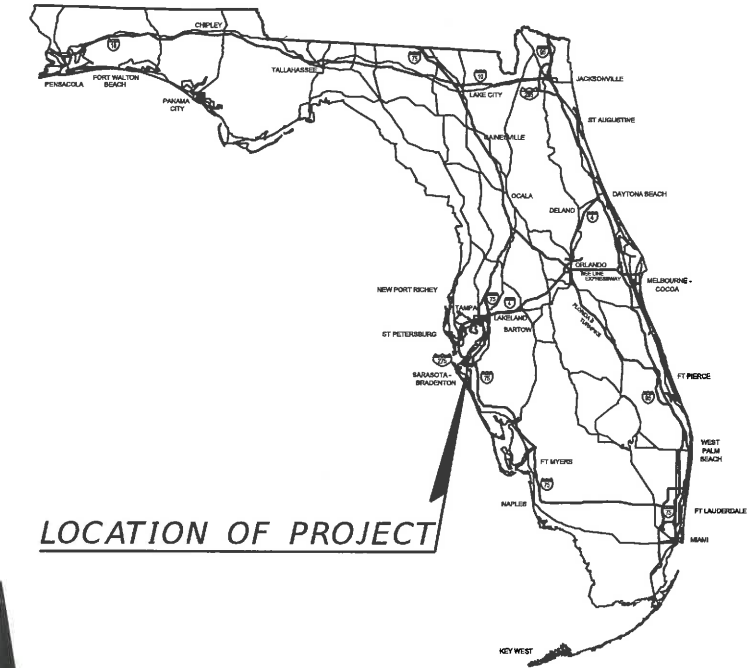
FINANCIAL PROJECT ID 429506-1-52-01
(FEDERAL FUNDS)

MANATEE COUNTY (13010)

STATE ROAD NO. 45 (US 41/14TH STREET WEST)

LIGHTING PLANS

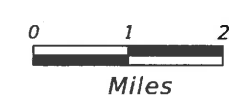
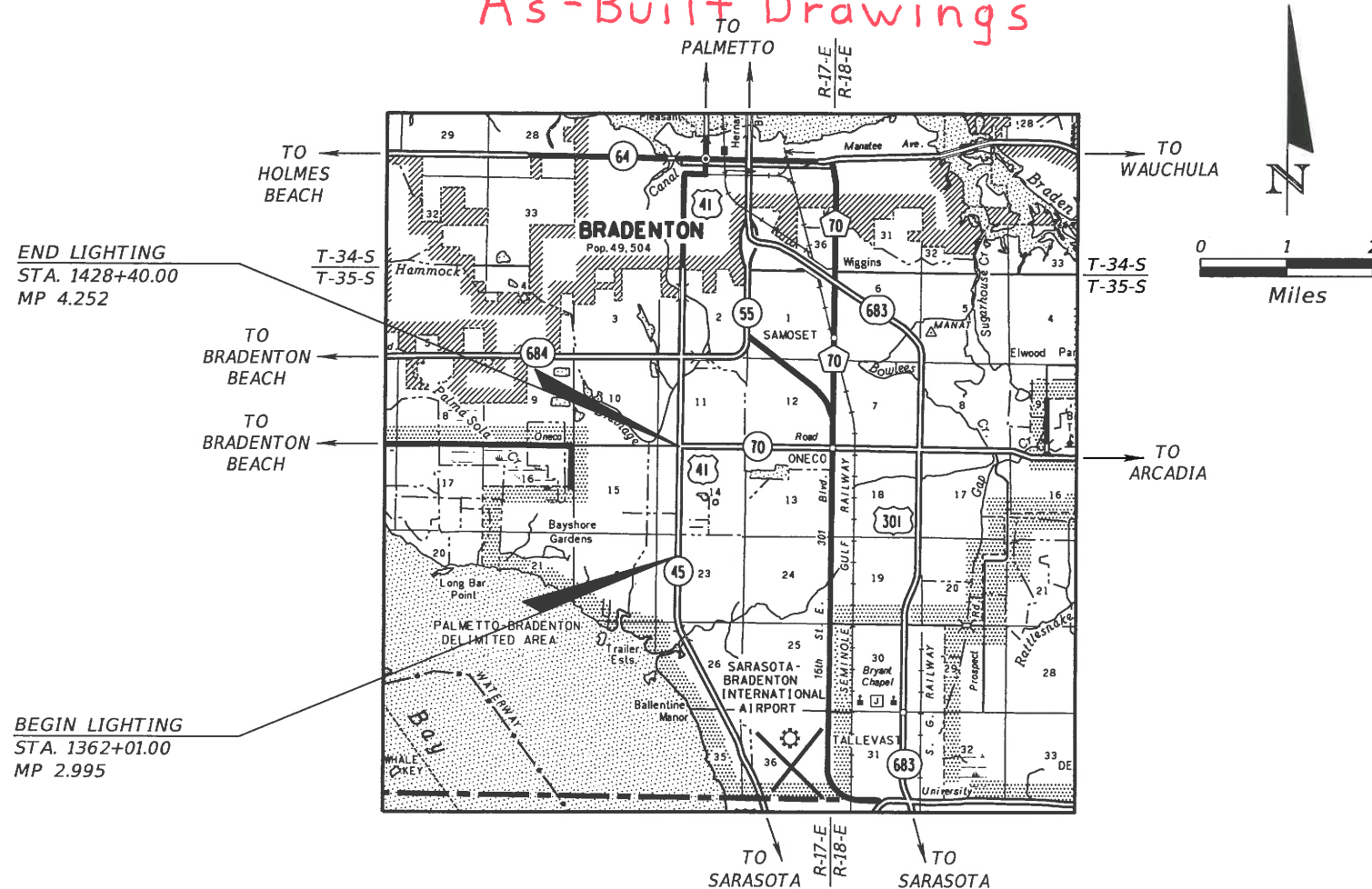
As-Built Drawings



LOCATION OF PROJECT

INDEX OF LIGHTING PLANS

SHEET NO.	SHEET DESCRIPTION
L-1	KEY SHEET
L-2 TO L-3	TABULATION OF QUANTITIES
L-4	LIGHTING PROJECT NOTES
L-5	POLE DATA AND LEGEND
L-6 TO L-18	LIGHTING PLAN
L-19	SERVICE POINT DETAILS
L-20	LIGHT POLE SPREAD FOOTING



LIGHTING SHOP DRAWINGS
TO BE SUBMITTED TO:
MICHAEL S. MANZANO, P.E.
COMPREHENSIVE ENGINEERING SERVICES, INC.
201 S. ORANGE AVENUE, SUITE 1300
ORLANDO, FLORIDA 32801
PHONE : (407) 423-1600
FAX : (407) 423-9614

PLANS PREPARED BY:
COMPREHENSIVE ENGINEERING SERVICES, INC.
201 S. ORANGE AVENUE, SUITE 1300
ORLANDO, FLORIDA 32801
PHONE : (407) 423-1600
FAX : (407) 423-9614
CERTIFICATE OF AUTHORIZATION NO. 7862
www.CEScivil.com
VENDOR No. F59347222001
CONTRACT NO. C9226

NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.
NOTE: THIS PROJECT TO BE LET TO CONTRACT
WITH FINANCIAL PROJECT ID 429504-1-52-01

FOR INFORMATION ONLY

KEY SHEET REVISIONS	
DATE	DESCRIPTION

LIGHTING PLANS
ENGINEER OF RECORD: MICHAEL S. MANZANO, P.E.

P.E. NO.: 64704

FISCAL YEAR	SHEET NO.
15	L-32

FDOT PROJECT MANAGER: AMY E. BLAIR, P.E.

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G5-23.003, F.A.C.

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			L-6		L-7		L-8		L-9		L-10		L-11		L-12		L-13		L-14		L-15		PLAN	FINAL	PLAN	FINAL	
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL					
104-10-3	SEDIMENT BARRIER	LF	50		125		100		100		125		100		100		100		125		100						
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	105		80		165		30		170		410		30		35		255		230						
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	110		525		430		565		445		185		565		645		485		350						
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24" COVER SIZE	EA	2		5		4		4		5		4		4		5		6		4						
715-1-12	LIGHTING - CONDUCTORS (F&I) (NO. 8 TO NO. 6)	LF	815		2955		2925		2915		2985		2580		90		0		3380		2840						
715-1-13	LIGHTING - CONDUCTORS (F&I)(NO. 4 TO NO. 2)	LF	0		0		0		0		0		325		2825		2850		700		0						
715-1-15	LIGHTING - CONDUCTORS (F&I) (NO. 1/0 TO NO. 3/0)	LF	0		0		0		0		0		0		0		240		105		0						
715-4-122	LIGHT POLE COMPLETE (F&I) (130 MPH) (45')	EA	2		5		4		4		5		4		4		4		5		4						
715-7-11	LOAD CENTER (FURNISH & INSTALL) (SECONDARY VOLTAGE)	EA	0		0		0		0		0		0		0		0		1		0						
715-500-1	LIGHT POLE CABLE DISTRIBUTION SYSTEM (CONVENTIONAL)	EA	2		5		4		4		5		4		4		4		5		4						

FOR INFORMATION ONLY

REVISIONS				Comprehensive Engineering Services, Inc. 201 S Orange Ave, Suite 1300 Orlando, FL 32801-3442 Certificate of Authorization No. 7862 Michael S. Manzano, P.E., License No. 64704	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TABULATION OF QUANTITIES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		L-33
04-25-16	MSM Changed load center location				45	MANATEE	429506-1-52-01		

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LIGHTING NOTES

1. PRIOR TO ANY EQUIPMENT ORDER, SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. THESE MUST SPECIFICALLY INCLUDE:

- A) LUMINAIRE PHOTOMETRICS (INCLUDING ELECTRONIC IES PHOTOMETRIC FILES)
- B) LOAD CENTER ELECTRICAL EQUIPMENT

ALSO SUBMIT A COPY OF THE EQUIPMENT SPECIFICATION OR DESIGN DATA TO:
 MR. VISHAL KAKKAD
 MANATEE COUNTY
 TRAFFIC DESIGN DIVISION MANAGER
 2101 47TH TERRACE EAST
 BRADENTON, FL 34203-3785

2. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS INCLUDING THOSE DESIGNATED Vv VH AND Vvh, ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATION/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

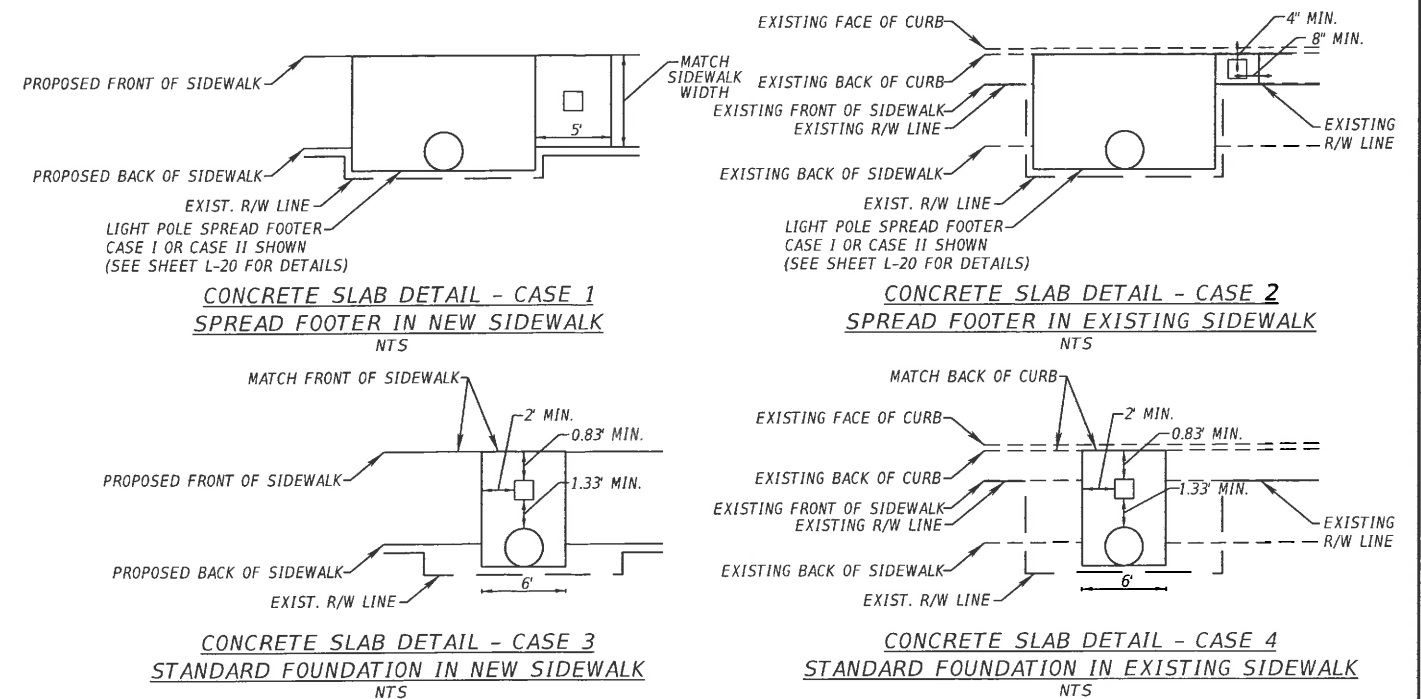
3. EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.

