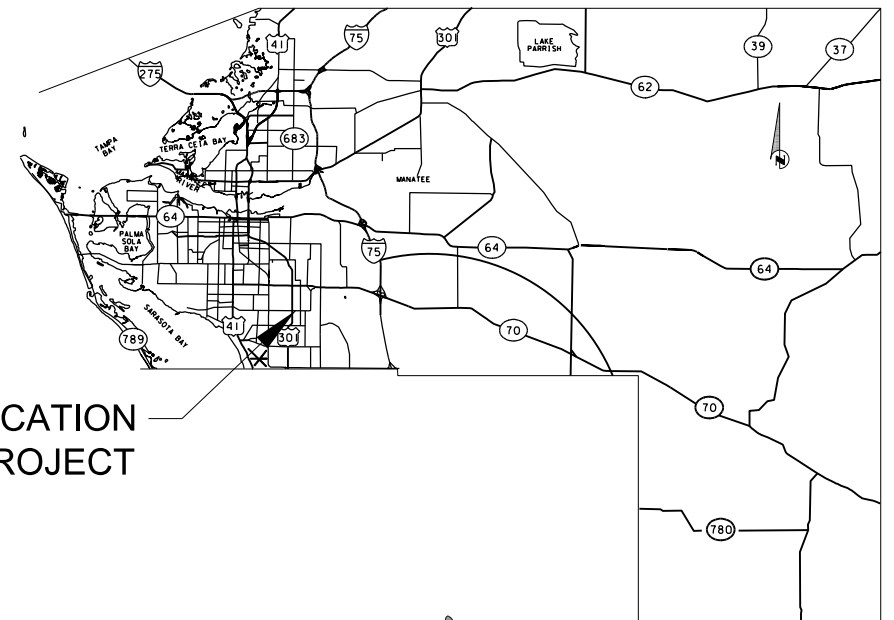


STATE OF FLORIDA
MANATEE COUNTY

PROPOSED SIGNING AND PAVEMENT
MARKING PLANS FOR
63RD AVENUE EAST
FROM US 301 TO TUTTLE AVE.
BRADENTON, FLORIDA



LOCATION
OF PROJECT

INDEX OF SIGNING AND
PAVEMENT MARKING PLANS

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S-1	KEY SHEET
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S-4	GENERAL NOTES
S-5 TO S-17	SIGNING AND PAVEMENT MARKING PLAN
S-18	GUIDE SIGN WORKSHEET
S-19 TO S-21	GUIDE SIGN CROSS SECTION

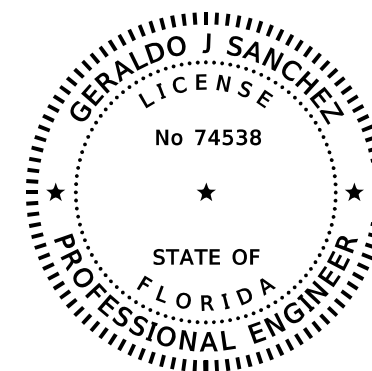
MANATEE COUNTY PROJECT No: 6107860

PHASE III SUBMITTAL
DECEMBER, 2023



ATTENTION IS DIRECTED TO THE FACT THAT
THESE PLANS MAY HAVE BEEN ENLARGED IN
SIZE BY REPRODUCTION. THIS MUST BE
CONSIDERED WHEN OBTAINING SCALED DATA.

MANATEE COUNTY PROJECT MANAGER:
ANTHONY RUSSO, P.E.



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED AND
THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.

SIGNING AND PAVEMENT
MARKING PLANS
PROFESSIONAL OF RECORD: GERALDO J. SANCHEZ, P.E.

FLORIDA P.E. # 74538

PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801
(407) 720-7420

SHEET
NO.

S-1

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET	
			S-5		S-6		S-7		S-8		S-9		S-10		S-11		PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL		
523-3	PATTERNED PAVEMENT	SY			81		1		70		36		67		4		259	
700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	1		8		4		6		1		1		2		23	
700-1-50	SINGLE POST SIGN, RELOCATE	AS			1												1	
700-1-60	SINGLE POST SIGN, REMOVE	AS	1		10		2		4		1		5		3		26	
700-2-12	MULTI- POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS									1				1		2	
700-2-13	MULTI- POST SIGN, F&I GROUND MOUNT, 21-30 SF	AS																
700-2-14	MULTI- POST SIGN, F&I GROUND MOUNT, 31-50 SF	AS																
700-3-501	SIGN PANEL, RELOCATE, UP TO 12 SF	EA			2		2		2								6	
705-10-1	OBJECT MARKER, TYPE 1	EA	1		1		1										3	
706-1-3	RAISED PAVEMENT MARKER, TYPE B	EA	31		134		82		76		77		85		81		566	
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS																
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	0.108		0.384		0.382		0.280		0.398		0.421		0.428		2.401	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	LF			160		235		334				539				1268	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	59		52		118		69				133				431	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP, 10-30 OR 3-9 SKIP, 6" WIDE	GM	0.018		0.205		0.213		0.213		0.213		0.117		0.213		1.192	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION LINE, 6"	GM			0.096		0.040		0.075		0.050		0.088				0.349	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROW	EA	2		8		6		4		9		6		5		40	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	GM	0.030		0.262		0.213		0.205		0.212		0.239		0.212		1.373	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID FOR DIAGONAL OR CHEVRON, 18"	LF			163		22										185	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SKIP, 6", 10-30 SKIP	GM			0.106		0.239		0.106		0.137		0.015		0.167		0.770	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION, 6"	GM					0.030		0.036								0.066	
710-11-290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF	32		32												64	
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF			160		235		334				539				1268	
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	59		52		118		69				133				431	
711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM			0.096		0.040		0.075		0.050		0.088				0.349	
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	2		8		6		4		9		6		5		40	
711-11-224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRONS	LF			163		22										185	
711-11-241	THERMOPLASTIC, STANDARD, YELLOW, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM					0.030		0.036								0.066	
711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF											465				465	
711-14-160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	2		1		2		4		1		3		1		14	
711-14-170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	2		2		1		4		1		3		1		14	
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.108		0.384		0.382		0.280		0.398		0.421		0.428		2.401	
711-16-131	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE SKIP, 6", 10-30 SKIP	GM	0.018		0.205		0.213		0.213		0.213		0.117		0.213		1.192	
711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.030		0.262		0.213		0.205		0.212		0.239		0.212		1.373	
711-16-231	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SKIP, 6", 10-30 SKIP	GM			0.106		0.239		0.106		0.137		0.015		0.167		0.770	
713-103-101	PERMANENT TAPE, WHITE, SOLID, 6" FOR CONCRETE BRIDGES	GM																
713-103-131	PERMANENT TAPE, WHITE, SKIP/ DOTTED, 6" FOR CONCRETE SURFACES	GM																
713-103-201	PERMANENT TAPE, YELLOW, SOLID, 6" FOR CONCRETE BRIDGES	GM																
713-103-231	PERMANENT TAPE, YELLOW, 10-30 SKIP/ 3-9 DOTTED, 6" FOR CONCRETE SURFACES	GM																
713-103-331	PERMANENT TAPE, BLACK, SKIP/ DOTTED, 6" FOR CONCRETE SURFACES	GM																

* THESE QUANTITIES ARE PAID FOR UNDER PAVEMENT MARKINGS (FINAL SURFACE), LUMP SUM - ITEM NO. 710-90. THE QUANTITIES SHOWN ARE FOR ONE APPLICATION; SEE SPECIFICATION 710 FOR THE NUMBER OF APPLICATIONS REQUIRED.



NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	 GERALDO J. SANCHEZ, P.E. LICENSE NUMBER 74538 PATEL, GREENE & ASSOCIATES, LLC 101 S. GARLAND AVENUE, SUITE 201 ORLANDO, FL 32801	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	TABULATION OF QUANTITIES (1)	SHEET NO.		
			DESIGNED BY	GJS	03/2023						
			DRAWN BY	KRS	PROJECT NO.						
			CHECKED BY	AW	6107860						

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

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			S-12		S-13		S-14		S-15		S-16		S-17		PLAN	FINAL	PLAN	FINAL		
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL						
523-3	PATTERNED PAVEMENT	SY	36		36		50										122		381	
700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	3		3		1					1					8		31	
700-1-50	SINGLE POST SIGN, RELOCATE	AS																	1	
700-1-60	SINGLE POST SIGN, REMOVE	AS	3		2		2		1			1					9		35	
700-2-12	MULTI- POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS																	2	
700-2-13	MULTI- POST SIGN, F&I GROUND MOUNT, 21-30 SF	AS							1			1					2		2	
700-2-14	MULTI- POST SIGN, F&I GROUND MOUNT, 31-50 SF	AS					1										1		1	
700-3-501	SIGN PANEL, RELOCATE, UP TO 12 SF	EA	2		2												4		10	
705-10-1	OBJECT MARKER, TYPE 1	EA			1												1		4	
706-1-3	RAISED PAVEMENT MARKER, TYPE B	EA	76		57		27		8			65		56			289		855	
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS																	1	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	0.329		0.387		0.389		0.051			0.167		0.199			1.522		3.923	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	LF	66		137												203		1471	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	7		33												40		471	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP, 10-30 OR 3-9 SKIP, 6" WIDE	GM	0.213		0.213		0.204										0.630		1.822	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION LINE, 6"	GM	0.055		0.055		0.052										0.162		0.511	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROW	EA	6		6							1					13		53	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	GM	0.195		0.237		0.205		0.055			0.258		0.281			1.231		2.604	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID FOR DIAGONAL OR CHEVRON, 18"	LF										104		78			182		367	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SKIP, 6", 10-30 SKIP	GM	0.106														0.106		0.876	
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION, 6"	GM	0.012		0.024												0.036		0.102	
710-11-290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF			9												9		73	
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	66		137												203		1471	
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	7		33												40		471	
711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM	0.055		0.055		0.052										0.162		0.511	
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	6		6							1					13		53	
711-11-224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRONS	LF										104		78			182		367	
711-11-241	THERMOPLASTIC, STANDARD, YELLOW, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM	0.012		0.024												0.036		0.102	
711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF																	465	
711-14-160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	2		2		1										5		19	
711-14-170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	2		2		1										5		19	
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.329		0.387		0.389		0.051			0.167		0.199			1.522		3.923	
711-16-131	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE SKIP, 6", 10-30 SKIP	GM	0.213		0.213		0.204										0.630		1.822	
711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.195		0.237		0.205		0.055			0.258		0.281			1.231		2.604	
711-16-231	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SKIP, 6", 10-30 SKIP	GM	0.106														0.106		0.876	
713-103-101	PERMANENT TAPE, WHITE, SOLID, 6" FOR CONCRETE BRIDGES	GM	0.045														0.045		0.045	
713-103-131	PERMANENT TAPE, WHITE, SKIP/ DOTTED, 6" FOR CONCRETE SURFACES	GM	0.023														0.023		0.023	
713-103-201	PERMANENT TAPE, YELLOW, SOLID, 6" FOR CONCRETE BRIDGES	GM	0.023														0.023		0.023	
713-103-231	PERMANENT TAPE, YELLOW, 10-30 SKIP/ 3-9 DOTTED, 6" FOR CONCRETE SURFACES	GM	0.030														0.030		0.030	
713-103-331	PERMANENT TAPE, BLACK, SKIP/ DOTTED, 6" FOR CONCRETE SURFACES	GM	0.030														0.030		0.030	

* THESE QUANTITIES ARE PAID FOR UNDER PAVEMENT MARKINGS (FINAL SURFACE), LUMP SUM - ITEM NO. 710-90. THE QUANTITIES SHOWN ARE FOR ONE APPLICATION; SEE SPECIFICATION 710 FOR THE NUMBER OF APPLICATIONS REQUIRED.

