

SIGNALIZED INTERSECTION LIGHTING MEMO

For
SR 80 from N. of Captain Hendry Dr. to W. of Forrey Dr.
Section 07010000
M.P. 8.273 to MP 10.390
LaBelle, Hendry County

Prepared for:

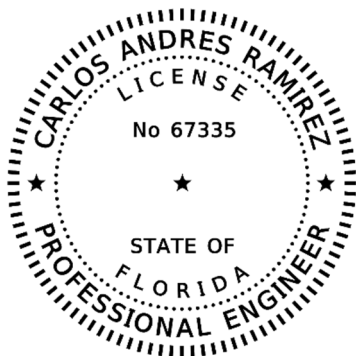
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 1 TRAFFIC OPERATIONS
801 North Broadway Avenue
Bartow, Florida 33830



Financial Project Identification Number: 447878-1-52-01

Prepared by:
Garrett Engineering Group, Inc.
120 10th Avenue North
Saint Petersburg, Florida 33701

November 2025



This item has been digitally signed and sealed by

On the date adjacent to the seal

Signature must be verified on any electronic copies

DESIGN MEMO

LIGHTING VOLTAGE DROP CALCULATIONS

The existing 480V lighting system along this corridor was designed and installed with State Project No. 07010-3523. The circuit being used for the intersection lighting on SR 80 at Dr. Martin Luther King Jr. Blvd. is existing circuit A2, which was originally designed for 16, 400W lights. This was increased to 24 lights during construction due to overhead conflicts for a total load of 11.29 KVa. The lights have currently been retrofitted to 250W LED fixtures, for a total reduced load of 6.32 KVa.

$$\frac{(24 \text{ fixtures} \times 400\text{W})/1000}{0.85 \text{ power factor (HID)}} = 11.29 \text{ KVa for CKT A-2 (Original)}$$

$$\frac{(24 \text{ fixtures} \times 250\text{W})/1000}{0.95 \text{ power factor (LED)}} = 6.32 \text{ KVa for CKT A-2 (Updated)}$$

This project is removing one of the 250W LED lights and adding six 200W LED lights for the intersection lighting at the proposed SR 80 and Shady Oaks Ave signal and the mid-block pedestrian signal for a total load of 7.32 KVa. This is lower than the original load and will not impact the existing breakers and wiring.

$$\frac{(23 \text{ fixtures} \times 250\text{W} + 6 \times 200\text{W})/1000}{0.95 \text{ power factor (LED)}} = 7.32 \text{ KVa for CKT A-2 (New)}$$

Similarly, circuit A-1 was also updated to LED. This project will add one 200w LED fixture to this circuit for the mid-block pedestrian signal. Existing breakers and wiring will not be affected.

Schedule											
Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Light Loss Factor	Total Lamp Lumens	Wattage	Plot
•	Exist (Based on Field Review)		4	American Electric Lighting	ATB0 P305 R3 3K	Autobahn Small P305 Package Roadway Type III 3000K	1	1	20069	145	 Max: 14494cd
■	Existing HPS FPL (Based on Field Review)		1	GE LIGHTING SOLUTIONS www.gelightingsolutions.com	M2RC25S__GMC3	M-250R2 CUTOFF	1	1	28000	305	 Max: 11656cd
■	NAV3 193W with 15' Arm		4	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	NAV-SA6A-740-U-T3	NAVION ROADWAY AND AREA LUMINAIRE (6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS	96	1	28197	193	 Max: 17622cd
■	NAV4W 193 Utility with 16' Arm		2	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	NAV-SA6A-740-U-T4W	NAVION ROADWAY AND AREA LUMINAIRE (6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS	96	1	27882	193	 Max: 18700cd
■	NAV4W 193W with 15' Arm		1	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	NAV-SA6A-740-U-T4W	NAVION ROADWAY AND AREA LUMINAIRE (6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS	96	1	27882	193	 Max: 18700cd
■	Possible FPL upgrade		1	American Electric Lighting	ATB2 P604 R4 3K	Autobahn Large P604 Package Roadway Type IV 300K CCT	1	1	32448	264	 Max: 22510cd