4. NOTIFY UTILITY OWNERS OF ANY EXCAVATION OR DEMOLITION ACTIVITY THROUGH SUNSHINE ONE-CALL OF FLORIDA, INC (1-800-432-4770) AND ALSO NOTIFY THOSE UTILITY OWNERS LISTED WITHIN OR IMPACTED BY THESE PLANS, NOT LESS THAN TWO (2) FULL BUSINESS DAYS IN ADVANCE OF THE BEGINNING OF CONSTRUCTION ON THE JOB SITE.

UTILITY/AGENCY OWNERS:

COMPANY	CONTACT PERSON	TELEPHONE NUMBERS
FLORIDA POWER & LIGHT	GREG COKER	(941) 723-4430
FLORIDA POWER & LIGHT (TRANSMISSION)	PETER H. WASHIO	(561) 904-3693
VERIZON FLORIDA, LLC	DENISE HUTTON	(941) 906-6722
MANATEE COUNTY PUBLIC WORKS	CHRIS MOWBRAY	(941) 708-7450 EXT 7605
TECO - PEOPLES GAS	DANNY SHANAHAN	(941) 342-4006
BRIGHT HOUSE NETWORKS	ALEX FLEMING	(941) 748-3816 EXT 24051
MANATEE COUNTY TRAFFIC	PAUL VILLALUZ	(941) 749-3500 EXT. 7859
CROWN CASTLE	GLENN MILLER	(770) 363-1170

- 5. IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL IDENTIFYING THE CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE.
- 6. NOTIFY FLORIDA POWER & LIGHT AT LEAST 48 HOURS PRIOR TO ANY INSTALLATION THAT IS WITHIN 10 FEET OF ENERGIZED ELECTRICAL CONDUCTORS. FLORIDA POWER & LIGHT, AT ITS OPTION, SHALL ASSIST THE FDOT CONTRACTOR, COVER UP ENERGIZED CONDUCTORS AT THE INSTALLATION SITE, OR TAKE OTHER SAFETY PRECAUTIONS AS NECESSARY. EXTREME CAUTION SHALL BE EXERCISED AT ALL TIMES IN PERFORMANCE OF WORK AROUND PRIMARY HIGH VOLTAGE COMPONENTS.
- 7. STAKE ALL POLE LOCATIONS AND REQUEST UTILITY COMPANIES TO LOCATE AND STAKE UNDERGROUND UTILITIES PRIOR TO EXCAVATING.
- 8. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF EACH WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. DO NOT OPEN ANY AREA THAT CANNOT BE BACKFILLED IN THE SAME DAY/NIGHT OPERATION.
- 9. CONTACT THE MAINTAINING AGENCY (MANATEE COUNTY PUBLIC WORKS, 941-708-7510) REGARDING POLE SEQUENCING NAME AND NUMBER.
- 10. MOUNTING HEIGHTS ARE DETERMINED FROM THE BOTTOM OF THE LUMINAIRE VERTICALLY TO PAVEMENT GRADE.
- 11. SEDIMENT BARRIER IS ESTIMATED AT 25 LF FOR EACH LIGHT POLE LOCATION.
- 12. SLAB DIMENSIONS AROUND PULL BOX MAY BE SMALLER THAN SHOWN ON INDEX 17500 WHERE REQUIRED TO FIT WITHIN THE EXISTING RIGHT OF WAY.
- 13. CAP ROCK WAS ENCOUNTERED DURING THE SUE ANALYSIS.
- 14. SEE ROADWAY PLANS FOR VVH INFORMATION.
- 15. STANDARD FOUNDATION DIAMETER NOT TO EXCEED 2'6".
- 16. COST OF ALL SPECIAL FEES (INCLUDING BUT NOT LIMITED TO IMPACT AND CONNECTION FEES) AND/OR PARTS OF THE METERING EQUIPMENT OR CONNECTIONS CUSTOMARY AND REQUIRED BY THE POWER COMPANY FOR UNDERGROUND ELECTRICAL SERVICE SHALL BE INCIDENTAL TO PAY ITEMS PROVIDED UNDER THIS CONTRACT.
- 17. ALL PULL BOXES & LIDS SHALL BE POLYMER CONCRETE, PER MANATEE COUNTY PREFERENCE.
- 18. ALL NEW POWER SERVICES SHALL INCLUDE A METER CAN FOR FUTURE METERING NEEDS. COST OF THE METER CAN IS INCIDENTAL TO THE PAY ITEMS PROVIDED UNDER THIS CONTRACT.




FOR INFORMATION ONLY


REVISIONS				Comprehensive Engineering Services, Inc. 201 S Orange Ave, Suite 1300 Orlando, FL 32801-3442 Certificate of Authorization No. 7862 Michael S. Manzano, P.E., License No. 64704	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LIGHTING PROJECT NOTES	SHEET NO. L-35
DATE	DESCRIPTION	DATE	ROAD NO.		COUNTY	FINANCIAL PROJECT ID			
			45		MANATEE	429506-1-52-01			


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LEGEND


POLE DATA


 Proposed 400 watt high pressure sodium luminaire with standard foundation. Designed for medium, semi-cutoff Type III distribution. Integral regulator type ballast wired for 480 volt operation. Pole top, shoulder mounted aluminum pole with 20° tilt and 45 ft. mounting height. Use GE curve #35-453245 or equal. Refer to Index I7500, pole data table, and the details on sheet L-4 for information on the concrete slab to be included. Pole and pull box to be located within the same slab. Symbol includes pole, fixture, foundation, pull box, slab and PCDS. **715-4-122** **715-500-1**


 Proposed 400 watt high pressure sodium luminaire with spread footing foundation. Designed for medium, semi-cutoff Type III distribution. Integral regulator type ballast wired for 480 volt operation. Pole top, shoulder mounted aluminum pole with 20° tilt and 45 ft. mounting height. Use GE curve #35-453245 or equal. Refer to Index I7500, pole data table, and the details on sheet L-4 for information on the concrete slab to be included. Pole and pull box to be located within separate slabs adjacent to each other. Symbol includes pole, fixture, foundation, pull box, slab and PCDS. **715-4-122** **715-500-1**


 Existing luminaire and arm to be removed by others.


 2" Schedule 40 PVC conduit (with pull strings), underground. Includes conductors as shown in the plans. Run 1 copper bond conductor (size as shown on plan sheets) inside conduit with other conductors. **630-2-11** **715-1-12** **715-1-13** **715-1-15**

 2" HDPE conduit (with pull strings), directional bore. HDPE conduit and transition coupling shall be UL listed. Extend conduit beyond edge of pavement to pull boxes. Includes conductors as shown in the plans. Run 1 copper bond conductor (size as shown on plan sheets) inside conduit with other conductors. **630-2-12** **715-1-12** **715-1-13**

 Roadside pull box. Refer to Index I7500, pole data table, and the details on sheet L-4 for information on the concrete slab to be included. Pull boxes to be separate for poles with spread footer foundations. **635-2-11**

 Service distribution point, 240/480 volt, see plans for locations. For details see sheet L-19 and Index No. I7504 of the Design Standards. **715-7-11**

 Existing utility pole to be used as proposed service point.

 Proposed utility pole to be installed and maintained by FP&L with arm and light fixture.

* POLE 132 WILL REQUIRE AN EXTENDED FOUNDATION DUE TO SLOPES. REFER TO INDEX I7515, SHEET 4.

** SPREAD FOOTING (CASE 11 SHOWN ON SHEET L-20) REQUIRED BASED ON UNDERGROUND UTILITY CONFLICTS.

*** POLES 107, 116, AND 142 WILL REQUIRE THE CASE 1 SPREAD FOOTING SHOWN ON SHEET L-20.

CONVENTIONAL LIGHTING DESIGN CRITERIA

Average Initial Intensity 1.5 Foot Candles (Min.)
 Uniformity Ratio Avg./Min. 4:1 Or Less
 Max./Min. 10:1 Or Less
 Veiling Luminance Ratio 0.3:1 Or Less
 Design Wind Speed 130 MPH (Manatee County)