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	 GERALDO J. SANCHEZ, P.E. LICENSE NUMBER 74538 PATEL, GREENE & ASSOCIATES, LLC 101 S. GARLAND AVENUE, SUITE 201 ORLANDO, FL 32801	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	TABULATION OF QUANTITIES (2)	SHEET NO.		
			DESIGNED BY	GJS	03/2023						
			DRAWN BY	KRS	PROJECT NO.						
			CHECKED BY	AW	6107860						



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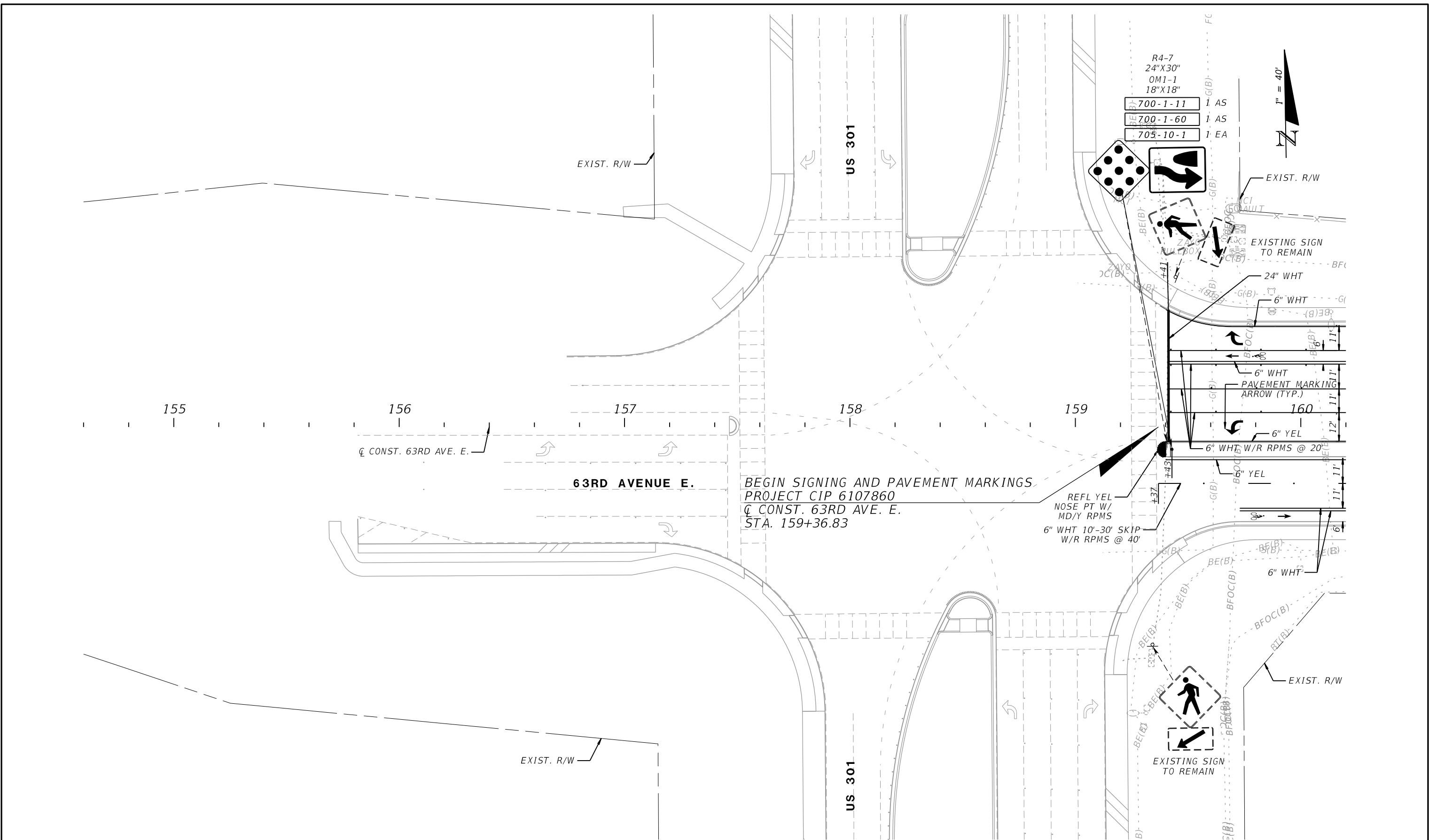
GENERAL NOTES:

- 1) EXERCISE CAUTION WORKING AROUND EXISTING SIGNS TO REMAIN OR WHILE RELOCATING EXISTING SIGNS SO AS TO PREVENT DAMAGE TO THE SIGNS. IF THE SIGNS ARE DAMAGED BEYOND USE, AS DETERMINED BY THE ENGINEER, THE SIGNS SHALL BE REPLACED AT NO COST TO THE DEPARTMENT.
- 2) THE PROPOSED PAVEMENT MARKINGS ARE INTENDED TO MATCH THE EXISTING STRIPING CONFIGURATION AT BEGIN AND END PAVEMENT WIDENING/RECONSTRUCTION LIMITS.
- 3) ALL ABBREVIATIONS CORRESPOND TO THE FOLLOWING DEFINITIONS:

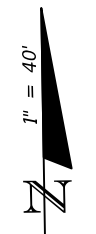
DBL= DOUBLE
 MD/Y = MONO-DIRECTIONAL YELLOW
 REFL YEL NOSE PT = REFLECTIVE YELLOW NOSE PAINT
 RPMS = RETRO-REFLECTIVE PAVEMENT MARKERS
 W/R = WHITE/RED
 WHT= WHITE
 Y/Y = YELLOW/YELLOW
 YEL = YELLOW

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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	 GERALDO J. SANCHEZ, P.E. LICENSE NUMBER 74538 PATEL, GREENE & ASSOCIATES, LLC 101 S. GARLAND AVENUE, SUITE 201 ORLANDO, FL 32801	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	<i>GENERAL NOTES</i>		SHEET NO.	
			DESIGNED BY	GJS	03/2023						
			DRAWN BY	KRS	PROJECT NO.						
			CHECKED BY	AW	6107860						S-4



- R4-7
24"X30"
- OM1-1
18"X18"
- 700-1-11 1 AS
- 700-1-60 1 AS
- 705-10-1 1 EA



NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
				GJS	03/2023
				KRS	PROJECT NO.
				AW	6107860

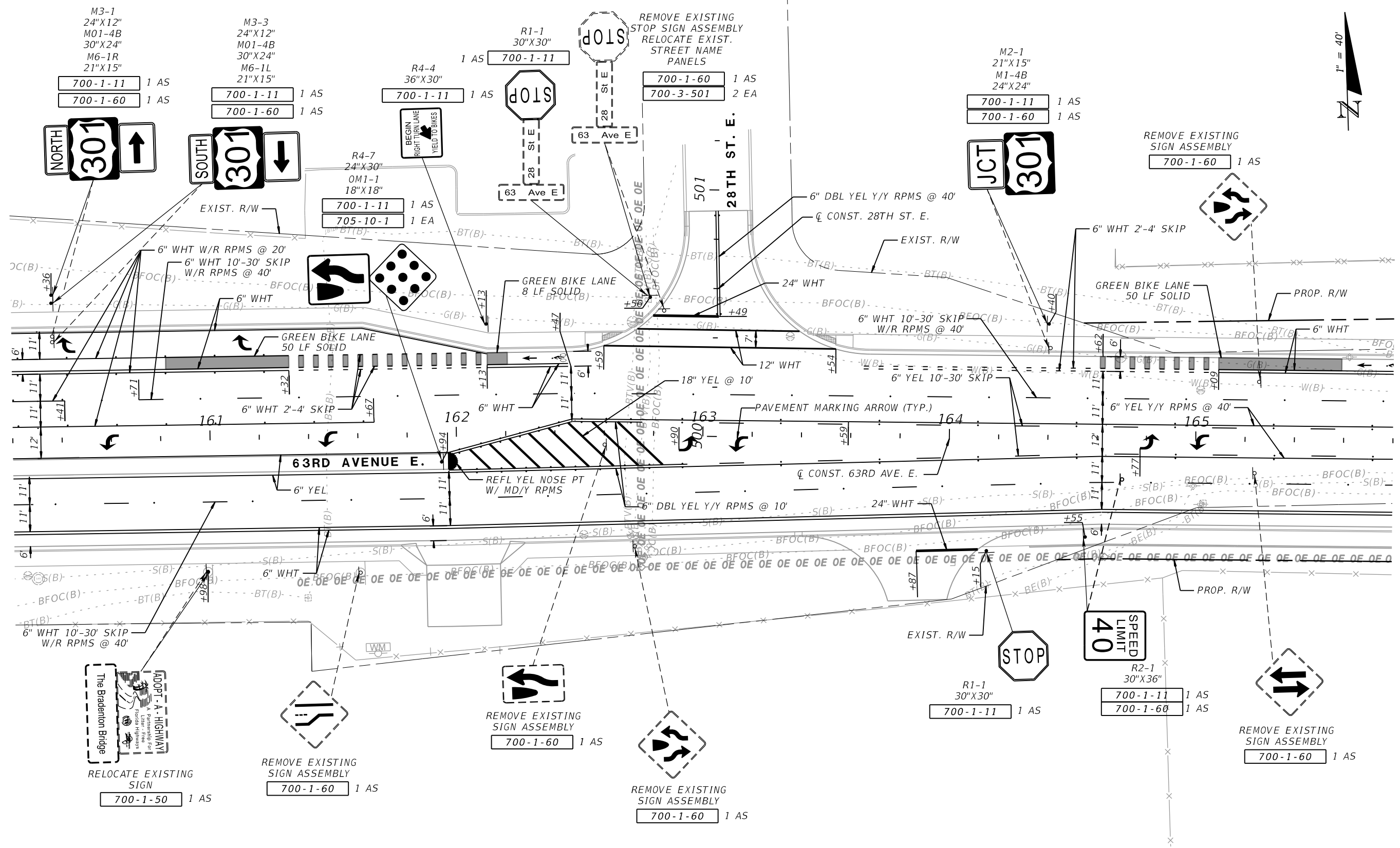
PGA GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
 FLORIDA ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

SIGNING AND PAVEMENT MARKING PLAN (1)

SHEET NO.
 5-5

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



M3-1
24"x12"
M01-4B
30"x24"
M6-1R
21"x15"
700-1-11 1 AS
700-1-60 1 AS

M3-3
24"x12"
M01-4B
30"x24"
M6-1L
21"x15"
700-1-11 1 AS
700-1-60 1 AS

R4-4
36"x30"
700-1-11 1 AS

R1-1
30"x30"
700-1-11 1 AS

REMOVE EXISTING
STOP SIGN ASSEMBLY
RELOCATE EXIST.
STREET NAME
PANELS
700-1-60 1 AS
700-3-501 2 EA

M2-1
21"x15"
M1-4B
24"x24"
700-1-11 1 AS
700-1-60 1 AS

REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS

ADOPT - A - HIGHWAY
The Bradenton Bridge
RELOCATE EXISTING
SIGN
700-1-50 1 AS

REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS

REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS

REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS

R1-1
30"x30"
700-1-11 1 AS

R2-1
30"x36"
700-1-11 1 AS
700-1-60 1 AS

REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

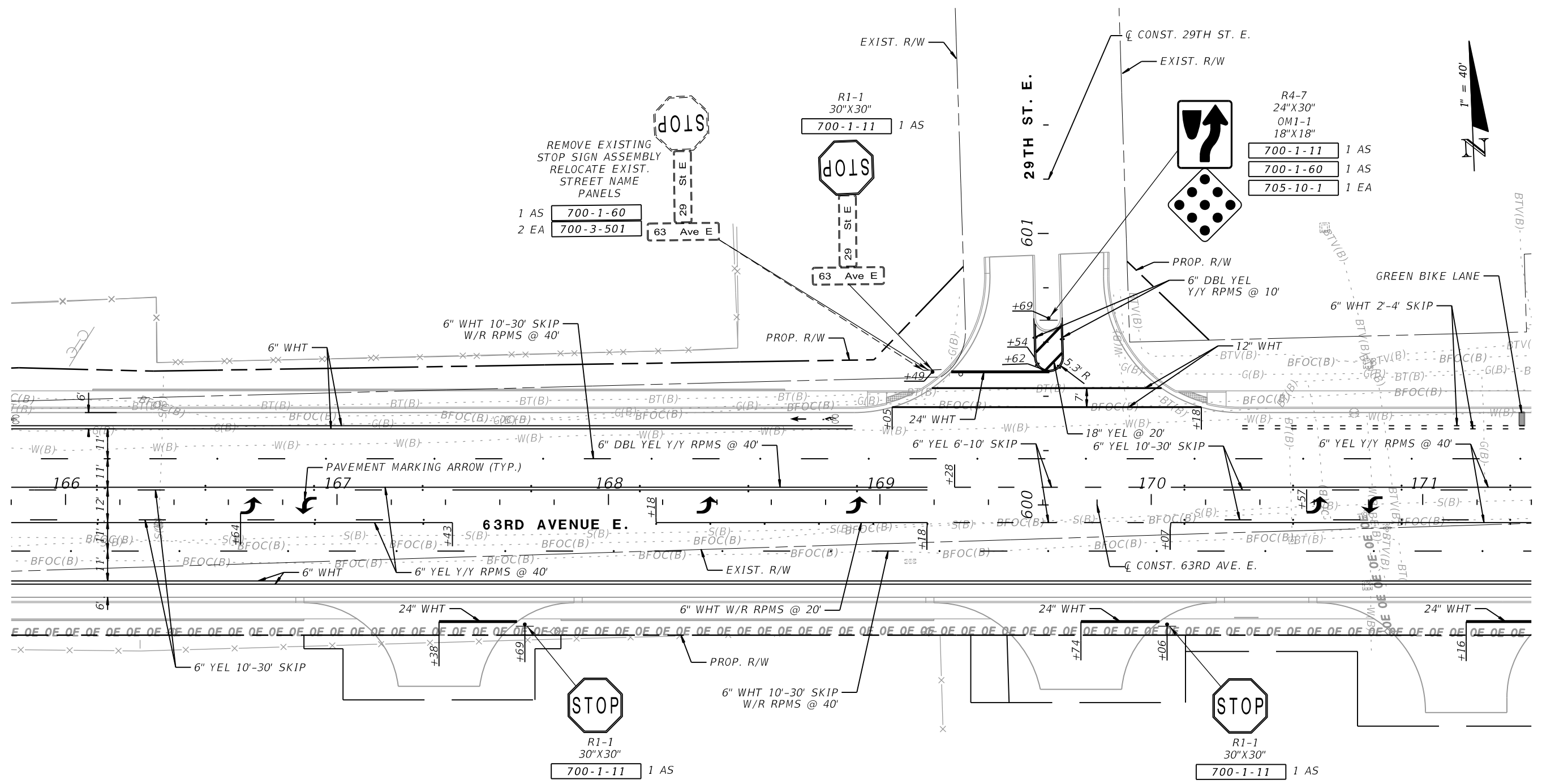
PGA
GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801