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
EBL	+	3.4 fc	3.4 fc	3.3 fc	1.0:1	1.0:1
EBR	+	1.2 fc	1.6 fc	0.6 fc	2.7:1	2.0:1
EBT	+	2.9 fc	3.1 fc	2.6 fc	1.2:1	1.1:1
MB EB	+	2.5 fc	2.5 fc	2.2 fc	1.1:1	1.1:1
MB WB	+	3.1 fc	3.8 fc	1.8 fc	2.1:1	1.7:1
MLK Intersection	+	3.8 fc	5.1 fc	1.4 fc	3.6:1	2.7:1
NBL	+	2.3 fc	2.8 fc	1.8 fc	1.6:1	1.3:1
NBR	+	1.8 fc	2.9 fc	0.7 fc	4.1:1	2.6:1
NBT	+	1.3 fc	1.6 fc	1.0 fc	1.6:1	1.3:1
SBL	+	2.1 fc	2.6 fc	1.5 fc	1.7:1	1.4:1
SBR	+	1.3 fc	2.3 fc	0.4 fc	5.8:1	3.3:1
SBT	+	1.6 fc	2.4 fc	0.7 fc	3.4:1	2.3:1
WBL	+	2.3 fc	2.4 fc	2.1 fc	1.1:1	1.1:1
WBR	+	3.4 fc	4.4 fc	1.2 fc	3.7:1	2.8:1
WBT	+	3.0 fc	3.2 fc	2.4 fc	1.3:1	1.3:1



VISUAL

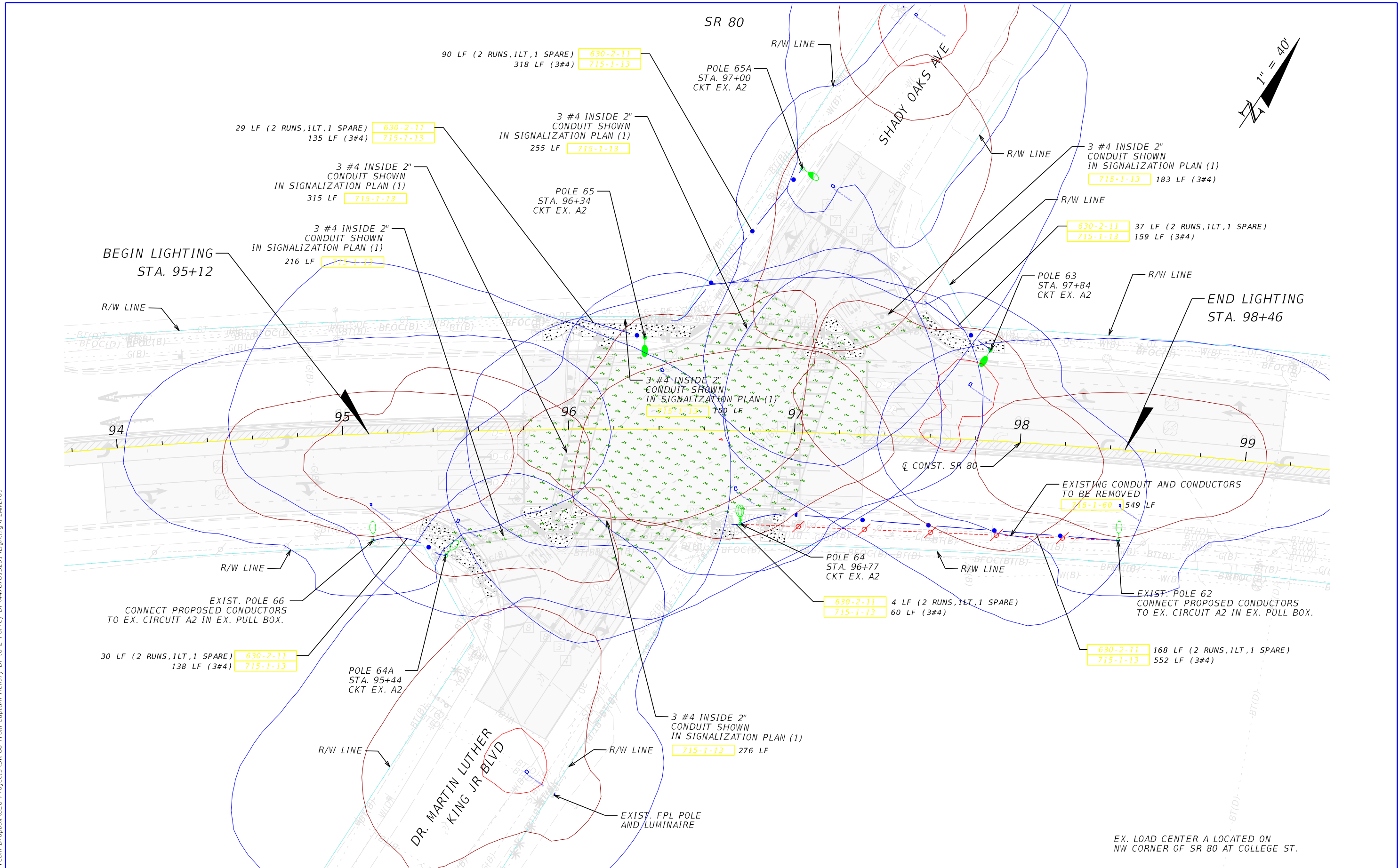
FPID 447878-1-52-01 SR 80 at Dr. Martin Luther King Jr. Blvd
Intersection and at Midblock Crossing
Lighting Analysis

Designer
CAR
Date
11/10/2025
Scale
Not to Scale
Drawing No.