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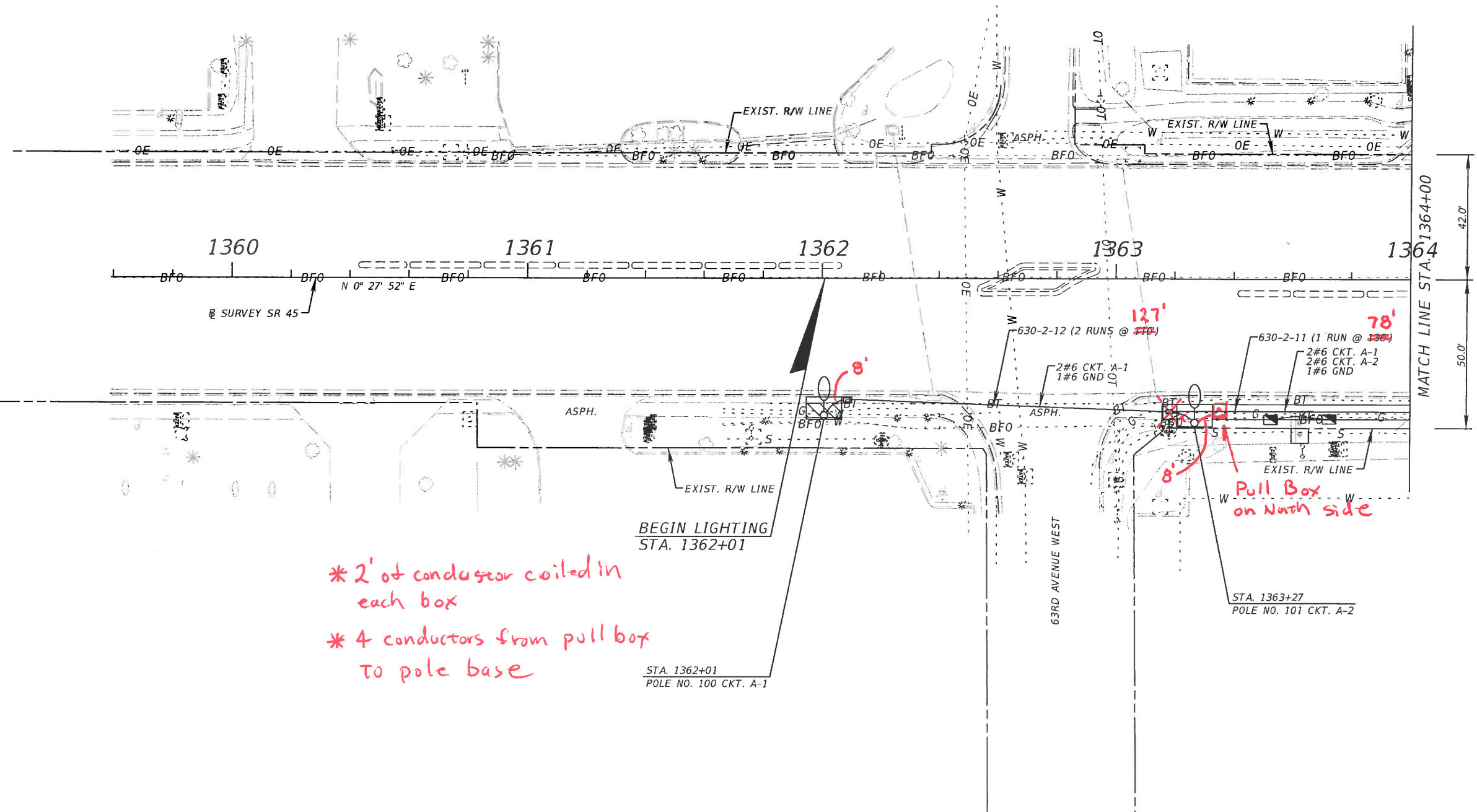
POLE NO.	CIRCUIT	PULL BOX SLAB	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	MOUNTING HEIGHT	TILT	POLE SETBACK	PAY ITEM	
** 100	A-1	CASE 2	1362+01 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 101	A-2	CASE 1	1363+27 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
** 102	A-1	CASE 1	1364+36 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
103	A-2	CASE 3	1365+61 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
104	A-1	CASE 3	1366+90 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
105	A-2	CASE 3	1368+08 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
106	A-1	CASE 3	1369+00 Rt .	SR 45	POLE TOP	400	45'	20°	13' FROM FACE OF CURB	715-4-122
** 107	A-2	CASE 2	1370+48 Rt .	SR 45	POLE TOP	400	45'	20°	FRONT OF EXISTING SIDEWALK	715-4-122
108	A-1	CASE 4	1371+92 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
109	A-2	CASE 4	1373+30 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
110	A-1	CUSTOM	1374+52 Rt .	SR 45	POLE TOP	400	45'	20°	FRONT OF EXISTING SIDEWALK	715-4-122
** 111	A-2	CASE 2	1375+87 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 112	A-1	CASE 2	1377+17 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
113	A-2	CASE 4	1378+32 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
114	A-1	CASE 4	1379+68 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
115	A-2	CASE 4	1381+00 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
*** 116	A-1	CASE 2	1382+31 Rt .	SR 45	POLE TOP	400	45'	20°	5' FROM FACE OF CURB	715-4-122
** 117	A-2	CASE 1	1383+45 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 118	A-1	CASE 1	1384+62 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 119	A-2	CASE 1	1386+03 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
** 120	A-1	CASE 1	1387+51 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 121	A-2	CASE 1	1388+76 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 122	A-1	CASE 1	1390+06 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
123	A-2	CASE 3	1391+35 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
124	A-1	CUSTOM	1392+80 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
** 125	A-2	CASE 1	1394+15 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
126	A-1	CASE 3	1395+50 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 127	A-2	CASE 1	1396+92 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
128	A-1	CASE 3	1398+20 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 129	A-2	CASE 1	1399+40 Rt .	SR 45	POLE TOP	400	45'	20°	8' FROM FACE OF CURB	715-4-122
** 130	A-1	CASE 2	1400+66 Rt .	SR 45	POLE TOP	400	45'	20°	FRONT OF EXISTING SIDEWALK	715-4-122
** 131	A-2	CASE 2	1402+15 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
* 132	A-4	CUSTOM	1403+43 Rt .	SR 45	POLE TOP	400	45'	20°	9' FROM FACE OF CURB	715-4-122
133	A-3	CASE 3	1404+92 Rt .	SR 45	POLE TOP	400	45'	20°	6' FROM FACE OF CURB	715-4-122
134	A-4	CASE 3	1405+85 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
135	A-3	CASE 3	1407+05 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 136	A-4	CASE 1	1408+31 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
137	A-3	CASE 4	1409+66 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
** 138	A-4	CASE 2	1410+81 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
** 139	A-3	CASE 2	1411+90 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
140	A-4	CASE 4	1413+39 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
141	A-3	CASE 3	1414+92 Rt .	SR 45	POLE TOP	400	45'	20°	5' FROM FACE OF CURB	715-4-122
*** 142	A-4	CASE 2	1416+17 Rt .	SR 45	POLE TOP	400	45'	20°	5' FROM FACE OF CURB	715-4-122
** 143	A-3	CASE 1	1417+57 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 144	A-4	CUSTOM	1419+02 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 145	A-3	CASE 1	1420+46 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 146	A-4	CASE 1	1421+74 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 147	A-3	CASE 1	1422+82 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122
** 149	A-4	CASE 2	1425+55 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
** 150	A-3	CASE 2	1427+00 Rt .	SR 45	POLE TOP	400	45'	20°	BACK OF EXISTING SIDEWALK	715-4-122
151	A-4	CASE 3	1428+40 Rt .	SR 45	POLE TOP	400	45'	20°	7' FROM FACE OF CURB	715-4-122

DATE		DESCRIPTION		DATE		DESCRIPTION		Comprehensive Engineering Services, Inc. 201 S Orange Ave, Suite 1300 Orlando, FL 32801-3442 Certificate of Authorization No. 7862 Michael S. Manzano, P.E., License No. 64704			STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROAD NO.			COUNTY			FINANCIAL PROJECT ID			SHEET NO.		
04-25-16		MSM  Changed load center location									45			MANATEE			429506-1-52-01			POLE DATA AND LEGEND			L-36		

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N
1" = 40'

BATTERIES PLUS



* 2' of conductor coiled in each box
 * 4 conductors from pull box to pole base

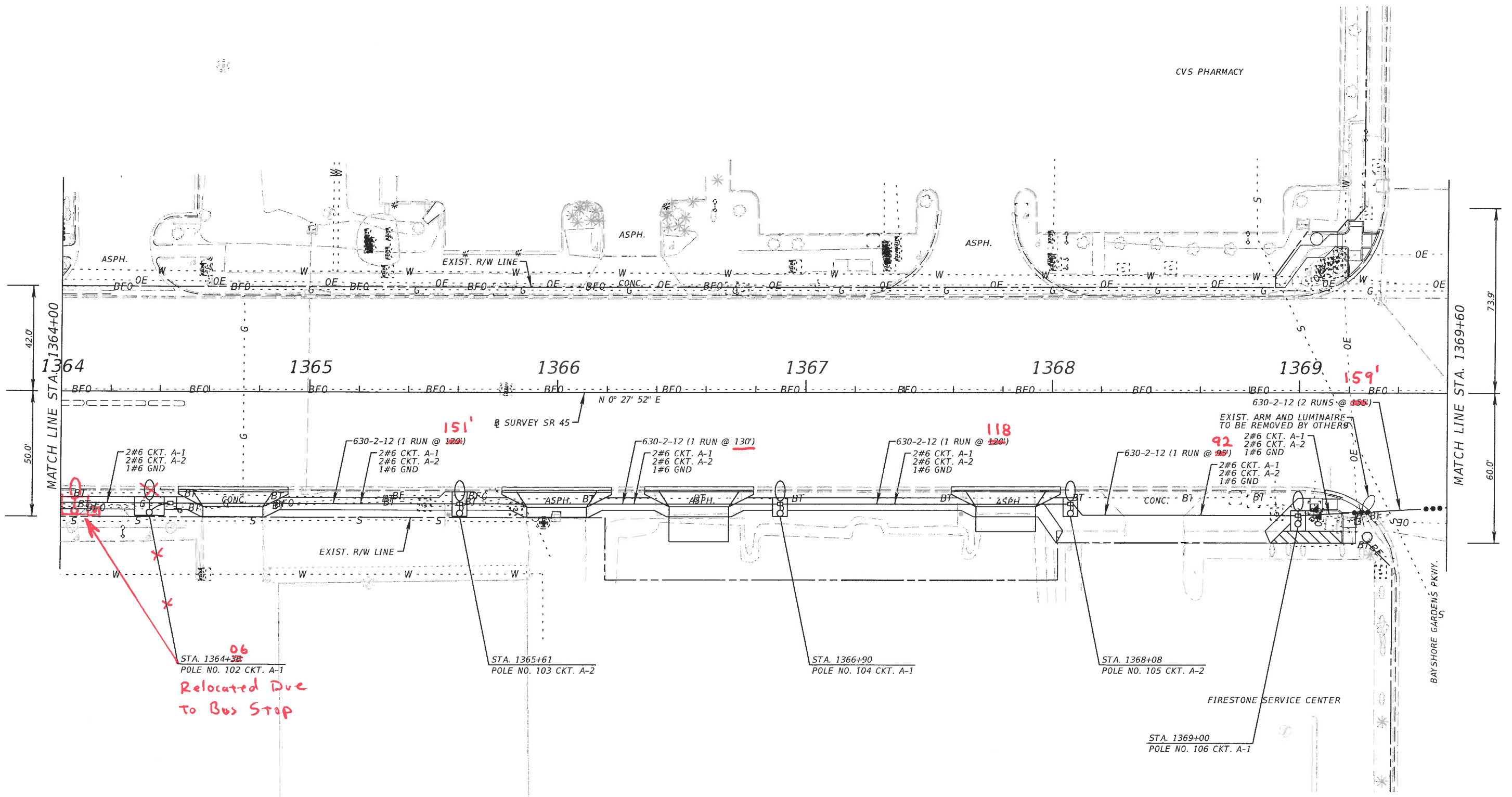
Pull Box on North side

FOR INFORMATION ONLY

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					45	MANATEE	429506-1-52-01		

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1" = 40'

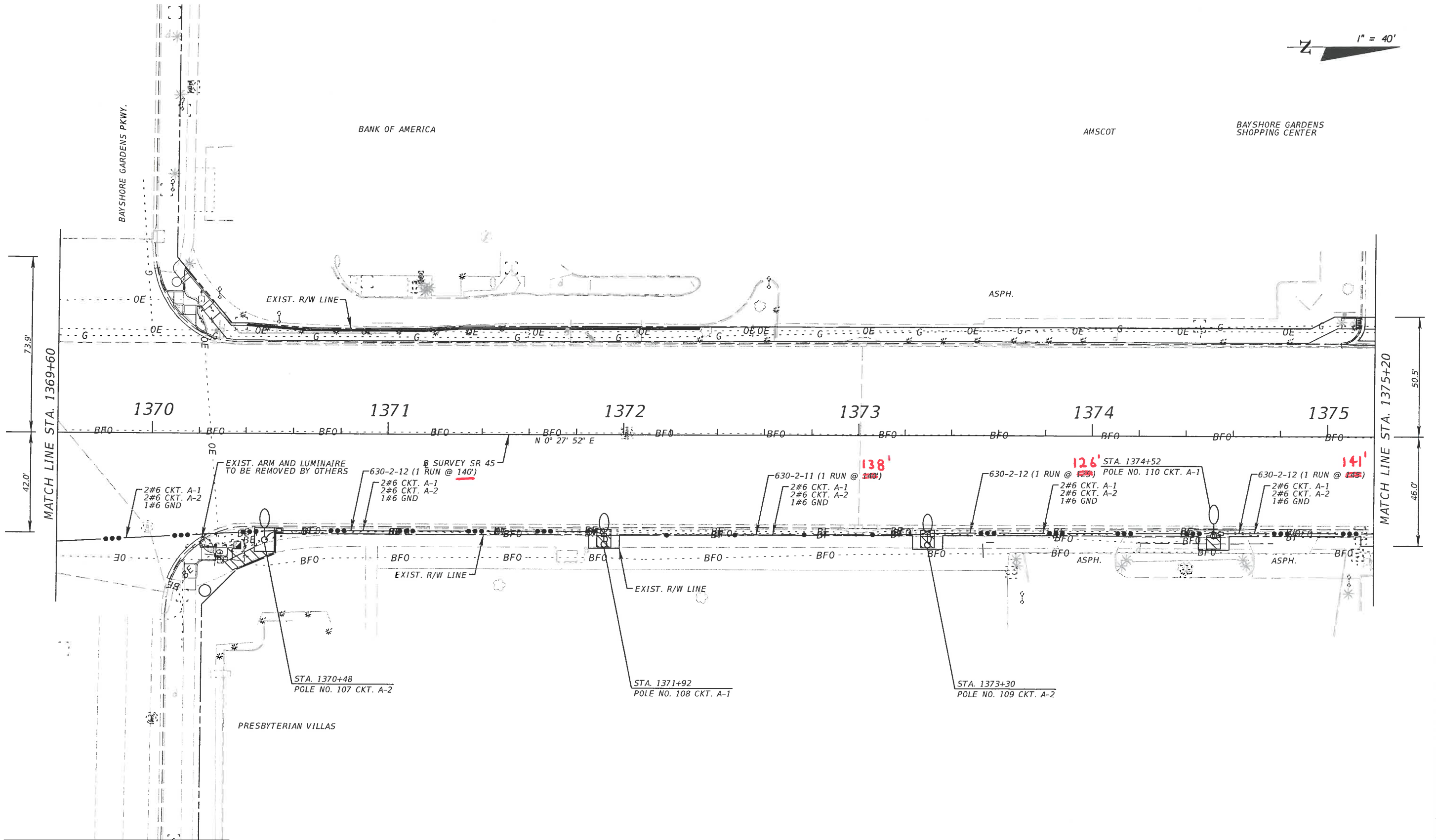


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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					45	MANATEE	429506-1-52-01	