Manatee County
FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

**SIGNING AND PAVEMENT
MARKING PLAN (2)**

SHEET
NO.
5-6

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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

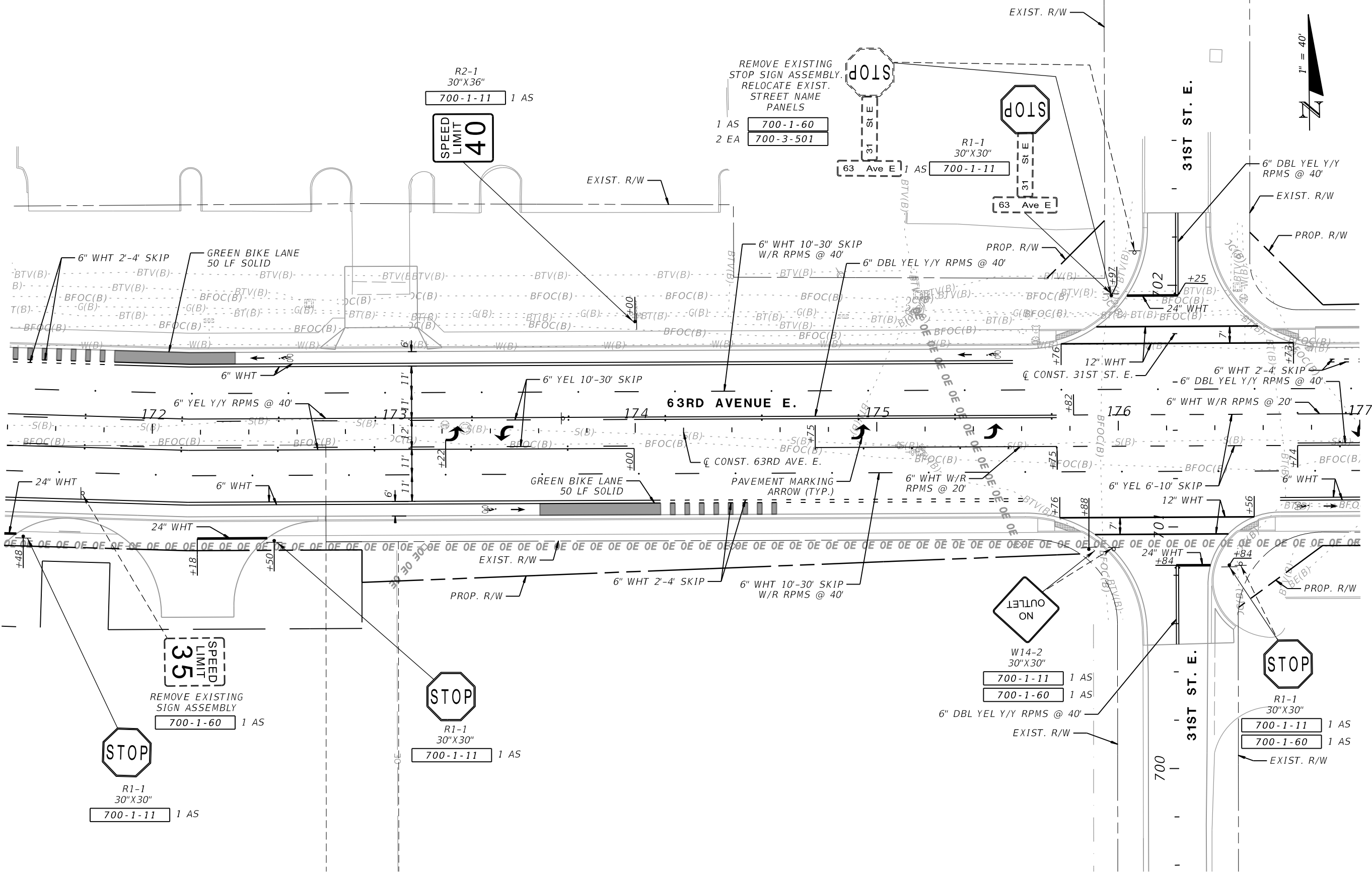
PGA GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

SIGNING AND PAVEMENT MARKING PLAN (3)

SHEET NO.	5-7
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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
				GJS	03/2023
				KRS	PROJECT NO.
				AW	6107860

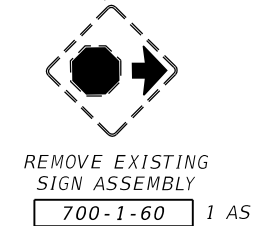
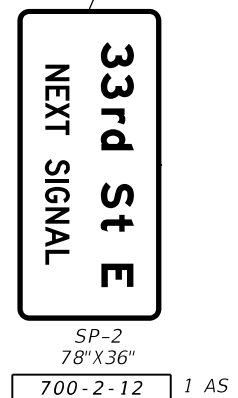
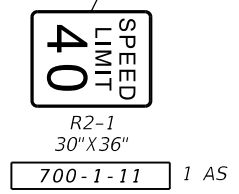
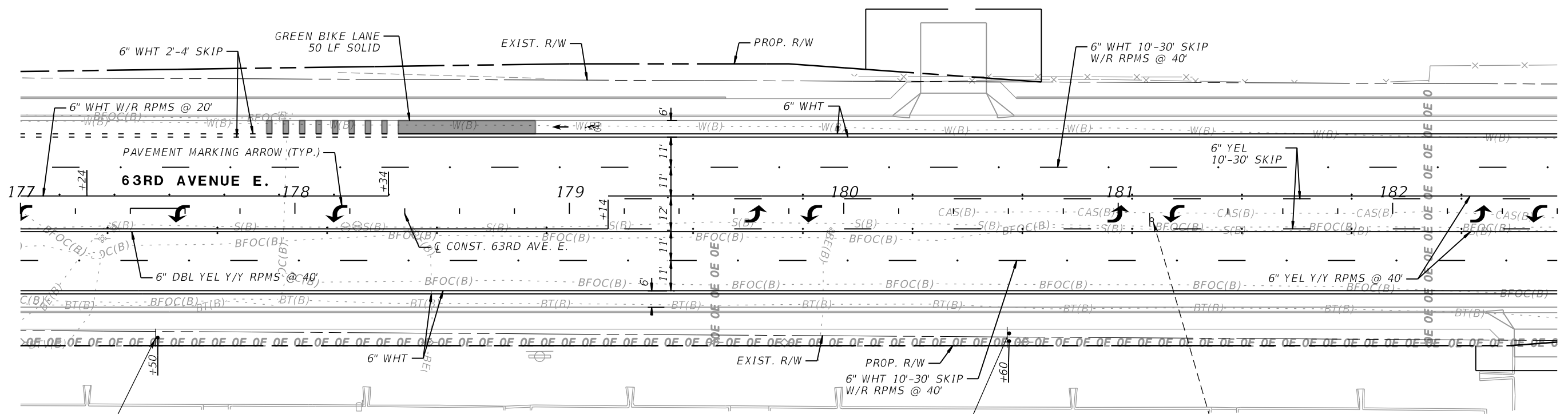
PGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

SIGNING AND PAVEMENT MARKING PLAN (4)

SHEET NO.
 5-8

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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

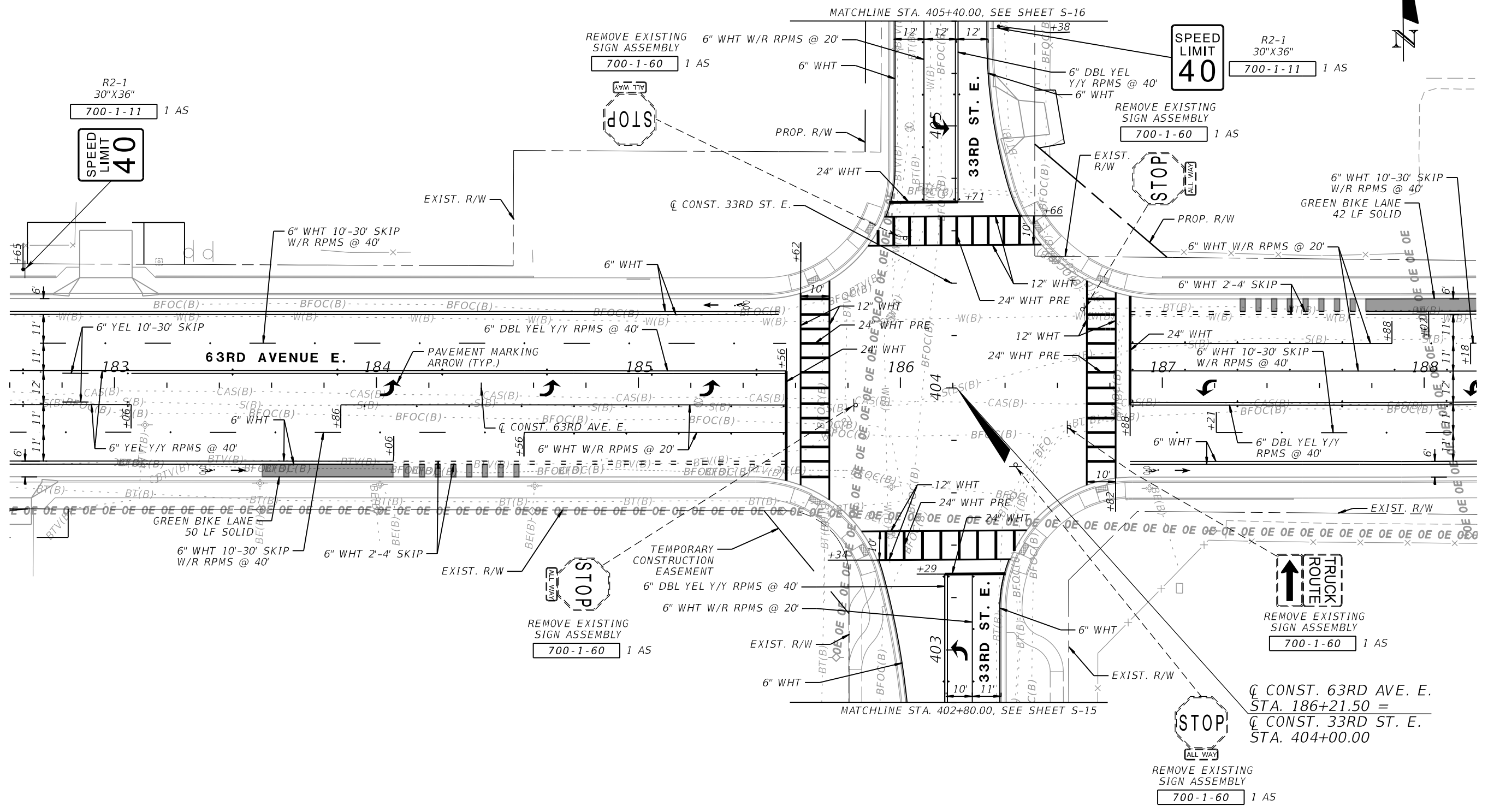
PGA GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

SIGNING AND PAVEMENT MARKING PLAN (5)

SHEET NO.	5-9
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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