Summary

1 of 1

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LDK\kgf



EX. LOAD CENTER A LOCATED ON
NW CORNER OF SR 80 AT COLLEGE ST.

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				CARLOS ANDRES RAMIREZ, P.E. LICENSE NUMBER: 67335 GARRETT ENGINEERING GROUP, INC. 120 10TH AVENUE NORTH SAINT PETERSBURG, FL 33701	SR 80	HENDRY	447878-1-52-01	

HORIZONTAL ANALYSIS

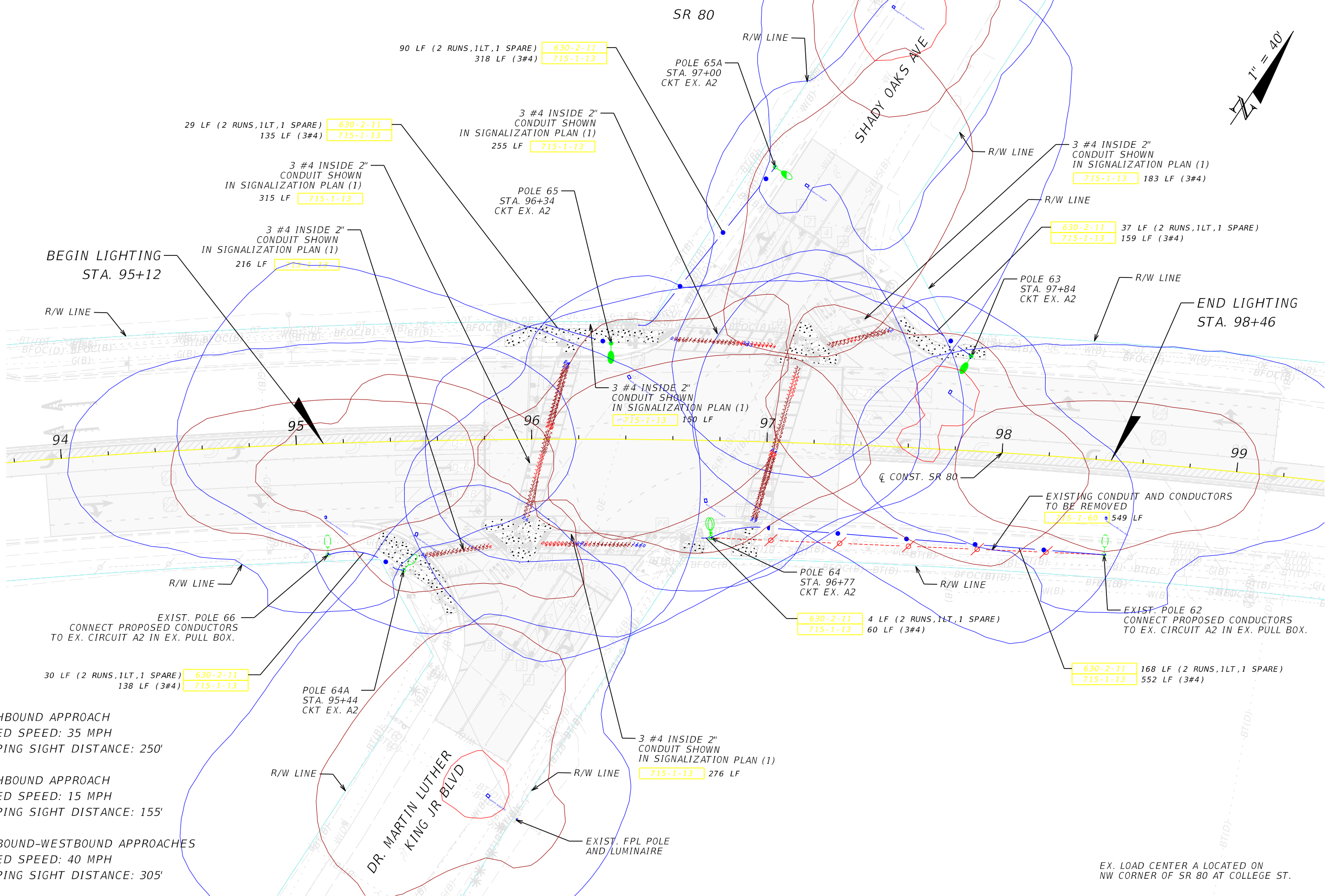
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LDK\kgm