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N
1" = 40'



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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Orlando, FL 32801-3442
Certificate of Authorization No. 7862
Michael S. Manzano, P.E., License No. 64704

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
45	MANATEE	429506-1-52-01

LIGHTING PLAN

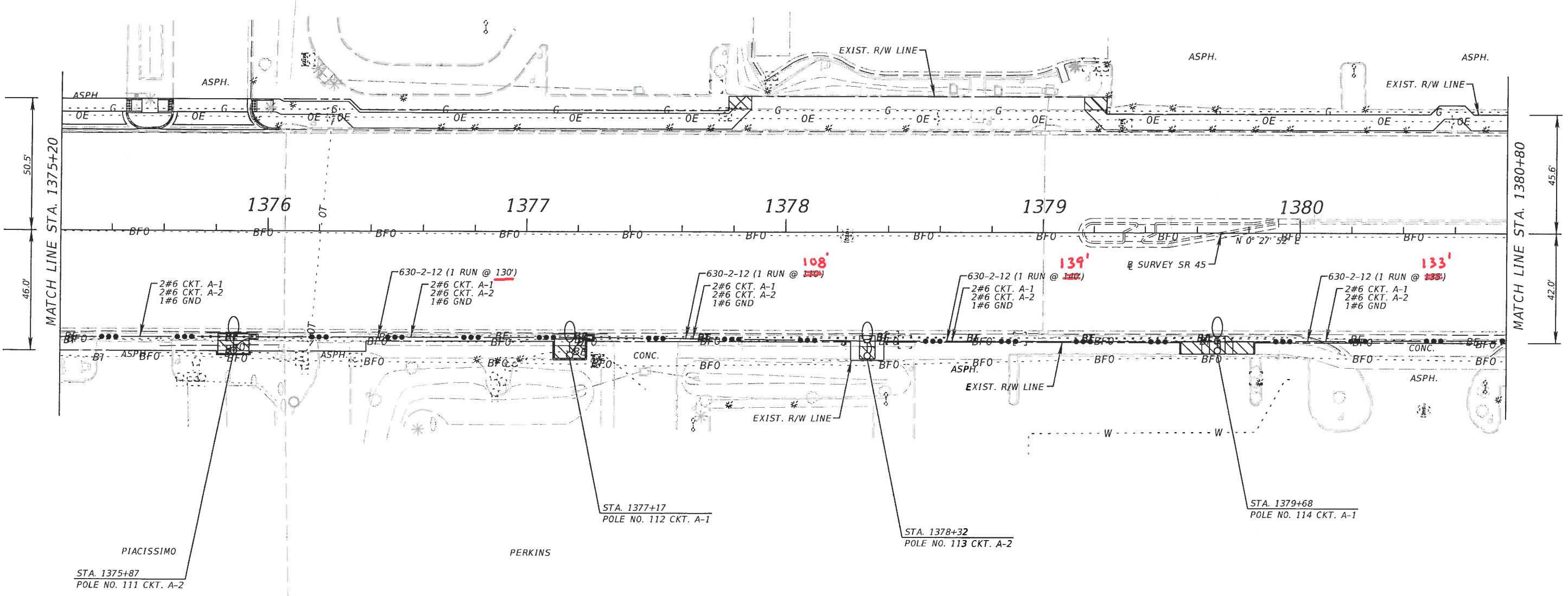
SHEET NO.
L-39

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BAYSHORE GARDENS SHOPPING CENTER

TACO BELL

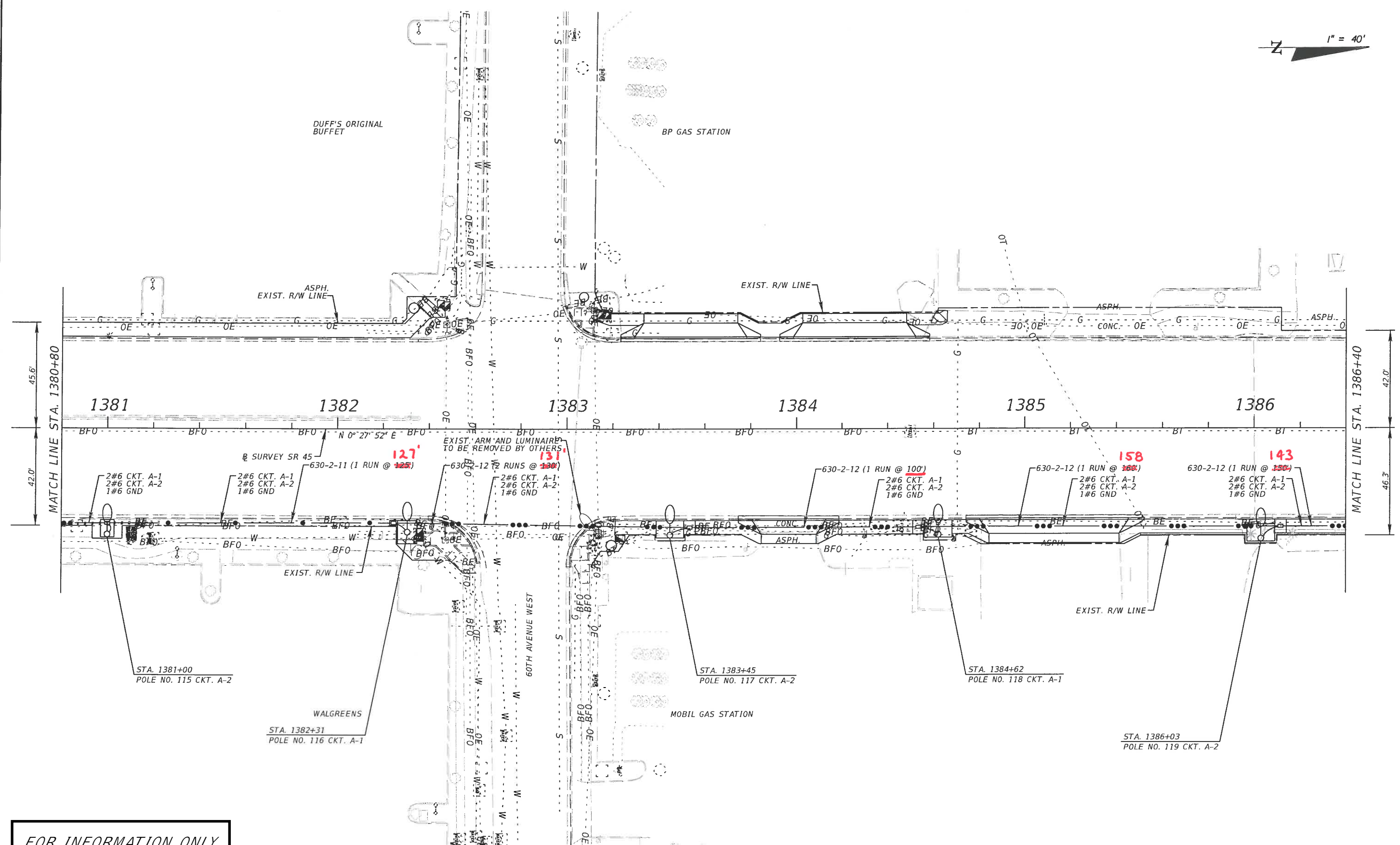


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DATE	DESCRIPTION	DATE	ROAD NO.		COUNTY	FINANCIAL PROJECT ID		
			45		MANATEE	429506-1-52-01		

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1" = 40'



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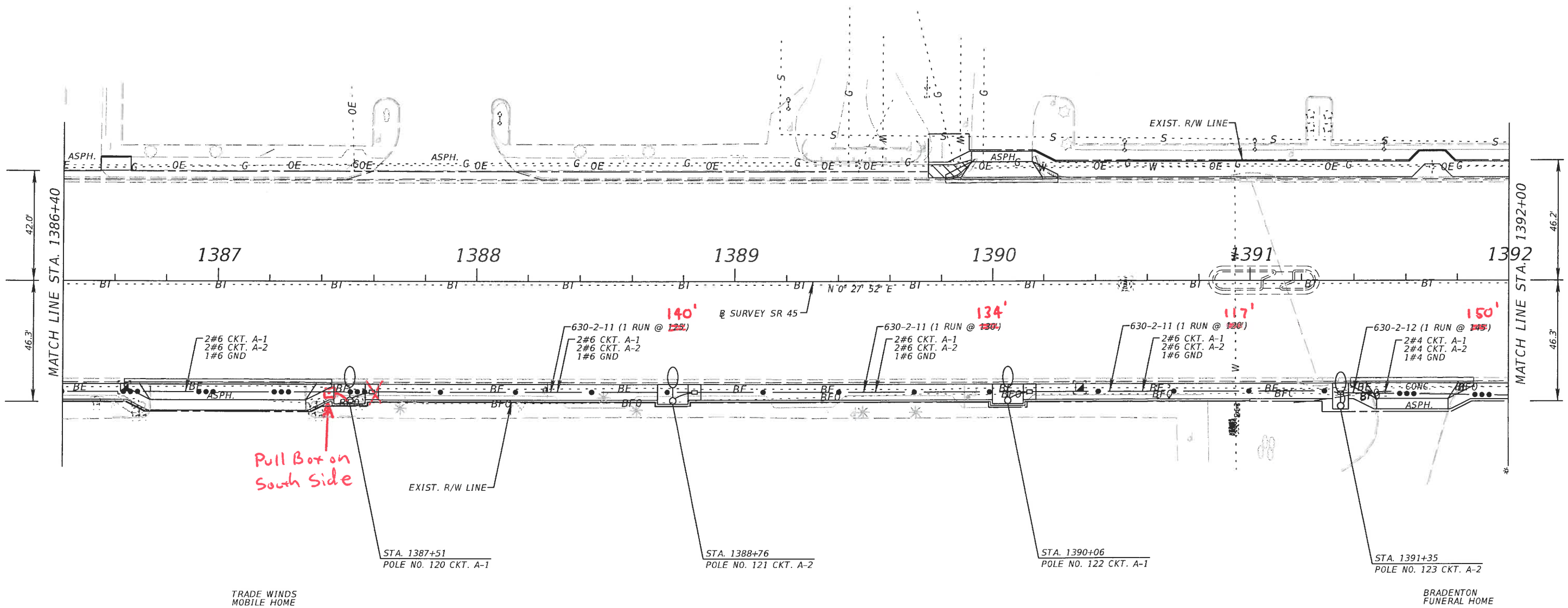
REVISIONS				Comprehensive Engineering Services, Inc. 201 S Orange Ave, Suite 1300 Orlando, FL 32801-3442 Certificate of Authorization No. 7862 Michael S. Manzano, P.E., License No. 64704	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. L-41
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					45	MANATEE	429506-1-52-01	