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

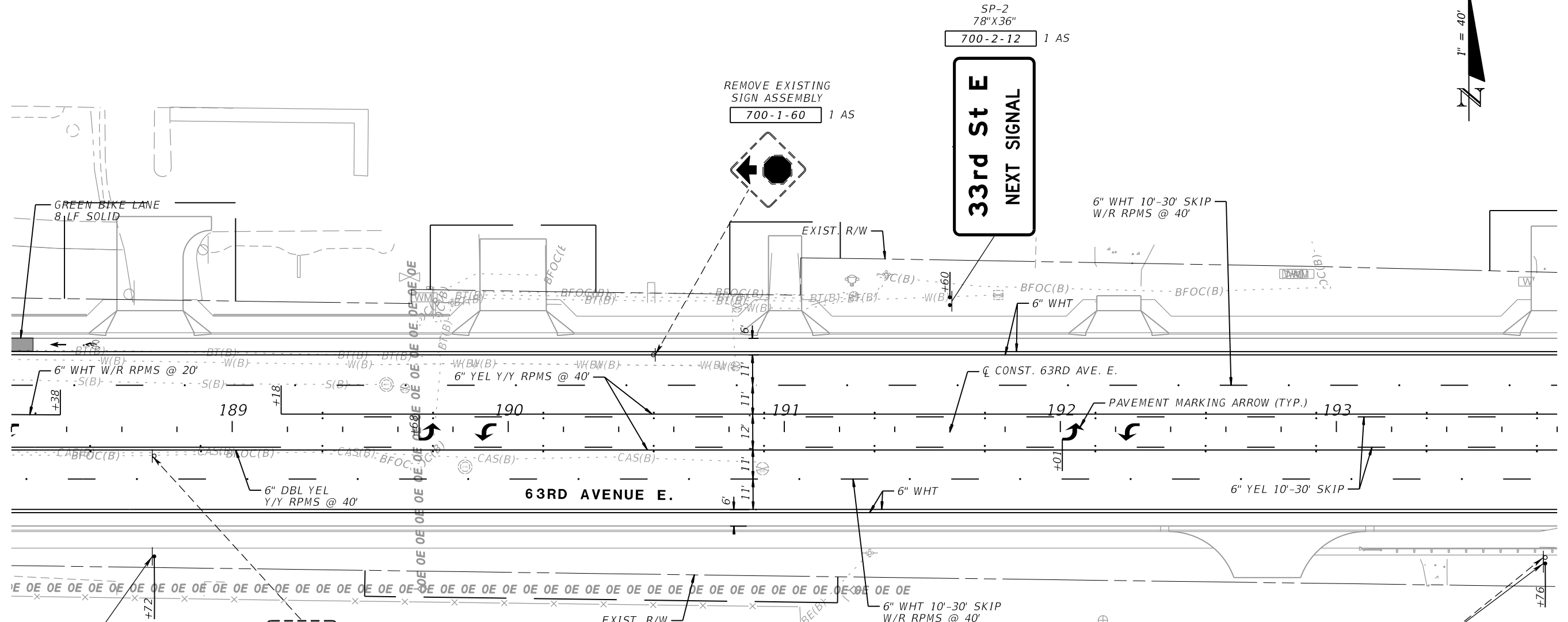
NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

PGA GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

SIGNING AND PAVEMENT MARKING PLAN (6)

SHEET NO.
 S-10



SP-2
78"X36"
700-2-12 1 AS

REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS

33rd St E
NEXT SIGNAL

6" WHT 10'-30' SKIP
W/R RPMS @ 40'

GREEN BIKE LANE
8' LF SOLID

EXIST. R/W

6" WHT

6" WHT W/R RPMS @ 20'

6" YEL Y/Y RPMS @ 40'

CONST. 63RD AVE. E.

PAVEMENT MARKING ARROW (TYP.)

6" DBL YEL
Y/Y RPMS @ 40'

63RD AVENUE E.

6" WHT 10'-30' SKIP
W/R RPMS @ 40'

6" YEL 10'-30' SKIP

40
SPEED
LIMIT

R2-1
30"X36"
700-1-11 1 AS

40
SPEED
LIMIT

REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS

**Pearce
Canal**

SP-1
36"X24"
700-1-11 1 AS
700-1-60 1 AS
STA. 193+76

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

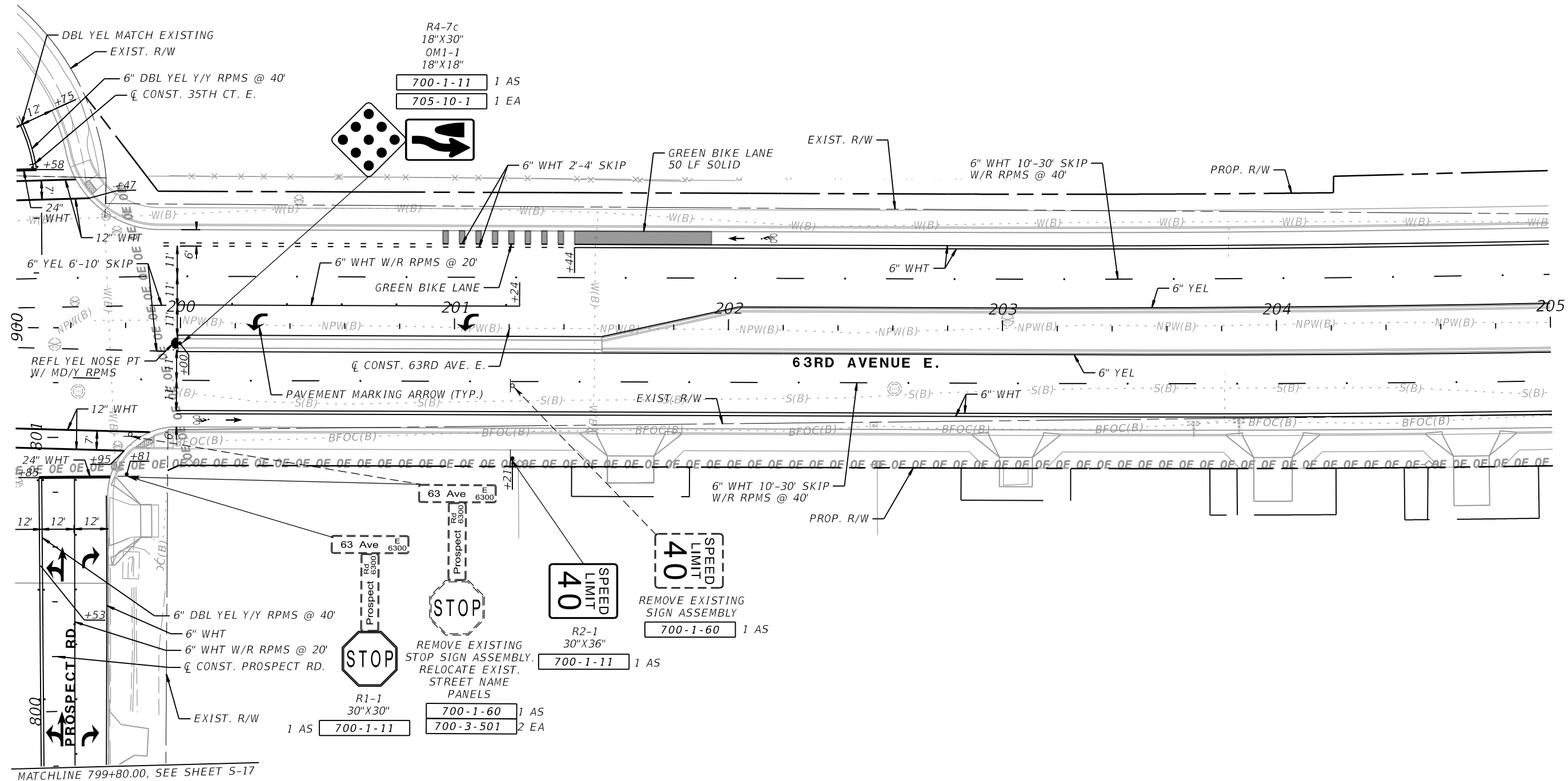
PGA GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801

**Manatee
County
FLORIDA** PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

**SIGNING AND PAVEMENT
MARKING PLAN (7)**

SHEET
NO.
S-11

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



NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

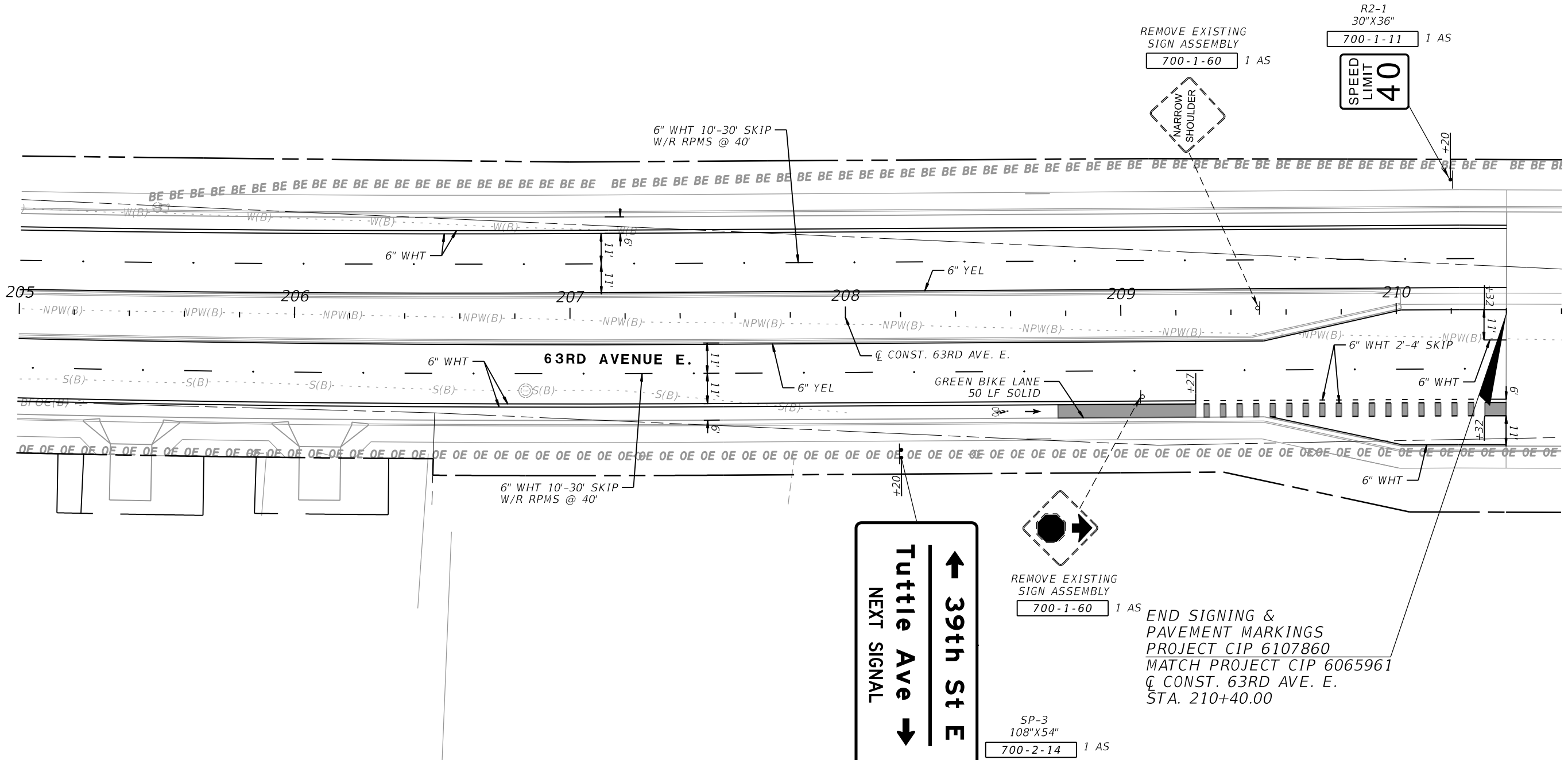
PGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

**SIGNING AND PAVEMENT
 MARKING PLAN (9)**

SHEET NO.
 S-13

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



REMOVE EXISTING SIGN ASSEMBLY
700-1-60 1 AS

R2-1
30"X36"
700-1-11 1 AS

SPEED LIMIT
40

63RD AVENUE E.

↑
39th St E
Tuttle Ave
↓
NEXT SIGNAL

REMOVE EXISTING SIGN ASSEMBLY
700-1-60 1 AS

END SIGNING & PAVEMENT MARKINGS
PROJECT CIP 6107860
MATCH PROJECT CIP 6065961
C. CONST. 63RD AVE. E.
STA. 210+40.00

SP-3
108"X54"
700-2-14 1 AS

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

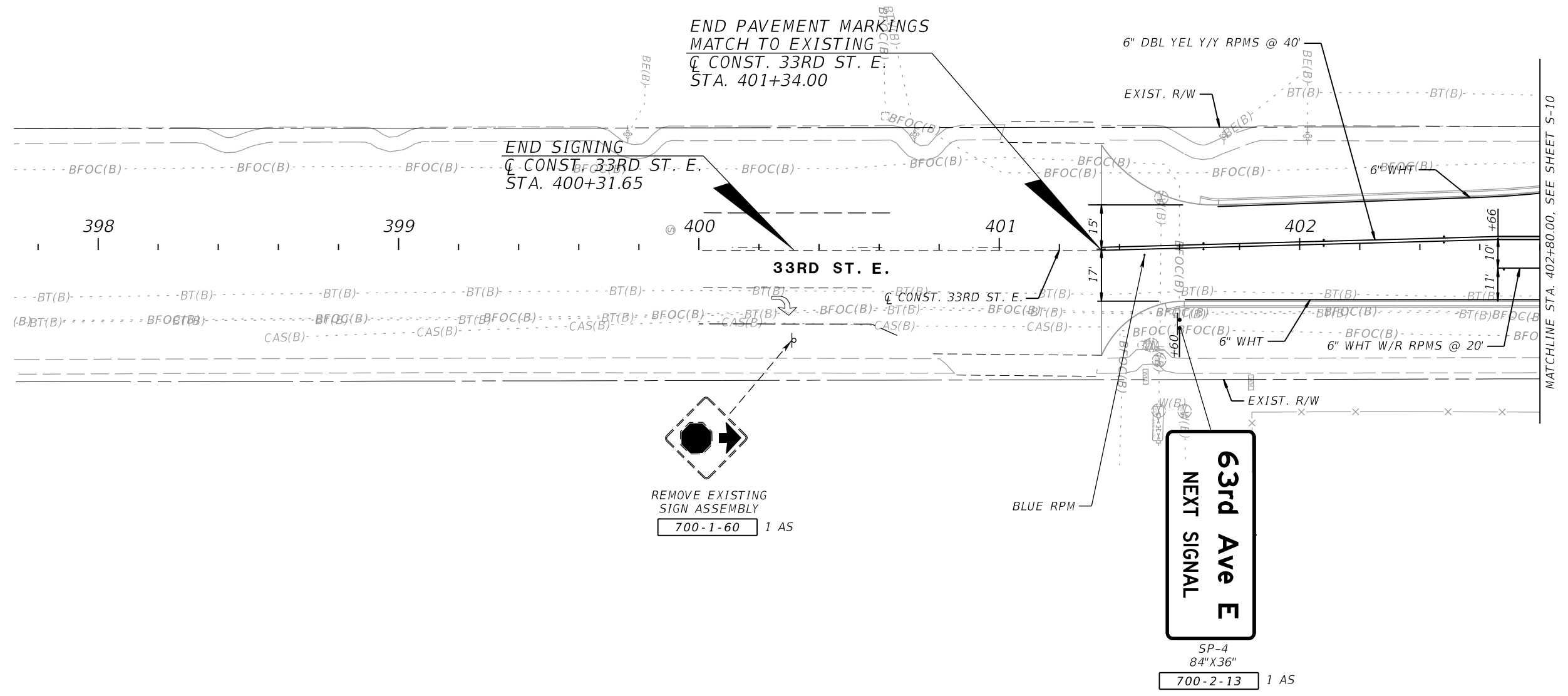
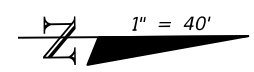
PGA GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