NORTHBOUND APPROACH
POSTED SPEED: 35 MPH
STOPPING SIGHT DISTANCE: 250'

SOUTHBOUND APPROACH
POSTED SPEED: 15 MPH
STOPPING SIGHT DISTANCE: 155'

EASTBOUND-WESTBOUND APPROACHES
POSTED SPEED: 40 MPH
STOPPING SIGHT DISTANCE: 305'



EX. LOAD CENTER A LOCATED ON
NW CORNER OF SR 80 AT COLLEGE ST.

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CARLOS ANDRES RAMIREZ, P.E.
LICENSE NUMBER: 67335
GARRETT ENGINEERING GROUP, INC.
120 10TH AVENUE NORTH
SAINT PETERSBURG, FL 33701

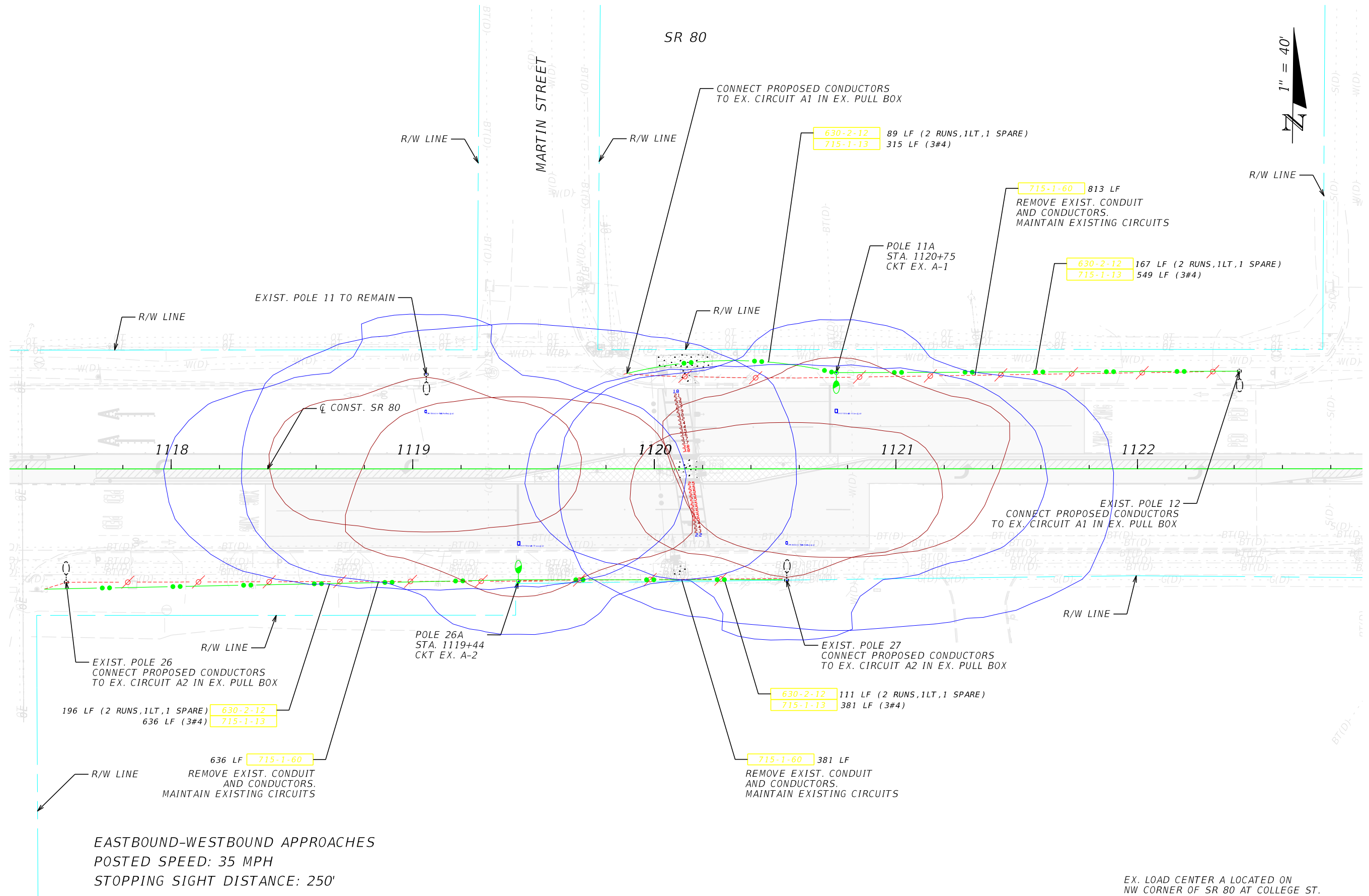
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 80	HENDRY	447878-1-52-01