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LIBERTY SAVINGS BANK

IBERIA BANK



Pull Box on South Side

FOR INFORMATION ONLY

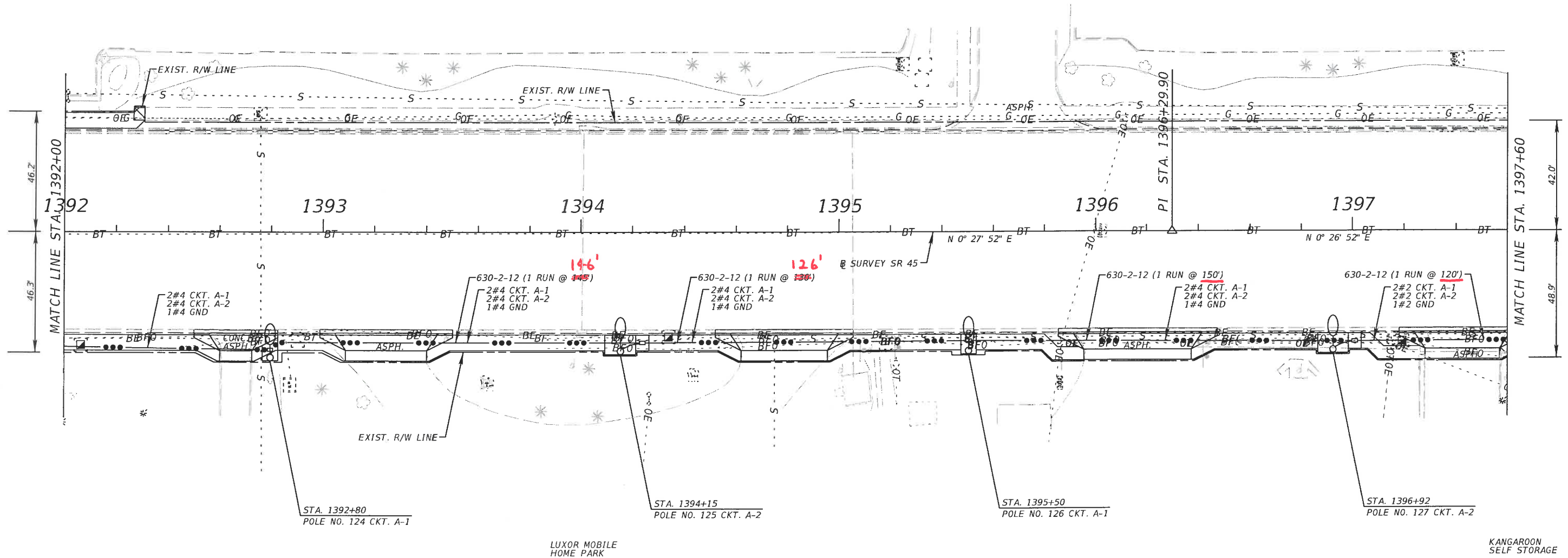
REVISIONS				Comprehensive Engineering Services, Inc. 201 S Orange Ave, Suite 1300 Orlando, FL 32801-3442 Certificate of Authorization No. 7862 Michael S. Manzano, P.E., License No. 64704	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. L-42
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					45	MANATEE	429506-1-52-01	

LIGHTING PLAN

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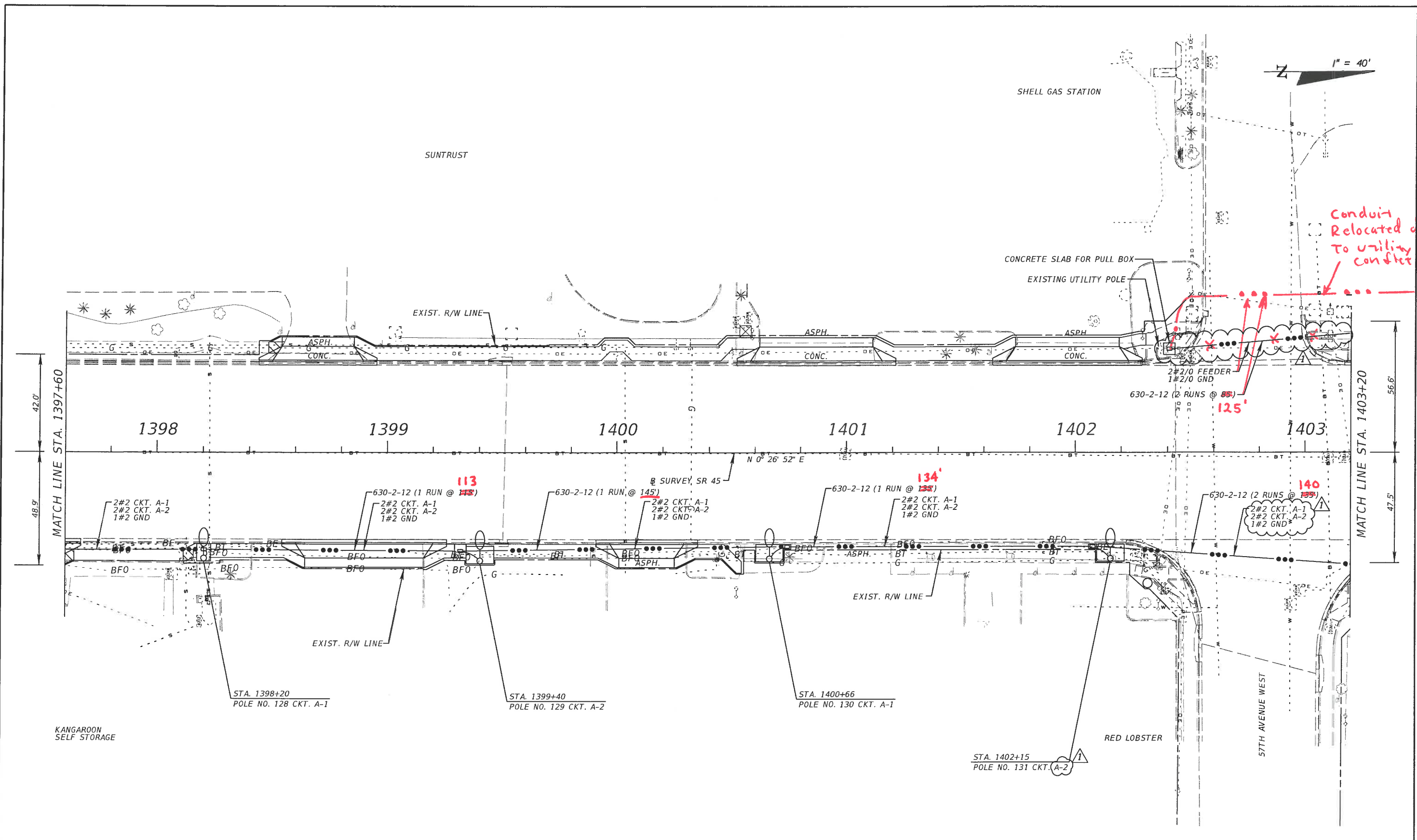
SWEETBAY SHOPPING PLAZA



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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					45	MANATEE	429506-1-52-01	

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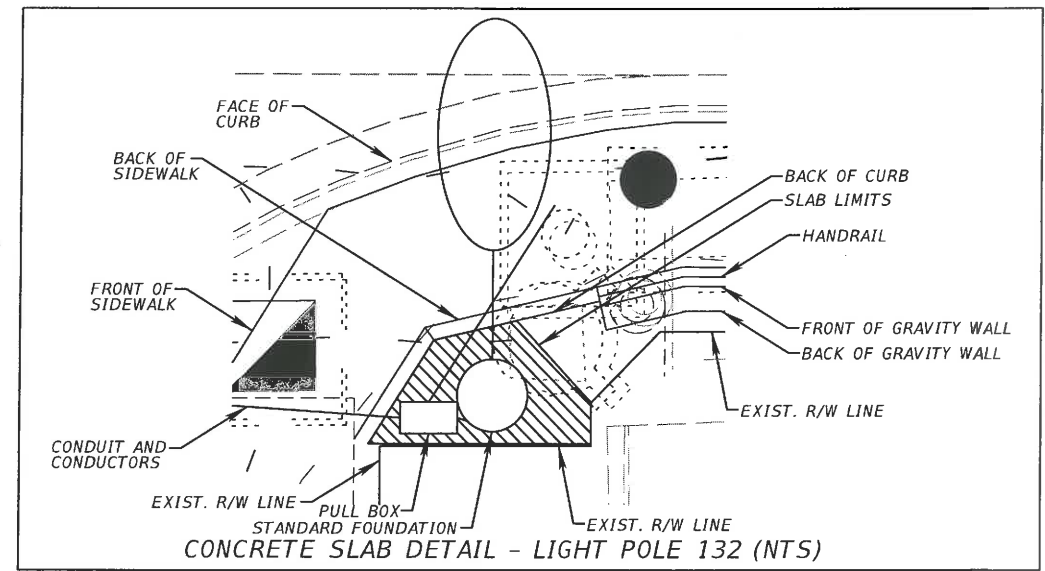
1" = 40'

Conduit Relocated due to utility conflicts

FOR INFORMATION ONLY

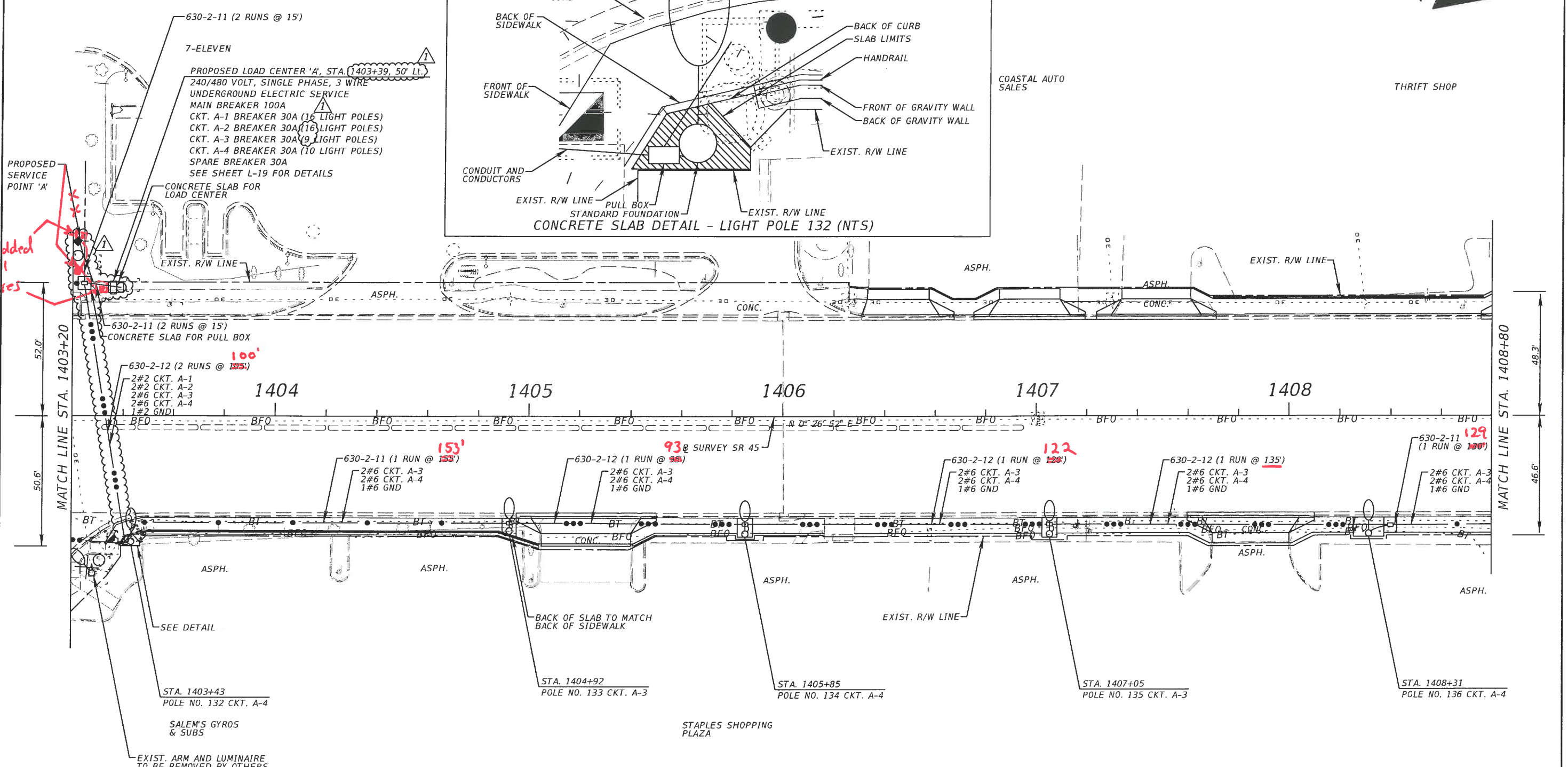
REVISIONS				Comprehensive Engineering Services, Inc. 201 S Orange Ave, Suite 1300 Orlando, FL 32801-3442 Certificate of Authorization No. 7862 Michael S. Manzano, P.E., License No. 64704	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. L-44
DATE	DESCRIPTION	DATE	ROAD NO.		COUNTY	FINANCIAL PROJECT ID		
04-25-16	MSM Changed load center location		45		MANATEE	429506-1-52-01		