SIGNING AND PAVEMENT MARKING PLAN (10)

SHEET NO.
S-14

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



NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

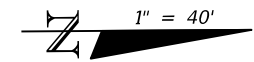
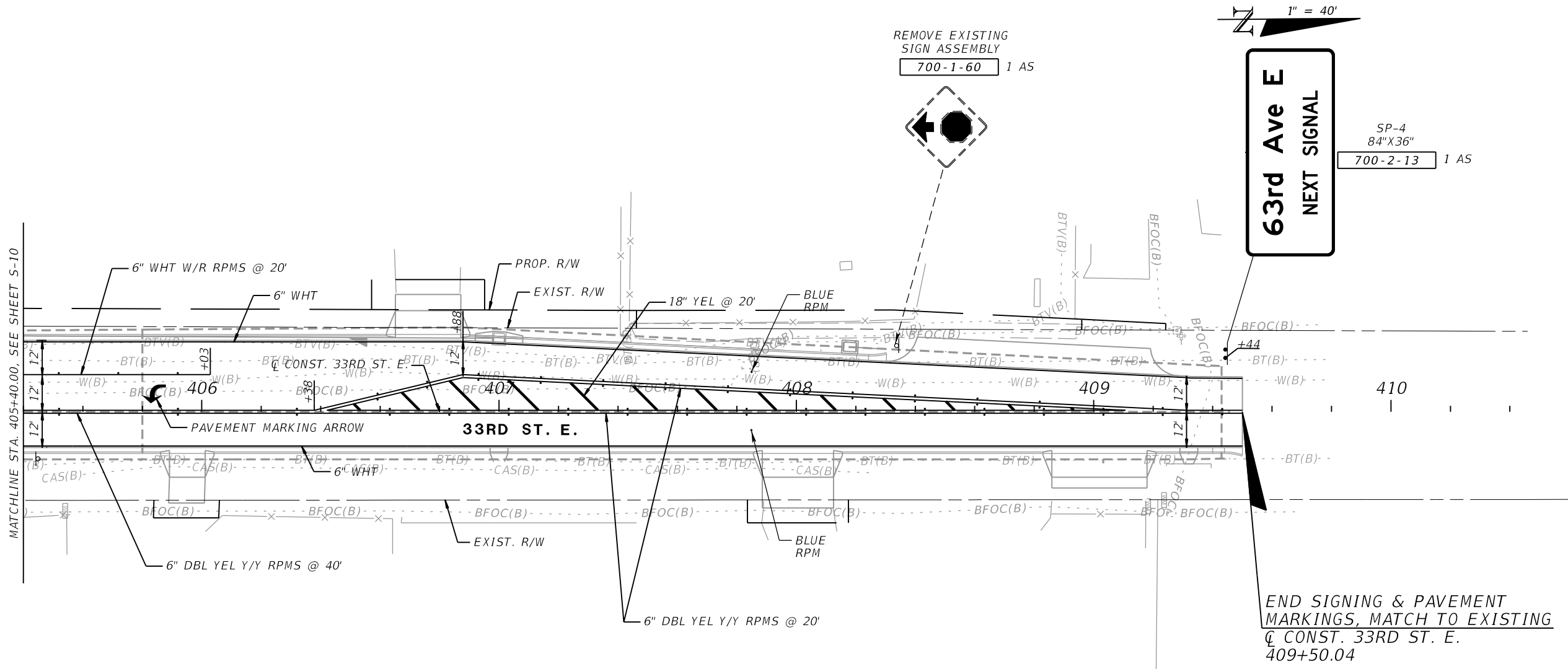
PGA GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

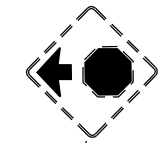
SIGNING AND PAVEMENT MARKING PLAN (11)

SHEET NO.	S-15
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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REMOVE EXISTING
SIGN ASSEMBLY
700-1-60 1 AS



63rd Ave E
NEXT SIGNAL

SP-4
84"X36"
700-2-13 1 AS

END SIGNING & PAVEMENT
MARKINGS, MATCH TO EXISTING
CONST. 33RD ST. E.
409+50.04

MATCHLINE STA. 405+40.00, SEE SHEET S-10

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

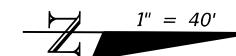
PGA
GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801

Manatee County
FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

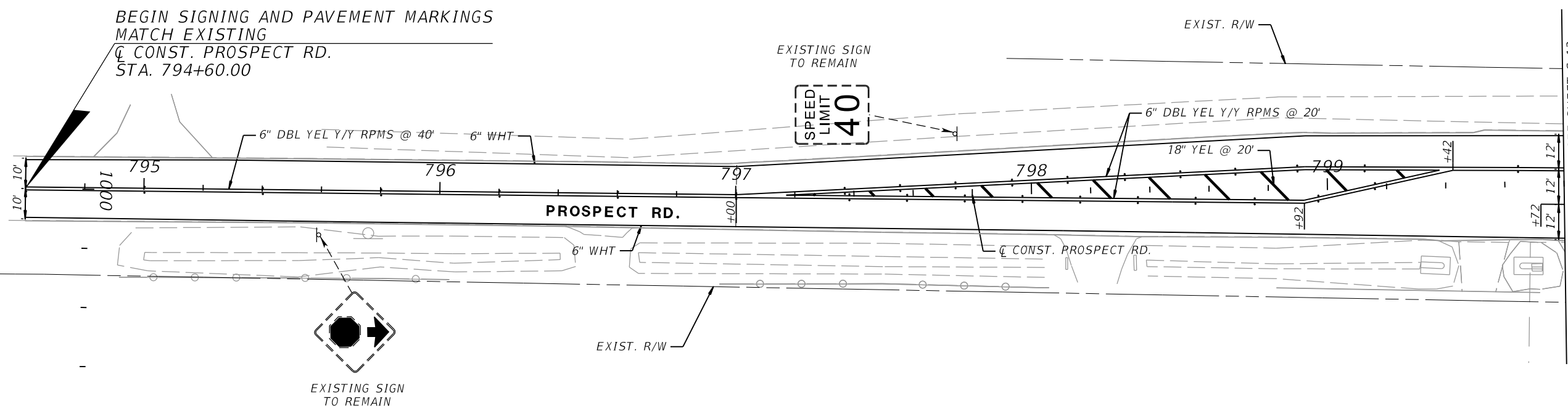
**SIGNING AND PAVEMENT
MARKING PLAN (12)**

SHEET
NO.
S-16

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



BEGIN SIGNING AND PAVEMENT MARKINGS
MATCH EXISTING
C CONST. PROSPECT RD.
STA. 794+60.00



C CONST. SMF 28
1001

MATCHLINE STA. 799+80.00, SEE SHEET S-13

PROSPECT ROAD

SIGNING AND PAVEMENT
MARKING PLAN (13)

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	03/2023
			DRAWN BY	KRS	PROJECT NO.
			CHECKED BY	AW	6107860

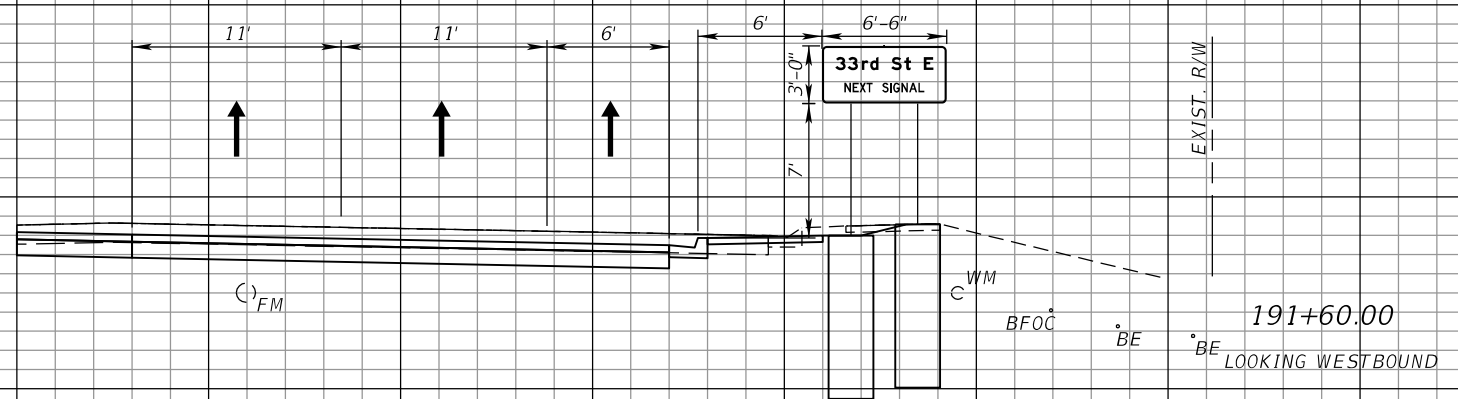
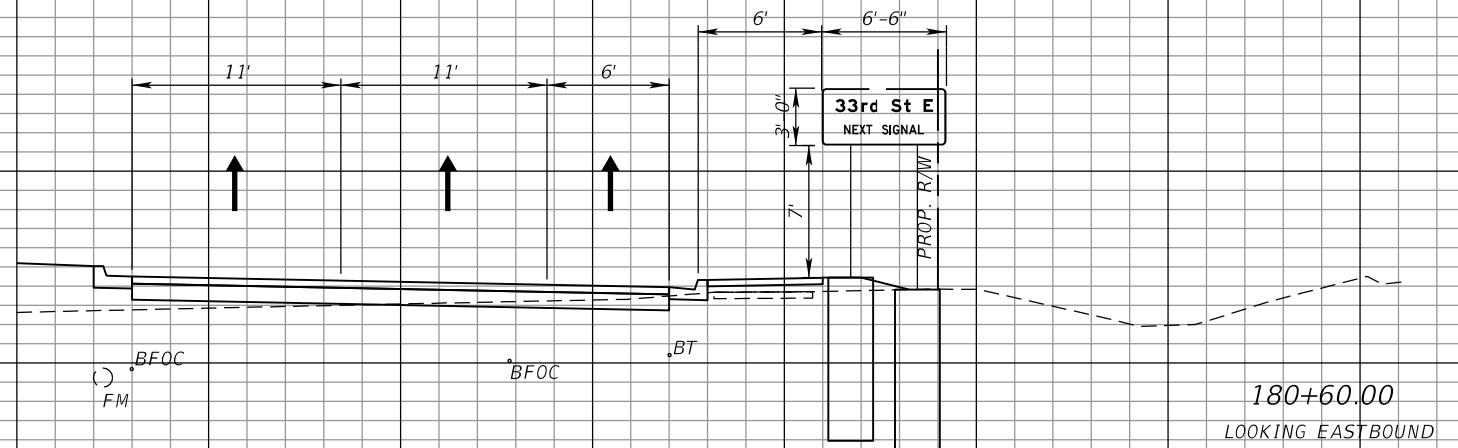
PGA
GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801

Manatee County
FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

SHEET NO.
S-17

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

CONST. 63RD AVE. E.



CONST. 63RD AVE. E.