VERTICAL ANALYSIS (1)	

SHEET NO.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD	
CARLOS ANDRES RAMIREZ, P.E. LICENSE NUMBER: 67335 GARRETT ENGINEERING GROUP, INC. 120 10TH AVENUE NORTH SAINT PETERSBURG, FL 33701	

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 80	HENDRY	447878-1-52-01

VERTICAL ANALYSIS (2)	

SHEET NO.

CORRESPONDENCE

Carlos Ramirez

From: Carlos Ramirez
Sent: Friday, November 7, 2025 2:08 PM
To: 'Chris.McJunkin@fpl.com'
Cc: Hussein Assaf
Subject: FPID 447878-1 SR 80 Power Coordination for New Signal and New MPS
Attachments: 44787815201-PLANS-03-SIGNALIZATION_DRAFT.pdf

Good Afternoon, Chris,

Just left you a message but wanted to follow up with a quick email and send you a copy of the plans. I went ahead and marked up the locations I would like to coordinate on (2 power locations and 1 fixture upgrade). Also wanted to see if there are any Contribution In Aid of Construction (CIAC) for the power needs on this project.

If CIAC is needed for these locations, please send us an estimate for all work (i.e. applications fees, transformers, switches, transformer pads, wire, pull boxes, other appurtenances, etc.) needed to get the service point built and connected. Once I received this, I will be able to coordinate with the Department to open the pay item and include in the plans.

Please feel free to contact me with any questions you may have or if you need to discuss this further.

Thanks!
Carlos



Carlos Andres Ramirez, PE, PTOE

Vice President/ Project Manager

Garrett Engineering Group, Inc, A Certified DBE Firm

Proudly Serving Florida for 15 Years

120 10th Avenue, North | Saint Petersburg, FL 33701

813.786.0691 (M) | cramirez@garrettteg.com

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CONTRACT PLANS COMPONENTS
ROADWAY
SIGNING AND PAVEMENT MARKING
SIGNALIZATION

INDEX OF SIGNALIZATION PLANS

SHEET NO.	SHEET DESCRIPTION
T-1	KEY SHEET
T-2	SIGNATURE SHEET
T-3	GENERAL NOTES
T-4	LIGHTING LEGEND AND DATA TABLE
T-5 - T-10	SIGNALIZATION PLANS
T-11 - T-12	LIGHTING PLAN
T-13	GUIDE SIGN WORK SHEET
T-14	STANDARD MAST ARM TABULATION
T-15	MAST ARM ASSEMBLIES DATA TABLE (TO BE SUBMITTED WITH PHASE IV)

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

SIGNALIZATION PLANS

FINANCIAL PROJECT ID 447878-1-52-01
(FEDERAL FUNDS)
HENDRY COUNTY (07010)
STATE ROAD NO.80

FROM N. OF CAPTAIN HENDRY DR. TO W. OF FORREY DR.

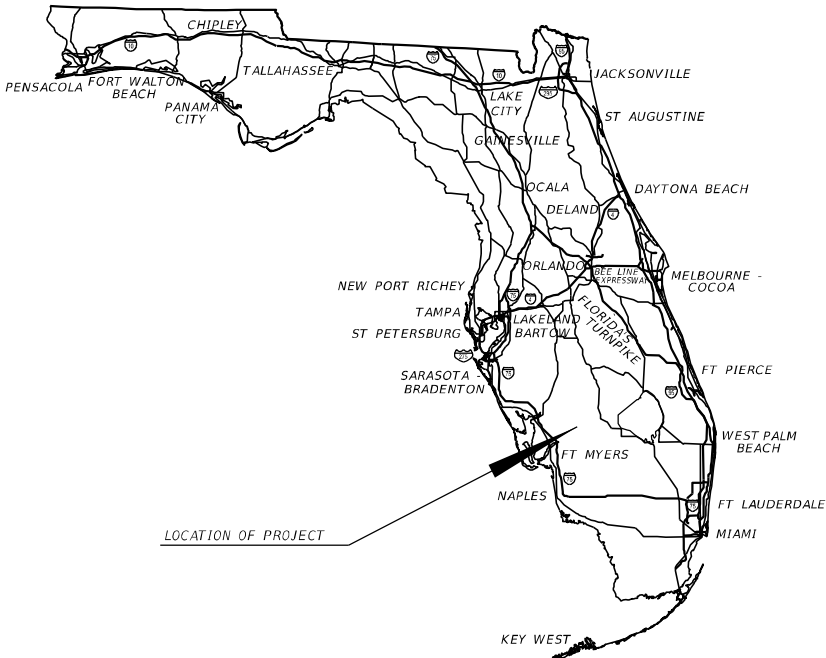
PROJECT LOCATION URL: <https://tinyurl.com/2tbna7s7>