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2 added pull boxes

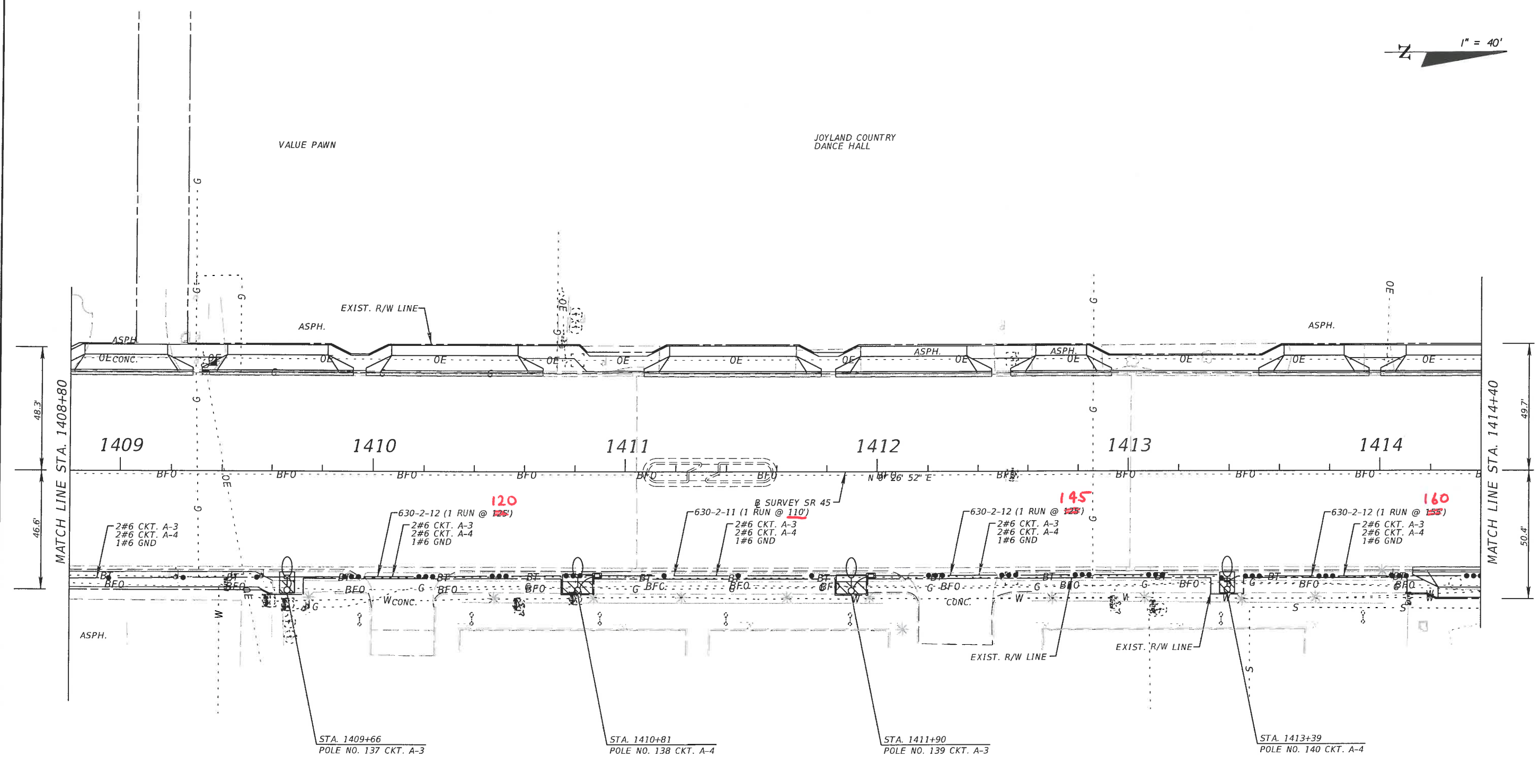
PROPOSED LOAD CENTER 'A', STA. 1403+39, 50' Lt.
 240/480 VOLT, SINGLE PHASE, 3 WIRE
 UNDERGROUND ELECTRIC SERVICE
 MAIN BREAKER 100A
 CKT. A-1 BREAKER 30A (16 LIGHT POLES)
 CKT. A-2 BREAKER 30A (16 LIGHT POLES)
 CKT. A-3 BREAKER 30A (9 LIGHT POLES)
 CKT. A-4 BREAKER 30A (10 LIGHT POLES)
 SPARE BREAKER 30A
 SEE SHEET L-19 FOR DETAILS



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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
04-25-16	MSM Changed load center location				45	MANATEE	429506-1-52-01	

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VALUE PAWN

JOYLAND COUNTRY DANCE HALL

BRADENTON HONDA

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DATE	DESCRIPTION	DATE	ROAD NO.		COUNTY	FINANCIAL PROJECT ID			
			45		MANATEE	429506-1-52-01			

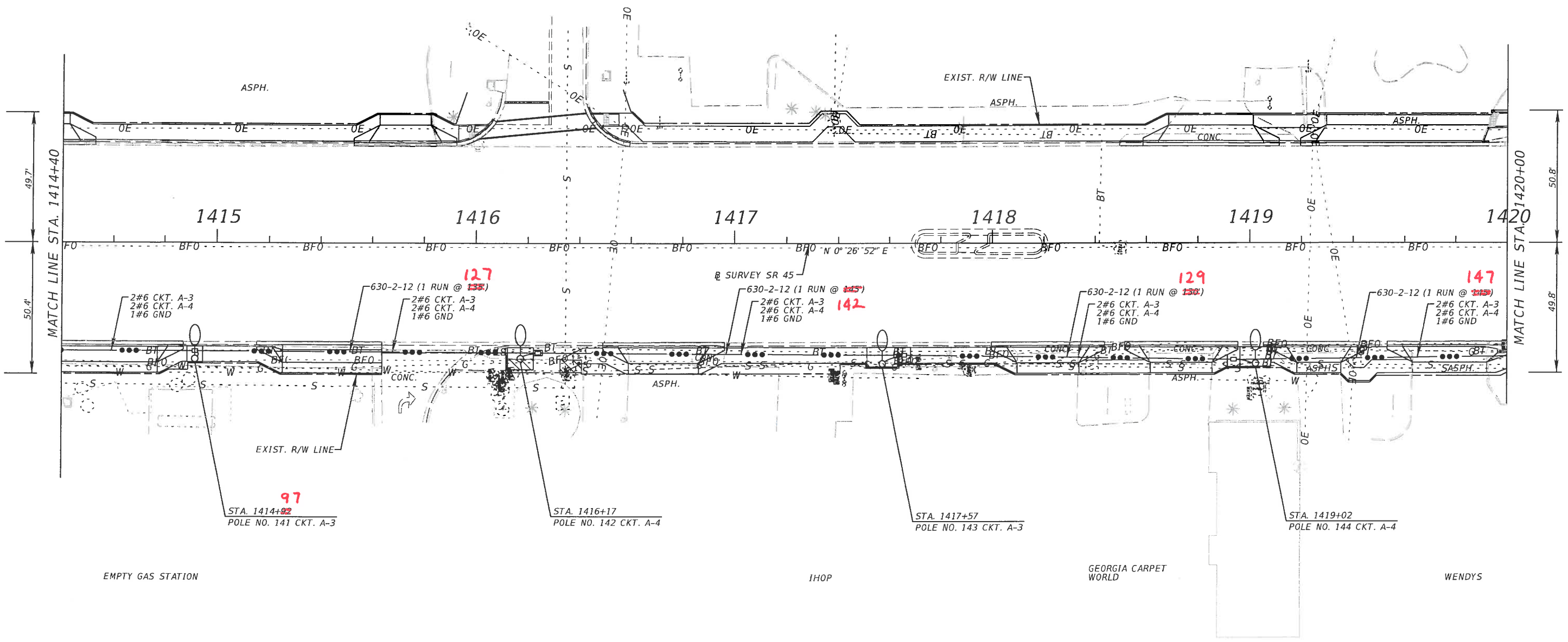
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.



LIL' JAYS
COUNTRY BUFFET

CASH AMERICA PAWN

PEEKABOOS LOUNGE



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DATE	DESCRIPTION	DATE	ROAD NO.		COUNTY	FINANCIAL PROJECT ID		
			45		MANATEE	429506-1-52-01		