1" = 10' Horizontal
1" = 10' Vertical

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
				ASP	03/2023
				JM	PROJECT NO.
				JPH	6107860

RGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

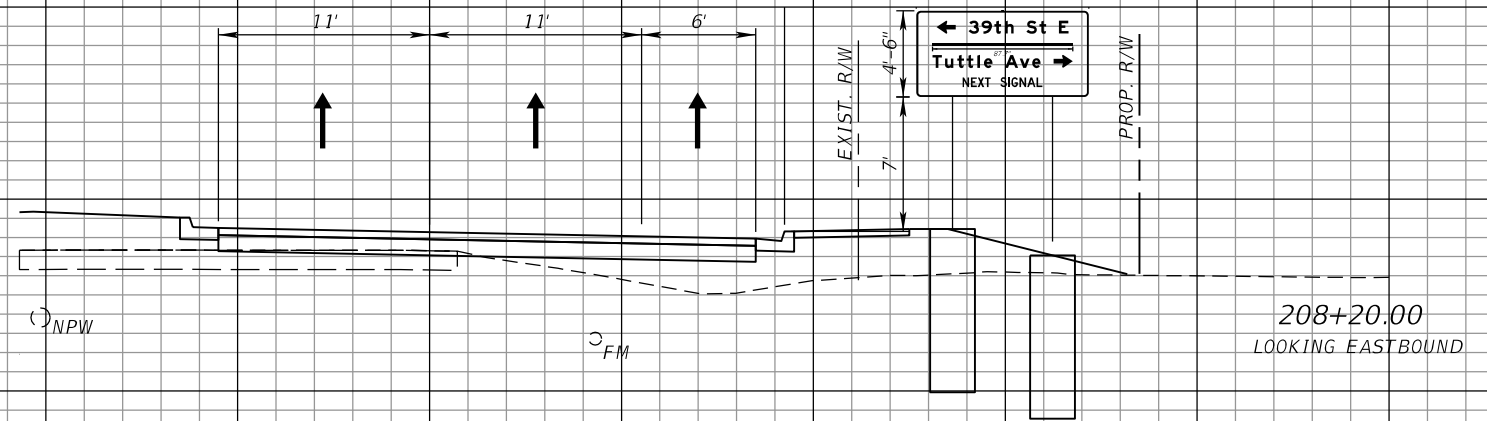
Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

**GUIDE SIGN
 CROSS SECTION (1)**

SHEET NO.
 S-19

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

☐ CONST. 63RD AVE. E.



NPW

FM

208+20.00
LOOKING EASTBOUND



BFOC

BFOC

401+60.00
LOOKING NORTHBOUND

1" = 10' Horizontal
1" = 10' Vertical

☐ CONST. 63RD AVE. E.

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	ASP	03/2023
			DRAWN BY	JM	PROJECT NO.
			CHECKED BY	JPH	6107860

PGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

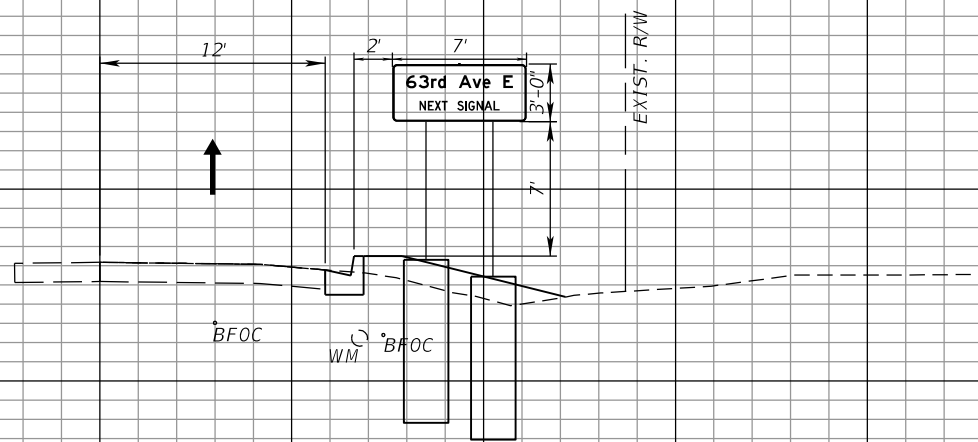
Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

**GUIDE SIGN
 CROSS SECTION (2)**

SHEET NO.
 S-20

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

← Q CONST. 63RD ST. E.



409+45.00
LOOKING SOUTHBOUND

← Q CONST. 33RD ST. E.

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	ASP	03/2023
			DRAWN BY	JM	PROJECT NO.
			CHECKED BY	JPH	6107860

RGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

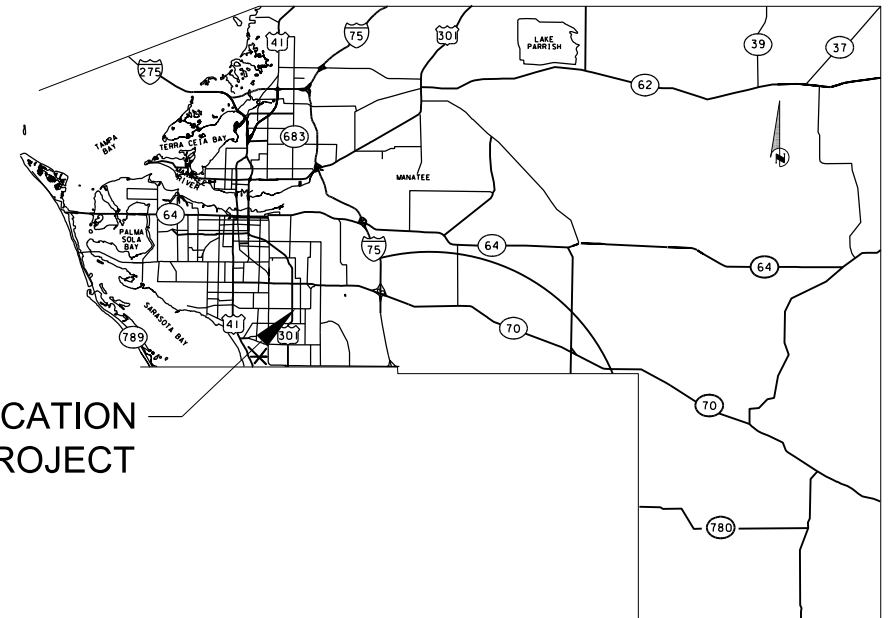
Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

*GUIDE SIGN
 CROSS SECTION (3)*

SHEET NO.

S-21

STATE OF FLORIDA
MANATEE COUNTY



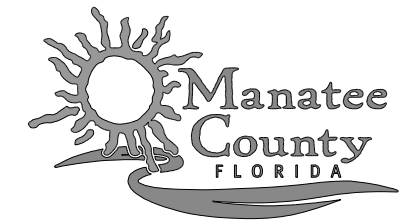
INDEX OF SIGNALIZATION PLANS

SHEET NO.	DESCRIPTION
T-1	KEYSHEET
T-2	SIGNATURE SHEET
T-3 - T-4	TABULATION OF QUANTITIES
T-5	GENERAL NOTES
T-6 - T-10	SIGNALIZATION PLANS
T-11 - T-20	INTERCONNECT PLANS
T-21	MVDS MOUNTING DETAIL
T-22 - T-23	SPLICING DIAGRAM
T-24	GUIDE SIGN WORKSHEET
T-25	MAST ARM TABULATION
T-26	MAST ARM ASSEMBLIES DATA TABLES
T-27	REPORT OF CORE BORINGS SHEET

SIGNALIZATION PLANS FOR
63RD AVENUE EAST
FROM US 301 TO TUTTLE AVE.
BRADENTON, FLORIDA

MANATEE COUNTY PROJECT No: 6107860

PHASE III SUBMITTAL
DECEMBER, 2023

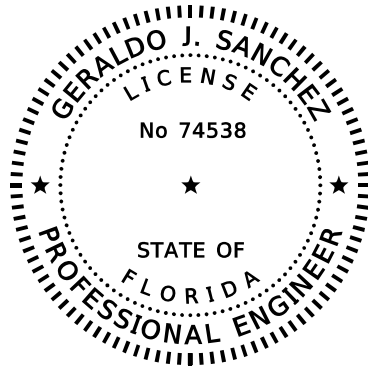


ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ENLARGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

MANATEE COUNTY PROJECT MANAGER:
ANTHONY RUSSO, P.E.

SIGNALIZATION PLANS
PROFESSIONAL OF RECORD: GERALDO J. SANCHEZ, P.E.
FLORIDA P.E. # 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVE., SUITE 201
ORLANDO, FL 32801

SHEET NO.
T-1



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

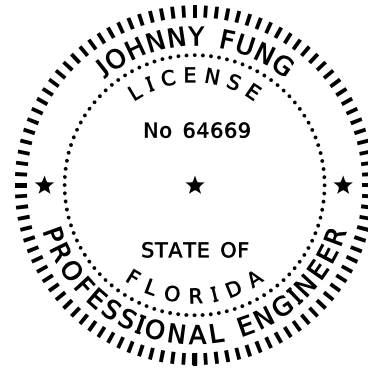
ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVE., SUITE 201
ORLANDO, FL 32801
GERALDO J. SANCHEZ, P.E. NO.: 74538

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

SHEET NO.	SHEET DESCRIPTION
T-1	KEYSHEET
T-2	SIGNATURE SHEET
T-3 - T-4	TABULATION OF QUANTITIES
T-5	GENERAL NOTES
T-6 - T-10	SIGNALIZATION PLANS
T-11 - T-20	INTERCONNECT PLANS
T-21	SPLICING DIAGRAM
T-22 - T-23	MVDS MOUNTING DETAIL
T-24	GUIDE SIGN WORKSHEET
T-25	MAST ARM TABULATION



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

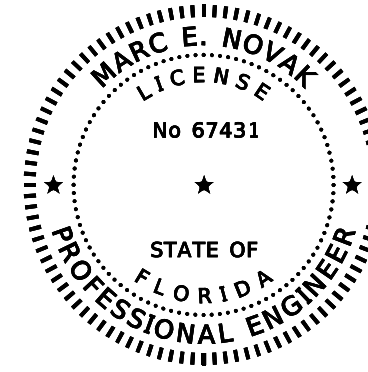
ON THE DATE ADJACENT TO THE SEAL

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PATEL, GREENE AND ASSOCIATES, LLC
12570 TELECOM DRIVE
TEMPLE TERRACE, FL 33637
JOHNNY FUNG, P.E. NO.: 64669

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

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-26	MAST ASSEMBLIES DATA TABLES



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

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TIERRA, INC.
7351 TEMPLE TERRACE HIGHWAY
TAMPA, FLORIDA 33637
MARC E. NOVAK, Ph.D., P.E. NO. 67431

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

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-27	REPORT OF CORE BORINGS SHEET

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
				GJS	09/2022
				GJS	PROJECT NO.
				AW	6107860



GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVE. SUITE 201
ORLANDO, FL 32801



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

SIGNATURE SHEET

SHEET NO.

T-2

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET			
			T-6		T-7		T-8		T-9		T-10		T-11		T-12		T-13		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	347		105		100					50		303		118		1023		
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	356				75					152		260		445		1288		
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF			20		20													
632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1															1		
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	LF	40															40		
633-1-122	FIBER OPTIC CABLE, F&I, UNDERGROUND, 13-48 FIBERS	LF										352		663		613		1628		
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	12									4						16		
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA																		
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA																		
633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED PATCH PANEL	EA	1															1		
633-8-1	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL	LF	441		120		220											781		
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA	2		1		2					2		2		1		10		
635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" RECTANGULAR OR 36" ROUND COVER SIZE	EA																		
635-2-14	PULL & SPLICE BOX, F&I, 17" X 30" COVER SIZE	EA	9															9		
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	100															100		
639-4-6	EMERGENCY GENERATOR - PORTABLE, INSTALL HOUSING ONLY	EA	1															1		
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1															1		
641-2-13	PRESTRESSED CONCRETE POLE, F&I, TYPE P-III	EA			1		1											2		
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA							8									8		
649-21-3	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 40'	EA	1															1		
649-21-6	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 50'	EA	1															1		
649-21-14	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 60'-60'	EA	1															1		
650-1-14	VEH TRAF SIGNAL, F&I ALUMINUM, 3 S 1 W	EA									8							8		
650-1-16	VEH TRAF SIGNAL, F&I ALUMINUM, 4 S 1 W	EA									6							6		
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	EA									8							8		
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	3															3		
660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	6		1		1											8		
665-1-12	PEDESTRIAN DETECTOR, FURNISH & INSTALL, ACCESSIBLE	EA							8									8		
670-5-110	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA	AS	1															1		
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	1															1		
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	1															1		
685-1-13	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE WITH CABINET	EA	1															1		
700-3-201	SIGN PANEL, F&I OM, UP TO 12 SF	EA									8							8		
700-5-22	INTERNAL ILLUM SIGN, F&I OM, 12-18 SF	EA									4							4		

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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	 GERALDO J. SANCHEZ, P.E. LICENSE NUMBER 74538 PATEL, GREENE & ASSOCIATES, LLC 101 S. GARLAND AVE. SUITE 201 ORLANDO, FL 32801	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	TABULATION OF QUANTITIES (1)	SHEET NO.		
			DESIGNED BY	GJS	09/2022						
			DRAWN BY	GJS	PROJECT NO.						
			CHECKED BY	AW	6107860						