PROJECT LIMITS: BEGIN MP 8.273 - END MP 10.390

EXCEPTIONS: NONE

BRIDGE LIMITS: NONE

RAILROAD CROSSING: NONE



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GOVERNING STANDARD PLANS:
Florida Department of Transportation, FY2025-26 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>

APPLICABLE IRs: N/A

GOVERNING STANDARD SPECIFICATIONS:
Florida Department of Transportation, FY 2025-26 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

PHASE IIR PLANS
06/13/2025

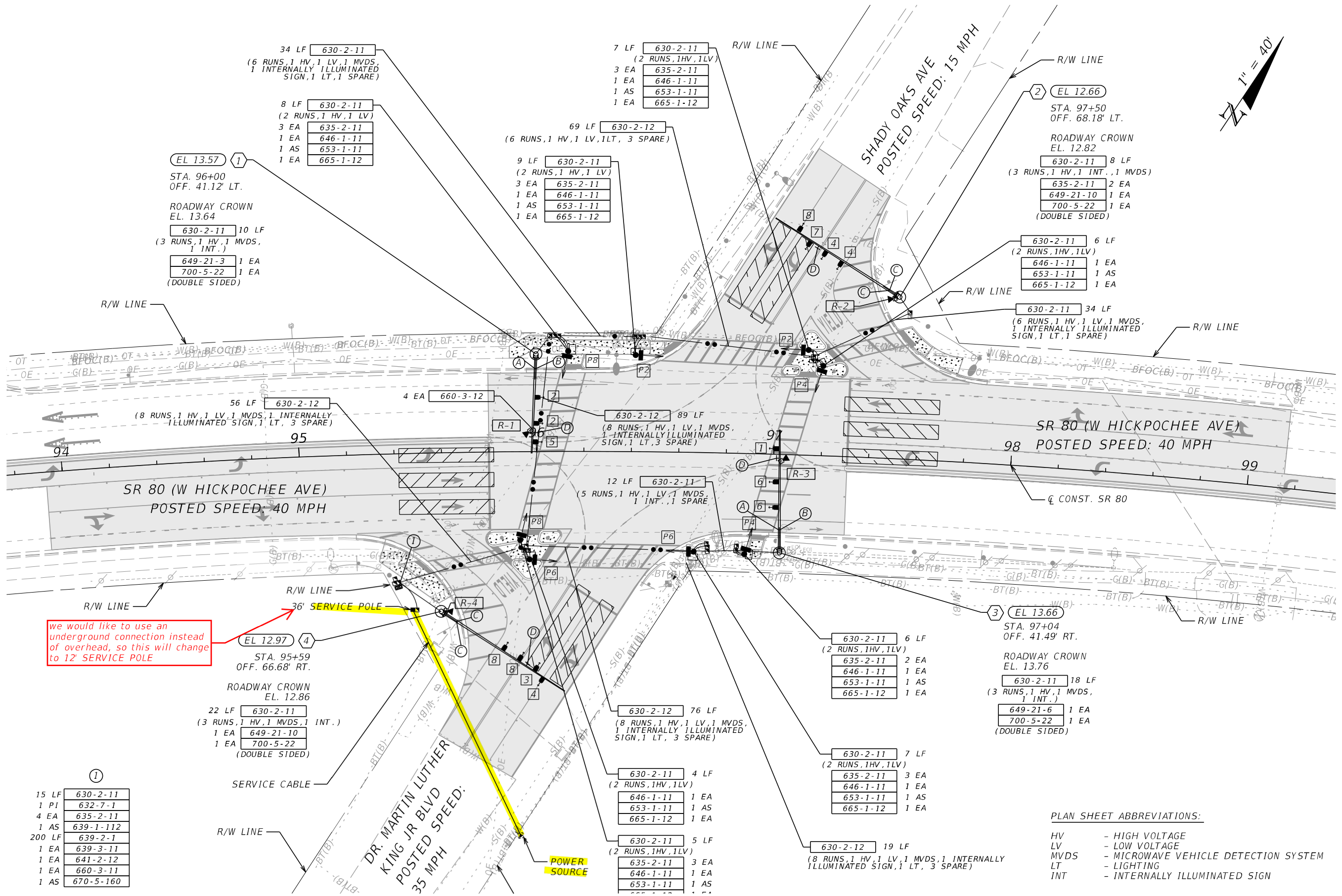
SIGNALIZATION PLANS
ENGINEER OF RECORD:
CARLOS A. RAMIREZ, P.E.
P.E. LICENSE NUMBER 67335
GARRETT ENGINEERING GROUP, INC.
120 10TH AVENUE NORTH
SAINT PETERSBURG, FL 33701
(727) 289-9018
CONTRACT NO.: CA149
VENDOR NO.: F65-0183924