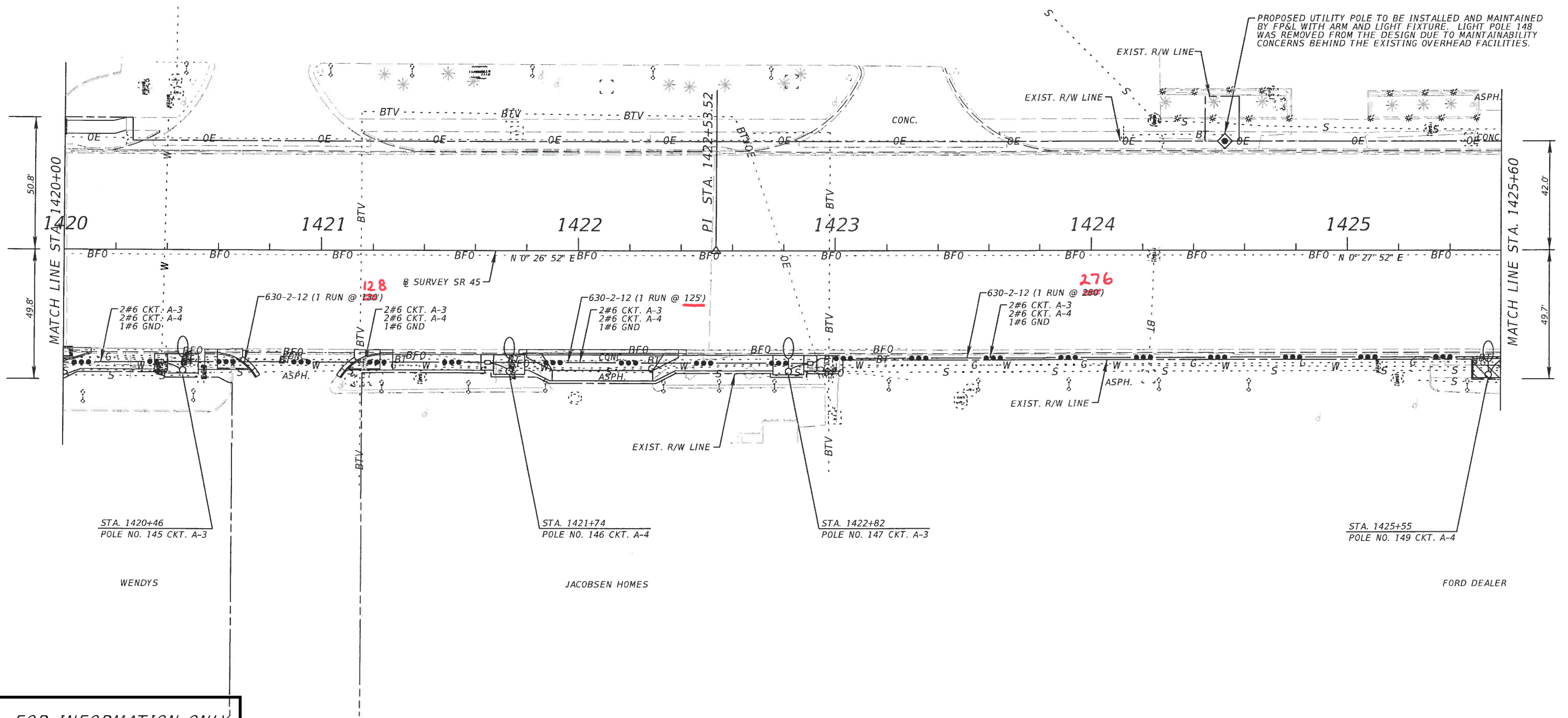
LIGHTING PLAN

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RACE TRAC

THE ATTIC
MINI STORAGE

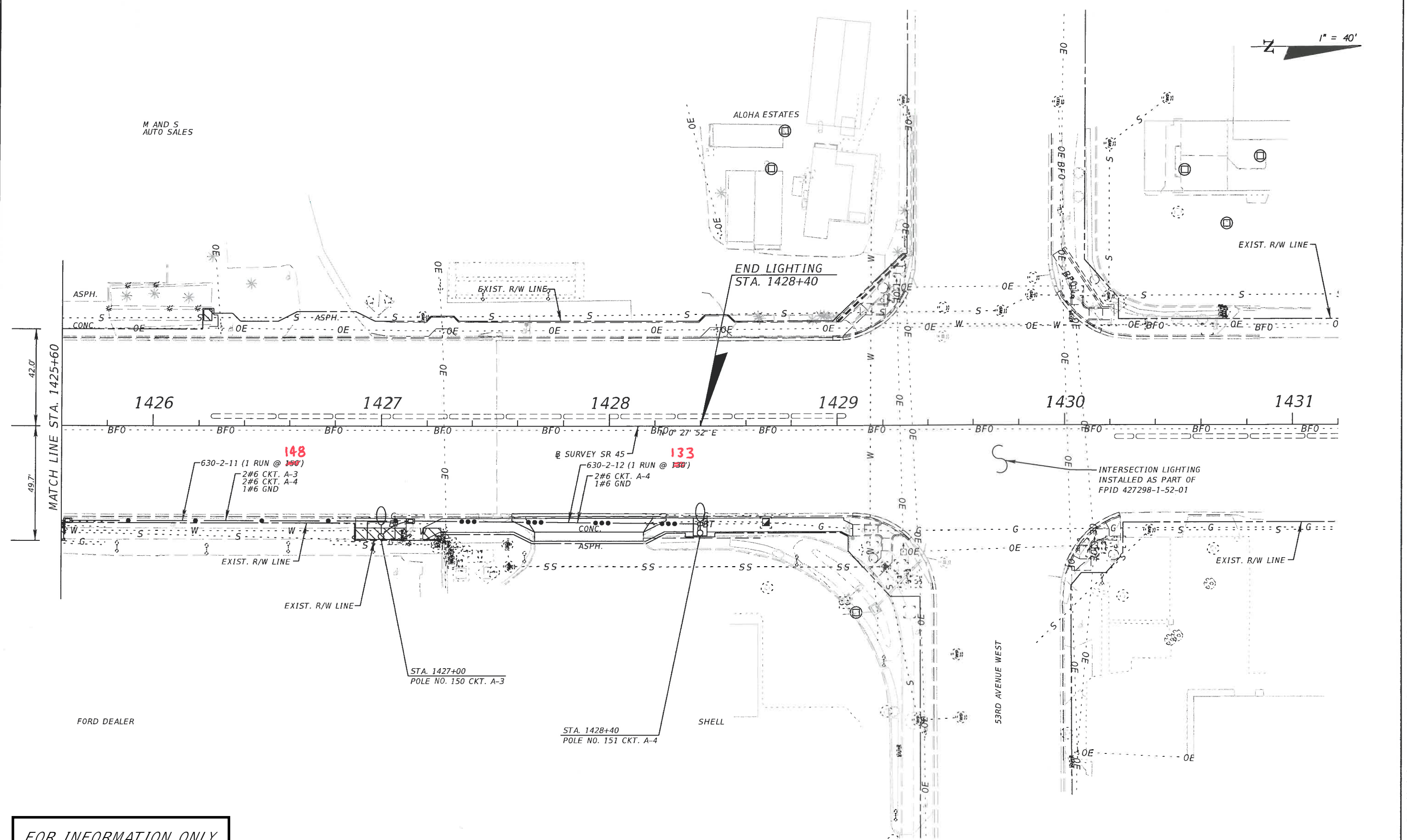


PROPOSED UTILITY POLE TO BE INSTALLED AND MAINTAINED BY FP&L WITH ARM AND LIGHT FIXTURE. LIGHT POLE 148 WAS REMOVED FROM THE DESIGN DUE TO MAINTAINABILITY CONCERNS BEHIND THE EXISTING OVERHEAD FACILITIES.

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					45	MANATEE	429506-1-52-01	

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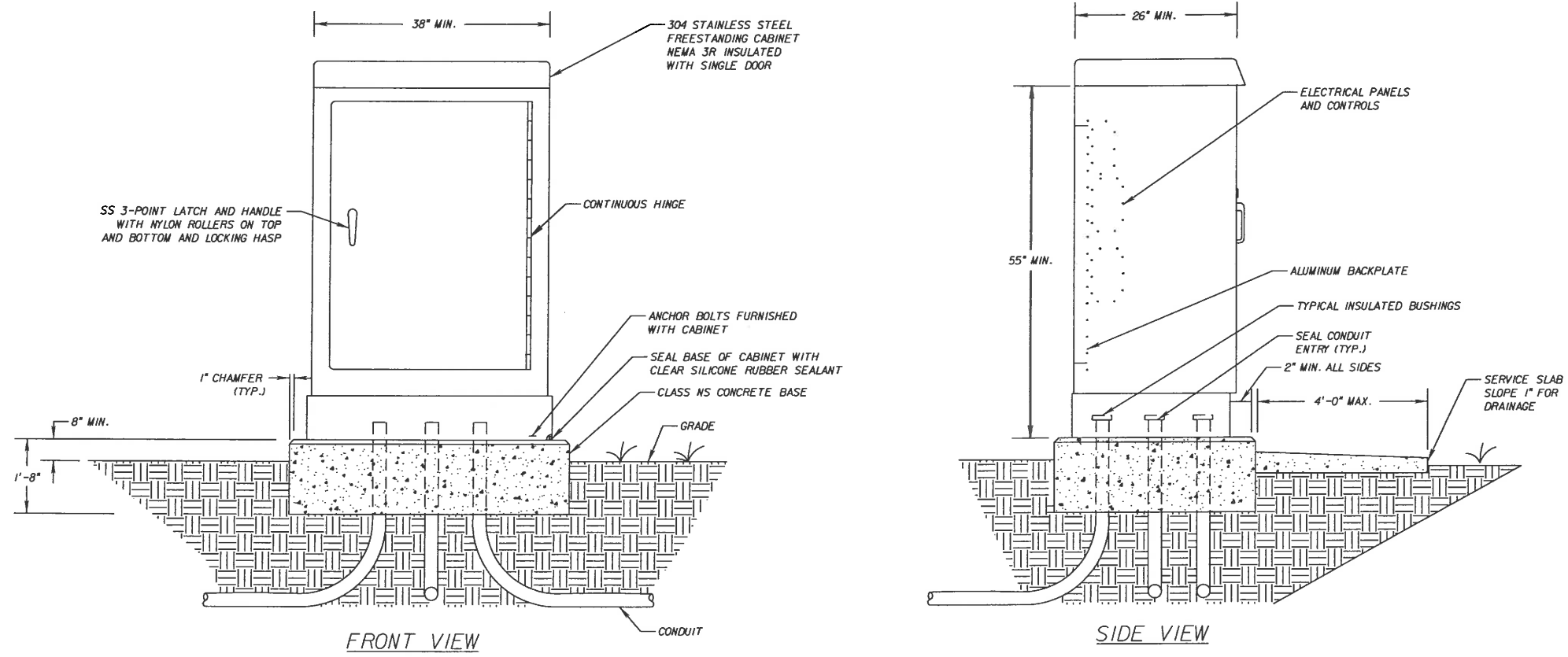
REVISIONS				Comprehensive Engineering Services, Inc. 201 S Orange Ave, Suite 1300 Orlando, FL 32801-3442 Certificate of Authorization No. 7862 Michael S. Manzano, P.E., License No. 64704	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LIGHTING PLAN SHEET NO. L-49
DATE	DESCRIPTION	DATE	ROAD NO.		COUNTY	FINANCIAL PROJECT ID		
			45		MANATEE	429506-1-52-01		

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GENERAL NOTES:

- SERVICE TO BE UNDERGROUND FEED. FOR DETAILS AND SPECIFICATIONS SEE INDICES 17504 AND 17736.
- STUB-OUT ONE (1) SPARE 2" PVC CONDUIT BELOW GRADE AND BEYOND CONCRETE BASE AND PROPERLY CAP.

LOAD CENTER	CIRCUIT	DESCRIPTION	VA LOAD	AMPACITY
A 100 A MAIN BREAKER 26.9 KVA 56.1 AMPS	A-1 (30A BREAKER)	SR 45 NORTH OF LOAD CENTER (1 OF 2)	8448	17.6 A
	A-2 (30A BREAKER)	SR 45 NORTH OF LOAD CENTER (2 OF 2)	8448	17.6 A
	A-3 (30A BREAKER)	SR 45 SOUTH OF LOAD CENTER (1 OF 2)	4752	9.9 A
	A-4 (30A BREAKER)	SR 45 SOUTH OF LOAD CENTER (2 OF 2)	5280	11.0 A
	SPARE (30A BREAKER) SPACE			



LOAD CENTER DETAIL
NTS

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
04-25-16	MSM Changed load center location				45	MANATEE	429506-1-52-01	

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GENERAL NOTES

CONSTRUCTION SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2015.

DESIGN METHODS:

LOAD RESISTANCE FACTOR DESIGN.

CONCRETE:

CLASS	MINIMUM 28-DAY COMPRESSIVE STRENGTH	LOCATION
IV	f'c = 5500 PSI	LUMINAIRE SPREAD FOOTING

REINFORCING STEEL:

REINFORCEMENT CAN BE EITHER DEFORMED BAR REINFORCEMENT OR WELDED WIRE FABRIC. BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60. DEFORMED WELDED WIRE FABRIC SHALL HAVE A DESIGN STRENGTH OF 65 KSI.

CONCRETE COVER:

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCE UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT SPECIFICATIONS FOR ALLOWABLE REINFORCEMENT PLACEMENT TOLERANCES.