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS												TOTAL THIS SHEET		GRAND TOTAL			
			T-14		T-15		T-16		T-17		T-18		T-19		T-20		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	345		530		470		420		240		142		365		2512		3535	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	231		30		26		140		285		470		195		1377		2665	
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF	20										20				40		40	
632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI																	1	
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	LF					50										50		90	
633-1-122	FIBER OPTIC CABLE, F&I, UNDERGROUND, 13-48 FIBERS	LF	766		610		886		610		625		752		710		4959		6587	
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA					4										4		20	
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA					1							1			2		2	
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA					1							1			2		2	
633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED PATCH PANEL	EA																	1	
633-8-1	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL	LF	485		560		496		560		525		507				3133		3914	
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA	4		1		2		1		2		3		1		14		24	
635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" RECTANGULAR OR 36" ROUND COVER SIZE	EA					1								1		2		2	
635-2-14	PULL & SPLICE BOX, F&I, 17" X 30" COVER SIZE	EA																	9	
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS																	1	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF																	100	
639-4-6	EMERGENCY GENERATOR - PORTABLE, INSTALL HOUSING ONLY	EA																	1	
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA																	1	
641-2-13	PRESTRESSED CONCRETE POLE, F&I, TYPE P-III	EA	1										1				2		4	
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA																	8	
649-21-3	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 40'	EA																	1	
649-21-6	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 50'	EA																	1	
649-21-14	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 60'-60'	EA																	1	
650-1-14	VEH TRAF SIGNAL, F&I ALUMINUM, 3 S 1 W	EA																	8	
650-1-16	VEH TRAF SIGNAL, F&I ALUMINUM, 4 S 1 W	EA																	6	
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	EA																	8	
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA																	3	
660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	1										1				2		10	
665-1-12	PEDESTRIAN DETECTOR, FURNISH & INSTALL, ACCESSIBLE	EA																	8	
670-5-110	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA	AS																	1	
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA																	1	
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA																	1	
685-1-13	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE WITH CABINET	EA																	1	
700-3-201	SIGN PANEL, F&I OM, UP TO 12 SF	EA																	8	
700-5-22	INTERNAL ILLUM SIGN, F&I OM, 12-18 SF	EA																	4	

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PG&A
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVE. SUITE 201
 ORLANDO, FL 32801

Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

TABULATION OF QUANTITIES (2)

SHEET NO.
 T-4

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

GENERAL NOTES:

1. MANATEE COUNTY IS THE MAINTAINING AGENCY FOR THE SIGNALIZATION. THEY CAN BE REACHED AT 941-749-3500.
2. VERIFY ALL SIGNAL AND ROADWAY ELEVATIONS PRIOR TO MAST ARM AND CABINET NSTALLATION.
3. WHERE MAST ARM, OR ANY OTHER SIGNAL EQUIPMENT REQUIRING FOUNDATIONS ARE PROPOSED WITHIN 4 FEET OF ANY UNDERGROUND UTILITY, THE UTILITY SHALL BE LOCATED AND PROTECTED AND THE INITIAL 5 FEET OF THE SHAFT INSTALLATION SHALL BE HAND DUG.
4. COAT ALL THREADED HARDWARE AND MECHANICAL/ELECTRICAL CONNECTION TERMINATIONS WITH AN OXIDE INHIBITOR.
5. WEATHERPROOF IRREGULAR MATTING SURFACES SUCH AS AREAS INCLUDING SEPARATED SIGNAL COUPLINGS, CONTROLLER CABINET FOUNDATION, PEDESTRIAN PUSH BUTTONS, AND ANY OTHER AREAS TYPICALLY PRONE TO MOISTURE INFILTRATION BY APPLYING A BEAD OF SILICONE CAULK.
6. WHEREVER A CABLE ENTERS OR EXITS A FIELD-DRILLED HOLE, THE HOLE SHALL BE PROTECTED BY A PERMANENTLY INSTALLED RUBBER GROMMET.
7. CONTACT THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY'S PROJECT MANAGEMENT DIVISION BEFORE STARTING SIGNAL WORK. (SEE NOTE #9 FOR CONTACT INFORMATION)
8. COORDINATE WITH THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY'S TRAFFIC ENGINEERING DIVISION (941-749-3502 EXT. 7812), AT LEAST TWO WEEKS BEFORE ANY CABINET MODIFICATIONS ARE TO BE PERFORMED. THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY ENGINEERING DIVISION PERSONNEL, WILL REVIEW, ASSIST AND PROVIDE TECHNICAL SUPPORT RELEVANT TO ANY FIELD MODIFICATIONS THAT ARE NECESSARY.
9. NOTIFY THE ENGINEER ONE WEEK PRIOR TO THE BEGINNING OF THE TRAFFIC IGNAL INSTALLATION OR TURN ON OF A NEW SIGNAL.

 MANATEE COUNTY PROJECT MANAGEMENT DIVISION
 DAN GARNER, P.E.
 1022 26TH AVENUE EAST
 BRADENTON, FLORIDA 34208
 PHONE: 941-708-7450 EXT. 7236

 MANATEE COUNTY TRAFFIC ENGINEERING DIVISION
 VISHAL KAKKAD
 2101 47TH TERRACE EAST
 BRADENTON, FLORIDA 34203
 PHONE: 941-749-3500 EXT. 7812
10. DELIVER THREE SETS OF RECORD DRAWINGS, TWO SETS OF IMSA INSPECTION FORMS AND ONE COMPACT DISC OF RECORD DRAWINGS TO MR. AARON BURKETT, THE MANATEE COUNTY TRAFFIC OPERATIONS DIVISION MANAGER AT 2904 12TH ST CT E, BRADENTON, FL 34208. RECORD DRAWINGS MUST BE DELIVERED TO THE COUNTY FIVE (5) BUSINESS DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION.
11. UPON PASSING THE FINAL INSPECTION, SEND A WRITTEN REQUEST TO THE PROJECT MANAGEMENT DIVISION AND THE TRAFFIC OPERATIONS DIVISION TO TRANSFER MAINTENANCE FROM THE CONTRACTOR TO MANATEE COUNTY. MANATEE COUNTY WILL RESPOND WITHIN 5 WORKING DAYS TO ESTABLISH A TIME TABLE FOR THE TRANSFER OF MAINTENANCE RESPONSIBILITY.
12. CONTACT THE MAINTAINING AGENCY FOR THE ASSIGNMENT OF THE PHYSICAL ADDRESS ONCE THE SERVICE DROP LOCATION HAS BEEN ESTABLISHED.
13. PROVIDE SIGNAL MAINTENANCE, TIMING AND OPERATION OF ALL SIGNAL AND SIGNAGE FROM COMMENCEMENT TO ACCEPTANCE OF THE PROJECT (I.E. EXISTING LOOP CUTS, SYSTEM COMMUNICATION TERMINATED, LANE OR PAVEMENT MODIFICATIONS, PEDESTRIAN MODIFICATIONS, TRAFFIC SIGNAL SCHOOL FLASHER, WARNING FLASHER, ROADWAY LIGHTING, COUNT STATIONS, AND ANY OTHER TRAFFIC RELATED WITHIN THE CONSTRUCTION ZONE).
14. COORDINATE PAVEMENT MARKINGS AND SIGNAGE WORK WITH SCHEDULING OF SIGNAL ACTIVATION. THE SIGNAL SHALL NOT BE FULLY ACTIVATED UNTIL ALL PROPOSED STOP BARS, CROSSWALKS, RAMPS, AND PAVEMENT REMOVAL WORK IS COMPLETE. THE EXISTING STOP SIGNS SHALL BE REMOVED UPON FULL SIGNAL ACTIVATION.

15. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY VEHICLE DETECTION FOR ALL APPROACHES AND PHASES THROUGHOUT THE CONSTRUCTION PROJECT. THE DETECTION DEVICES SHALL BE PROPERLY INSTALLED, PROGRAMMED AND TUNED TO ENSURE PROPER OPERATION. THE CONTRACTOR SHALL MAKE ALL ADJUSTMENTS AND REPAIRS AS NEEDED TO ENSURE THE DETECTION IS PROPERLY FUNCTIONING THROUGHOUT THE PROJECT OR UNTIL THE PERMANENT DETECTION IS INSTALLED AND UNTIL MANATEE COUNTY ACCEPTS THE PROJECT. ANY DAMAGE TO THE EXISTING DETECTION SYSTEM AT AN INTERSECTION MUST BE RESTORED WITH TWENTY-FOUR (24) HOURS AT NO ADDITIONAL COST TO THE COUNTY.

16. PROVIDE AND MAINTAIN TWO PORTABLE 4' X 8' VARIABLE-MESSAGE-SIGNS (VMS) FOR A PERIOD OF TWO WEEKS. THE VMS WILL BE LOCATED AT AN APPROPRIATE DISTANCE IN ADVANCE OF EACH APPROACH TO THE NEW SIGNALIZED INTERSECTION AS SPECIFIED BY THE MAINTAINING AGENCY'S ENGINEER. THE VMS WILL BE PROVIDED (1) WEEK PRIOR TO THE SCHEDULED ACTIVATION IN FULL COLOR OPERATION AND SHALL REMAIN IN PLACE FOR ONE (1) WEEK FOLLOWING ACTIVATION. COST OF FURNISHING VMS TO BE INCLUDED UNDER THE ASSOCIATED PAYITEM FOR MAINTENANCE OF TRAFFIC. REFER TO ROADWAY PLANS FOR PAYITEM.

1. PRIOR TO ACTIVATION, THE VMS SIGN SHALL BE:
 (PANEL ONE - LINE 1) "TRAFFIC" (PANEL TWO - LINE 1) "ACTIVATED"
 (PANEL ONE - LINE 2) "SIGNAL" (PANEL TWO - LINE 2) "ON DAY"
 (PANEL ONE - LINE 3) "WILL BE" (PANEL TWO - LINE 3) "MONTH X"
2. SUBSTITUTION FOR THE WORD "DAY" SHALL BE AS FOLLOWS:
 SUNDAY AS "SUN" THURSDAY AS "THUR"
 MONDAY AS "MON" FRIDAY AS "FRI"
 TUESDAY AS "TUES" SATURDAY AS "SAT"
 WEDNESDAY AS "WED"
3. SUBSTITUTION FOR THE WORD "MONTH" SHALL BE AS FOLLOWS:
 JANUARY AS "JAN" JULY AS "JUL"
 FEBRUARY AS "FEB" AUGUST AS "AUG"
 MARCH AS "MAR" SEPTEMBER AS "SEP"
 APRIL AS "APR" OCTOBER AS "OCT"
 MAY AS "MAY" NOVEMBER AS "NOV"
 JUNE AS "JUN" DECEMBER AS "DEC"

4. SUBSTITUTION FOR THE WORD "XX" SHALL BE AS FOLLOWS:
 a. THE NUMERICAL DAY OF THE MONTH, FROM ONE (1) TO THIRTY-ONE (31)
 b. DATES LESS THAN TEN (10) SHALL BE PRECEDED BY A ZERO (0); EXAMPLE "JAN 03"
5. AFTER THE TURN-ON, THE VMS SHALL BE CHANGED TO"
 (PANEL ONE - LINE 1) "TRAFFIC" (PANEL TWO - LINE 1) "NOW"
 (PANEL ONE - LINE 2) "SIGNAL" (PANEL TWO - LINE 2) "ACTIVE"

PANEL TWO, LINE 1 AND 2, SHALL FLASH THREE (3) TIMES BEFORE REVERTING TO PANEL ONE.

PAY ITEM NOTES:

1. 630-2-11 & 630-2-12:
 ALL CONDUIT RUNS SHOWN ON THE PLANS ARE SCHEMATIC AND FIELD ADJUSTMENTS MAY BE NECESSARY. CONDUITS FOR FIBER SHALL BE 2-2" HDPE. EXCEPT FOR ELECTRICAL POWER SERVICE DUCTS, AND DIRECTIONAL BORE CONDUITS, ALL UNDERGROUND AND UNDER PAVEMENT CONDUITS SHALL BE SCHEDULE 40 PVC WITH A MINIMUM SIZE OF 2", UNLESS OTHERWISE SPECIFIED IN THE PLANS. COST OF PULL WIRE SHALL BE INCLUDED UNDER THIS PAY ITEM.

FOUR SEPARATE UNDERGROUND CONDUIT RUNS ARE REQUIRED FOR ALL MAST ARMS. THE SPARE CONDUIT SHALL BE CAPPED IN THE NEAREST PULL BOX.

2. 633-3-15:
 USE PRE-TERMINATED PATCH PANELS WITH SC CONNECTORS.
3. 635-2-12, 635-2-13 & 635-2-14:
 PULL BOXES SHALL BE TRAFFIC BEARING, ALL POLYMER CONSTRUCTION (NOT CONCRETE), PULL BOXES AND LIDS (QUAZITE OR ANOTHER EQUIVALENT FDOT APPROVED MANUFACTURER).