FDOT PROJECT MANAGER:
DAVID AGACINSKI

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T1908	26	T-1

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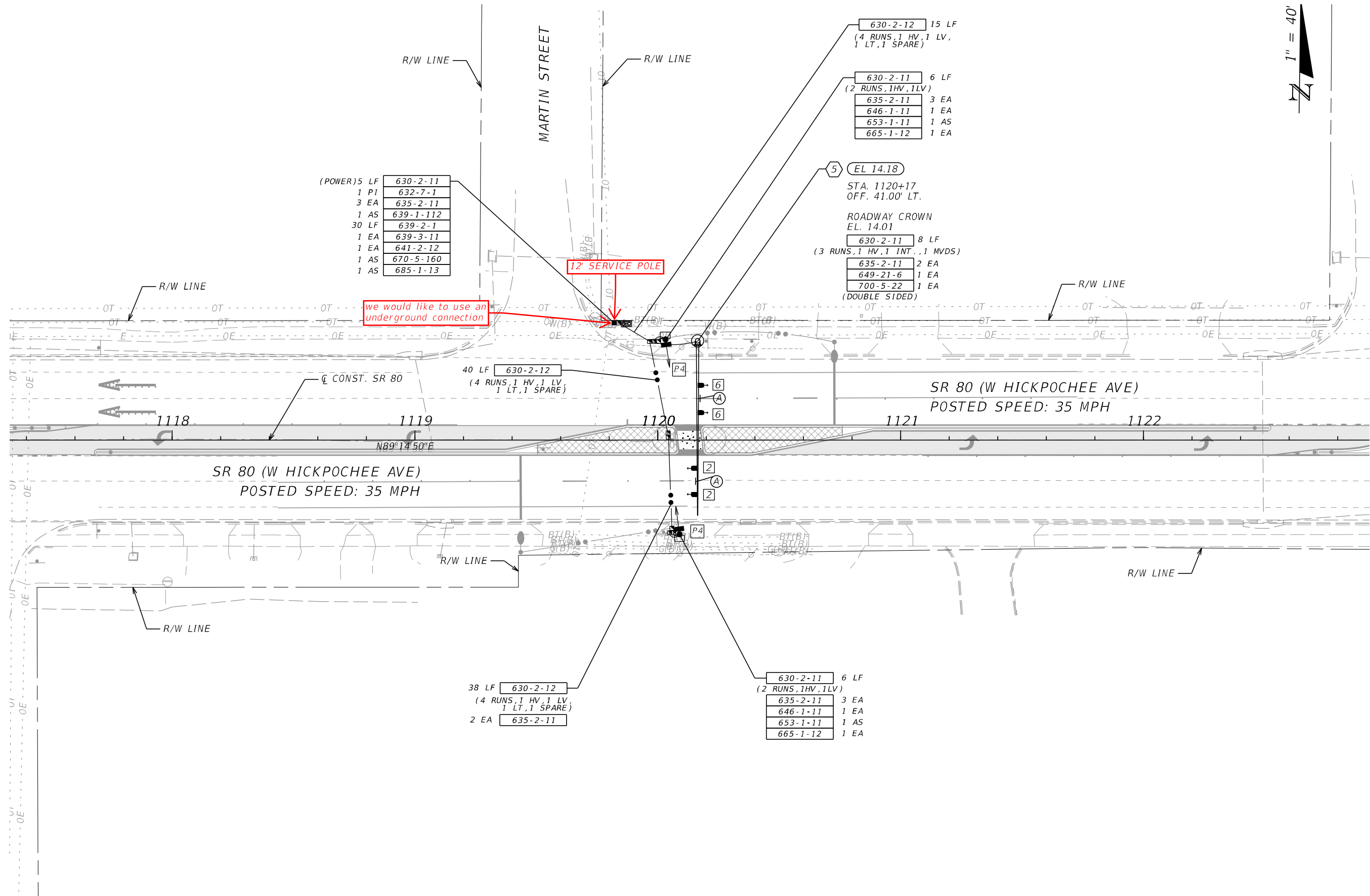
PLAN SHEET ABBREVIATIONS:

HV	- HIGH VOLTAGE
LV	- LOW VOLTAGE
MVDS	- MICROWAVE VEHICLE DETECTION SYSTEM
LT	- LIGHTING
INT	- INTERNALLY ILLUMINATED SIGN

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SIGNALIZATION PLAN (1)							T-5

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DATE	DESCRIPTION	DATE	DESCRIPTION

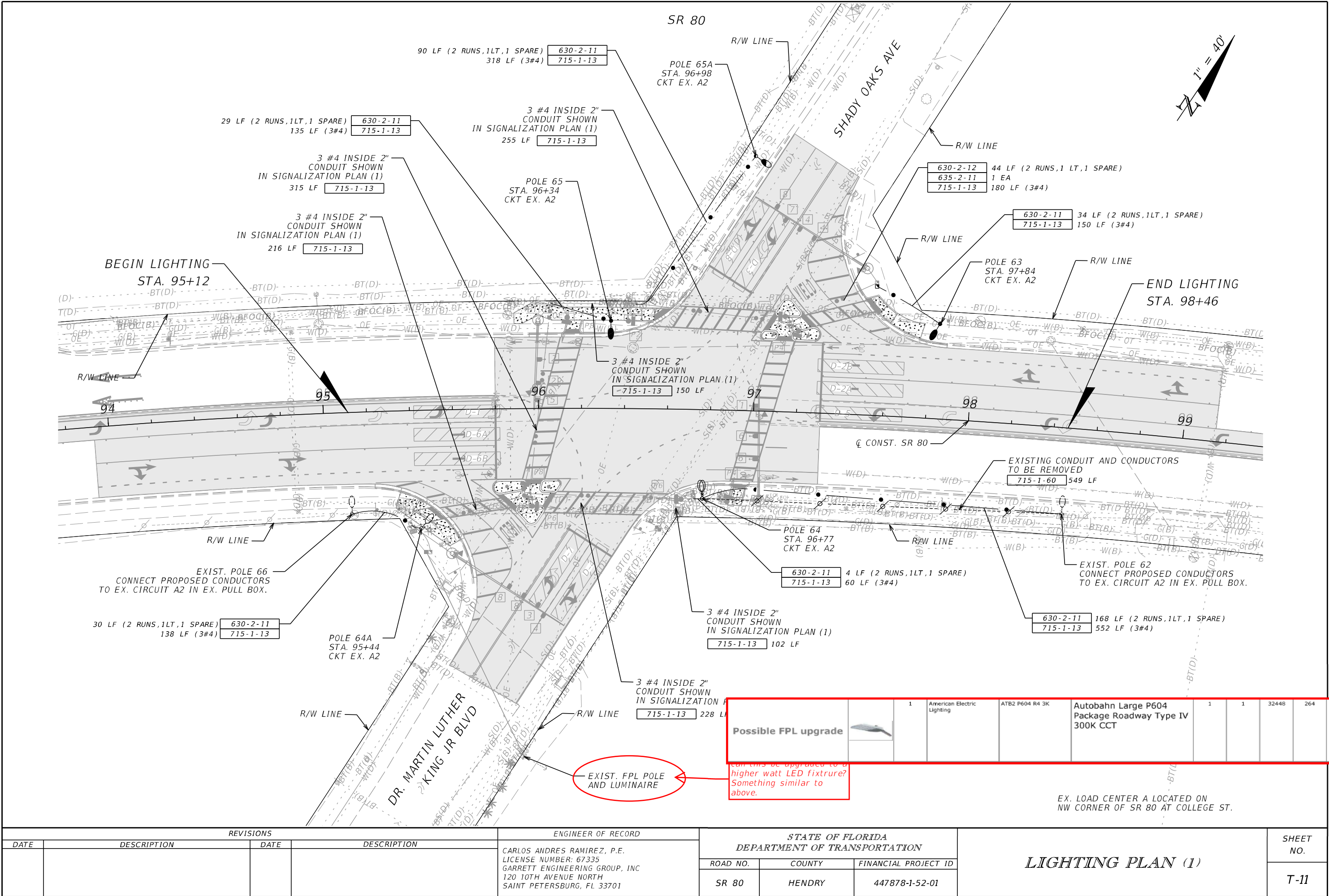
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 80	HENDRY	447878-1-52-01

SIGNALIZATION PLAN (4)	
SHEET NO.	T-8

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						SR 80	HENDRY	447878-1-52-01	

LIGHTING PLAN (1)

T-11

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