LUMINAIRE SPREAD FOOTING NOTES:

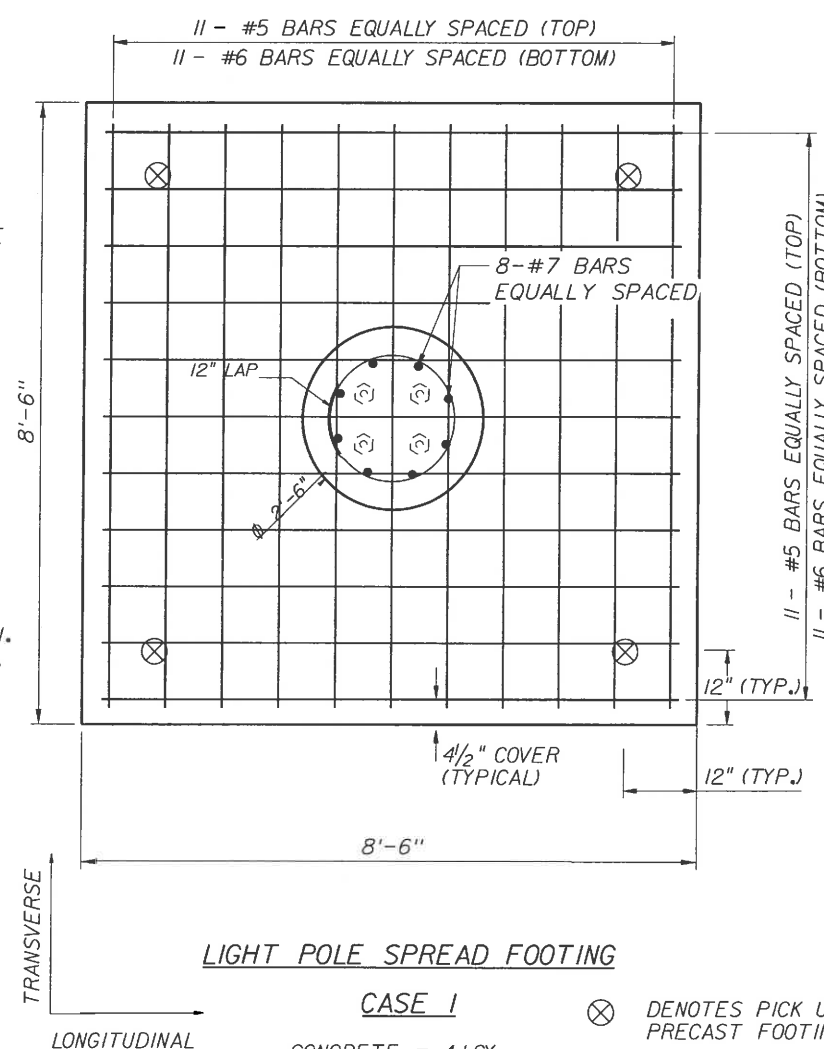
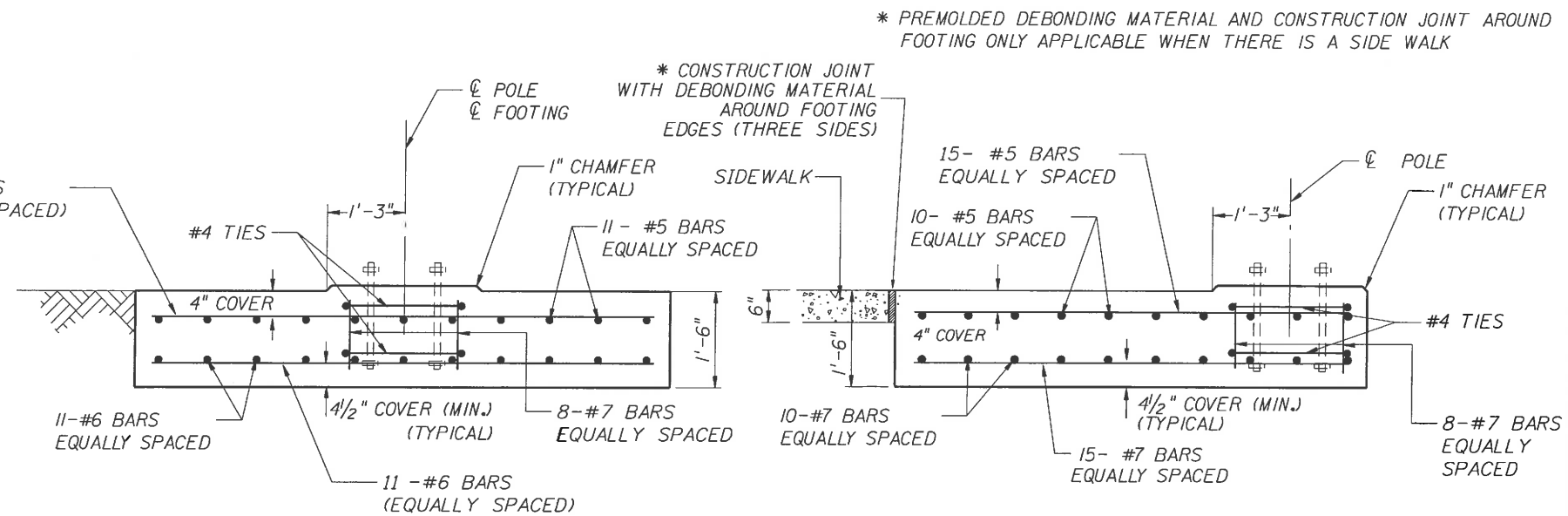
- AT THE CONTRACTORS RISK, BASED ON THE EXISTING UTILITIES, HE/SHE MAY SUBSTITUTE THE SPREAD FOOTING WITH THE DRILL SHAFT AS SHOWN IN INDEX I7515 OF THE FDOT DESIGN STANDARDS.
- SOIL BELOW FOOTING TO HAVE A MINIMUM BEARING CAPACITY OF 2.5 kip/sq ft.
- ANCHOR BOLTS ARE TO HAVE A MINIMUM OF 4 1/2 INCH CONCRETE COVER AT THE BOTTOM OF THE FOOTING.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANCHOR BOLTS THAT EFFECTIVELY TRANSMIT THE LIGHT POLE LOAD TO THE SHAFT AND THAT FIT THE REINFORCING CAGE. THE CONTRACTOR MUST ALSO VERIFY THAT THE FORCES OF THE LIGHT POLE DO NOT EXCEED THE DESIGN LOADS OF THIS FOOTER. CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA SHALL BE SUBMITTED BY THE CONTRACTOR TO THE DEPARTMENT FOR REVIEW AND APPROVAL SHOWING THAT THESE REQUIREMENTS HAVE BEEN MET PRIOR TO CONSTRUCTION.
- THE PULL BOX WILL BE INSTALLED ADJACENT TO AND NOT WITHIN THE LIMITS OF THE FOOTING, THEREFORE ALLOWING ADEQUATE DRAINAGE OF THE PULL BOX.
- DESIGN LOADS NOT TO EXCEED:

MOMENT IN TRANSVERSE DIR. = 23.2 FT * KIP	MOMENT IN LONGITUDINAL DIR. = 23.2 FT * KIP
TORSION = 2.32 FT * KIP	
AXIAL = 0.37 KIP	
SHEAR IN TRANSVERSE DIR. = 0.80 KIP	SHEAR IN LONGITUDINAL DIR. = 0.80 KIP

PRECAST OPTION FOOTING NOTES:

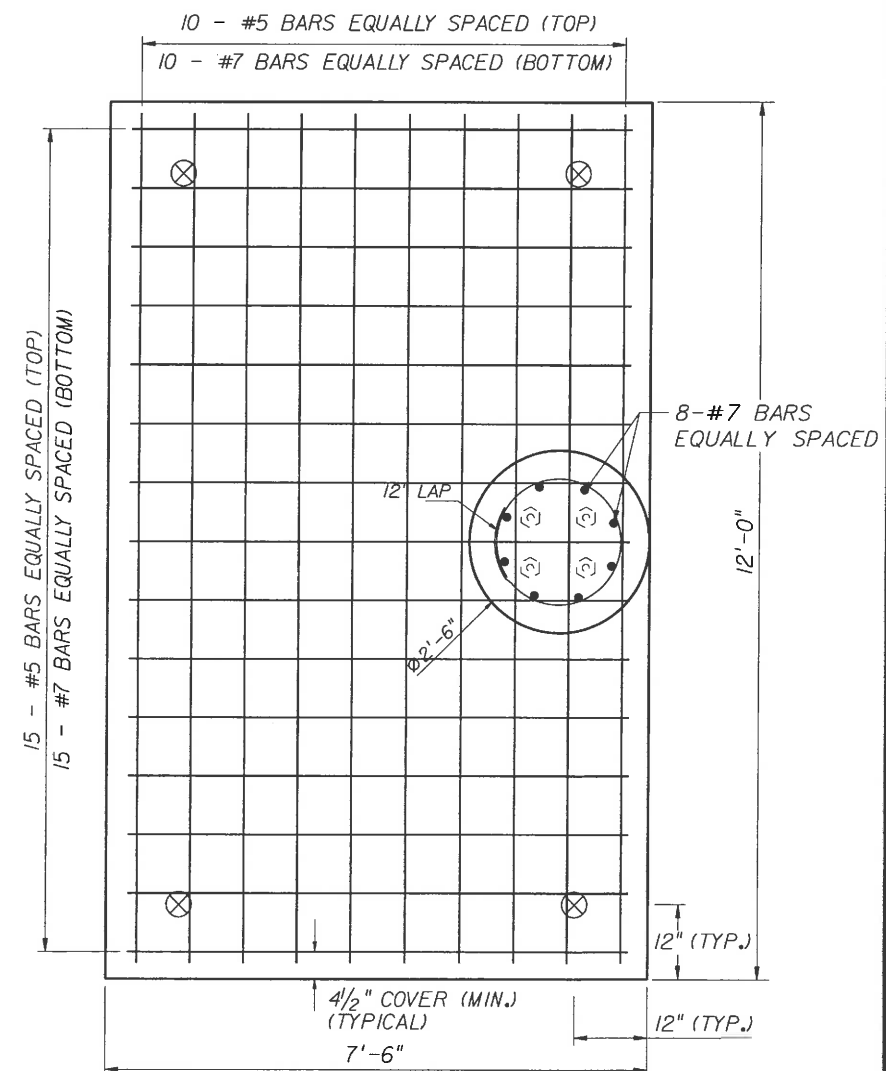
- SURFACE FINISH:** THE EXPOSED PART OF THE PEDESTAL SHALL HAVE A CLASS 3 FINISH.
- HANDLING:** PRECAST CONCRETE FOOTINGS MUST BE MAINTAINED IN A FLAT POSITION. THEY MUST BE PICKED UP FROM TWO (2) POINTS LOCATED AT EACH END.
- STORAGE AND TRANSPORTATION:** ALL PRECAST CONCRETE FOOTINGS MUST BE STORED ON ADEQUATE DUNNAGE. THE PRECAST CONCRETE FOOTING MUST BE SUPPORTED NO CLOSER THAN 6 INCHES AND NO FURTHER THAN 18 INCHES FROM THE END.
- MARKING:** EACH PRECAST CONCRETE FOOTING SHALL BE MARKED SHOWING CASTING DATE, AND IDENTIFICATION LETTERS AND NUMBERS.
- WHEN WELDED WIRE FABRIC IS USED, THE AREA MUST BE AT LEAST EQUAL TO THE AREA OF THE REINFORCEMENT SHOWN IN THE DRAWING.

FOR INFORMATION ONLY



LIGHT POLE SPREAD FOOTING CASE I

CONCRETE = 4.1 CY
REINFORCING = 500 LBS



LIGHT POLE SPREAD FOOTING CASE II

CONCRETE = 5.0 CY
REINFORCING = 730 LBS

REVISIONS						STRUCTURES DESIGN OFFICE DISTRICT 1 801 N. Broadway Bartow, Florida 33830-3809 Gerard Moliere, P.E., No. 46735	DRAWN BY: ADR CHECKED BY: ASA DESIGNED BY: ADR CHECKED BY: ASA	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: LIGHT POLE SPREAD FOOTING	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							45	MANATEE	429506-1-52-01	SR 45 (US 41) FROM 63RD TO 53RD AVENUE WEST	L-51	

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