STANDARD PULL BOX DIMENSIONS SHALL BE 17" X 30" X 12" AND THE LID SHALL B STAMPED "MANATEE COUNTY TRAFFIC SIGNAL" ON THE COVER. STANDARD FIBER OPTIC COMMUNICATIONS PULL BOX DIMENSIONS SHALL BE 24" X 36" X 24" AND FIBER OPTIC SPLICE BOX DIMENSIONS SHALL BE 30" x 60" x 48". FIBER OPTIC PULL AND SPLICE BOX LIDS SHALL BE STAMPED "MANATEE COUNTY FIBER OPTIC SYSTEM" ON THE COVER.

4. 639-1-122:
 THIS PAY ITEM SHALL INCLUDE THE COST OF ALL SPECIAL IMPACT CONNECTION FEES CHARGED BY LOCAL POWER COMPANIES FOR ELECTRICAL SERVICE CONNECTION .

ELECTRICAL SERVICE DISCONNECT SHALL BE COMPRISED OF SIX (6) CIRCUIT DISCONNECT BOX WITH THREE CIRCUIT BREAKERS - ONE 15 AMP FOR INTERNALLY ILLUMINATED STREET NAME SIGNS. ONE 15 AMP FOR FUTURE USE AND ONE 50 AMP FOR CONTROLLER CABINET MAIN BREAKER.

5. 639-4-6:
 MANATEE COUNTY WILL NOT FURNISH THIS ITEM. FURNISH AND INSTALL THE HOUSING AND FOUNDATION / PAD. ALL COSTS FOR THE HOUSING FOUNDATION / PAD IS INCLUDED IN THE COST OF THIS PAY ITEM. COORDINATE WITH MANATEE COUNTY TO OBTAIN THE DESIRED HOUSING DIMENSIONS.

6. 649-21-3, 649-21-6, & 649-21-14:
 THE CONTRACTOR SHALL FIELD VERIFY ALL CRITICAL ELEVATIONS PRIOR TO ORDERING MAST ARM ASSEMBLIES.
 USE THREE 2" AND ONE 3/4" CONDUIT STUBBED OUT THROUGH THE MAST ARM POLE FOUNDATION AND TEMPORARILY SEALED. CONTACT THE LOCAL POWER COMPANY FOR THEIR ASSISTANCE IN PERFORMING ALL NECESSARY WORK UNDER POWER LINES AT SIGNAL POLES. SUCH WORK SHALL INCLUDE, BUT IS NOT LIMITED TO THE INSTALLATION OF SIGNAL CABLE, INSTALLATION OF MAST ARM FOUNDATIONS.

7. 650-1-14, & 650-1-16:
 USE SIGNAL HEAD SUPPORTING HANGER THAT IS CAPABLE OF ADJUSTING VERTICALLY A MINIMUM OF 1.5'.

8. 653-1-11:
 PEDESTRIAN SIGNAL HEADS TO BE 16" INTERNATIONAL SYMBOL, LED COUNTDOWN TYPE USE LOCKING COLLARS FOR MOUNTING PEDESTRIAN SIGNAL HEADS TO PEDESTRIAN PEDESTALS. USE BREAKAWAY ALUMINUM SQUARE BASE WITH ALUMINUM DOORS FOR PEDESTRIAN PEDESTALS.

9. 660-3-11:
 SHALL INCLUDE ALL NECESSARY WAVETRONIX CLICKS UNITS FOR A COMPLETE AND OPERATIONAL SETUP.

10. 660-3-12:
 PROVIDE WAVETRONIX SMARTSENSOR HD MATRIX AND ADVANCE MVDS FOR INTERSECTION DETECTION AND WAVETRONIX EXPANSE SYSTEM WITH XP20 SENSORS CONNECTED TO AN ARC DEVICE IN THE CONTROLLER CABINET FOR MIDBLOCK DETECTION. INCLUDE NECESSARY MOUNTING BRACKETS, CLAMPING EQUIPMENT AND/OR OTHER INCIDENTAL ITEMS ASSOCIATED WITH PHYSICAL INSTALLATION OF SENSORS. INCLUDE ANY SOFTWARE NECESSARY TO PROGRAM THE SENSOR. COORDINATE WITH VENDOR AND PROVIDE DETECTION OVERLAY PLANS FOR COUNTY'S REVIEW PRIOR TO FINALIZING SENSOR INSTALLATION LOCATIONS IN THE FIELD.

11. 670-5-111:
 CONTACT MANATEE COUNTY PRIOR TO ORDERING CONTROLLER ASSEMBLY TO CONFIRM EQUIPMENT COMPATIBILITY. USE A NEMA TS2 TYPE 1 CONTROLLER. ALL CONTROLLER EQUIPMENT TO BE COMPATIBLE WITH MANATEE COUNTY'S EXISTING ATMS SYSTEM (NAZTEC'S ATMS.NOW) AND SYNCHROGREEN TRAFFIC CONTROLLER SOFTWARE.

TRAFFIC SIGNAL CONTROLLER BASE:
 THIS ITEM SHALL INCLUDE THE INSTALLATION OF A CONCRETE BASE FOR THE CONTROLLER ASSEMBLY. ALL COSTS OF LABOR, CONCRETE, AND OTHER MATERIALS FOR THE CONTROLLER ASSEMBLY, TECHNICIAN PADS, STEPS AS REQUIRED, ARE INCLUDED IN THIS ITEM.



THE CONTROLLER BASE SHALL BE AT LEAST 2' HIGH OR THE SAME ELEVATION AS THE CROWN OF THE ROADWAY, WHICHEVER IS GREATER.
 - TRAFFIC CONTROLLER: NAZTEC TS2 TYPE 1 980 ATC.
 - TRAFFIC CONTROLLER CABINET: NAZTEC TS2 TYPE 1, SIZE: TYPE - VI WITH FRONT AND BACK DOOR ACCESS.12. 682-1-113:
 THE CCTV CAMERA UNIT SHALL BE BOSCH ITS 7000 STARLITE SERIES 1080P 30x40.

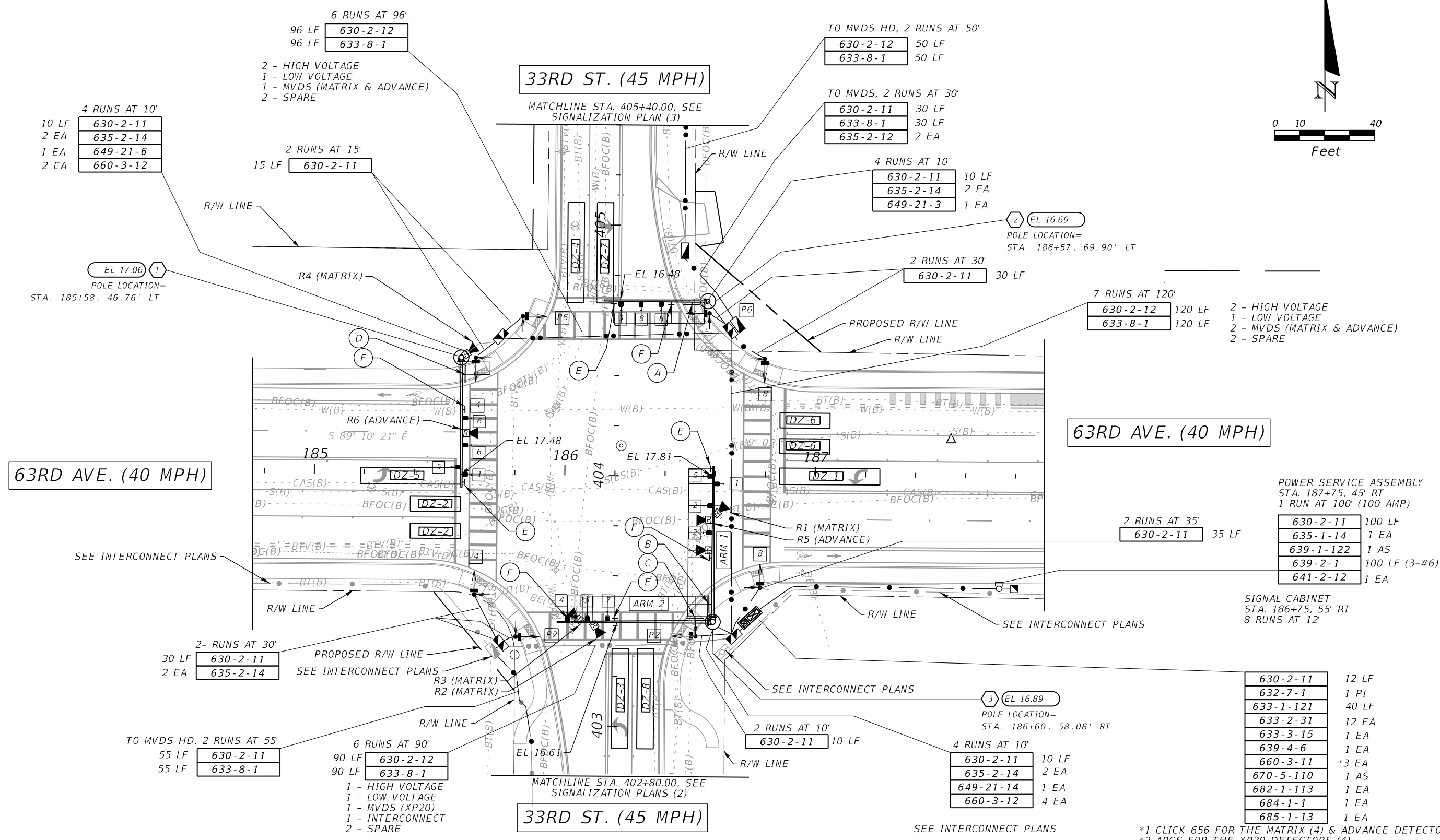
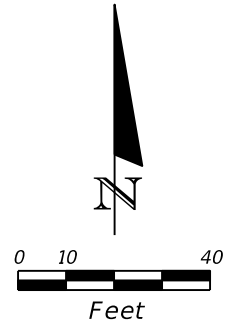
13. 684-1-1:
 THE ETHERNET SWITCH SHALL BE A RUGGEDCOM SWITCH MODEL NUMBER RSG920P. INCLUDE EXTERNAL POWER SUPPLY (RUGGETCOM-MODEL #RPS 1300) TO POWER THE POWER-OVER-ETHERNET PORTS.

14. 685-1-12:
 SHALL INCLUDE AN UNINTERRUPTED POWER SUPPLY UNIT (UPS). ALL UPS SHALL SUPPORT SNMP (PROTOCOL) FOR REMOTE MONITORING AND MANAGEMENT. THE UPS SHALL BE SIZED TO ACCOMMODATE THE MAXIMUM CONNECTED LOAD. COORDINATE WITH THE COUNTY FOR THE VENDOR/MODEL BEFORE PURCHASING.

NOTE TO REVIEWER:

TRAFFIC SIGNAL CABINET POWER SERVICE LOCATION WAS COORDINATED WITH GREGORY COKER WITH FLORIDA POWER LIGHT (FPL). PER FPL INSTRUCTION, THE TRAFFIC SIGNAL CABINET WAS RELOCATED TO THE SOUTHEAST CORNER OF THE INTERSECTION NEAR AN EXISTING UTILITY POLE WITH A TRANSFORMER.

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4 RUNS AT 10'
 10 LF 630-2-11
 2 EA 635-2-14
 1 EA 649-21-6
 2 EA 660-3-12

6 RUNS AT 96'
 96 LF 630-2-12
 96 LF 633-8-1
 2 - HIGH VOLTAGE
 1 - LOW VOLTAGE
 1 - MVDS (MATRIX & ADVANCE)
 2 - SPARE

TO MVDS HD, 2 RUNS AT 50'
 630-2-12 50 LF
 633-8-1 50 LF

TO MVDS, 2 RUNS AT 30'
 630-2-11 30 LF
 633-8-1 30 LF
 635-2-12 2 EA

4 RUNS AT 10'
 630-2-11 10 LF
 635-2-14 2 EA
 649-21-3 1 EA

2 RUNS AT 30'
 630-2-11 30 LF

7 RUNS AT 120'
 630-2-12 120 LF
 633-8-1 120 LF

2 - HIGH VOLTAGE
 1 - LOW VOLTAGE
 2 - MVDS (MATRIX & ADVANCE)
 2 - SPARE

POWER SERVICE ASSEMBLY
 STA. 187+75, 45' RT
 1 RUN AT 100' (100 AMP)

630-2-11 100 LF
 635-1-14 1 EA
 639-1-122 1 AS
 639-2-1 100 LF (3-#6)
 641-2-12 1 EA

SIGNAL CABINET
 STA. 186+75, 55' RT
 8 RUNS AT 12'

2- RUNS AT 30'
 30 LF 630-2-11
 2 EA 635-2-14

TO MVDS HD, 2 RUNS AT 55'
 55 LF 630-2-11
 55 LF 633-8-1

6 RUNS AT 90'
 90 LF 630-2-12
 90 LF 633-8-1
 1 - HIGH VOLTAGE
 1 - LOW VOLTAGE
 1 - MVDS (XP20)
 1 - INTERCONNECT
 2 - SPARE

2 RUNS AT 10'
 630-2-11 10 LF

4 RUNS AT 10'
 630-2-11 10 LF
 635-2-14 2 EA
 649-21-14 1 EA
 660-3-12 4 EA

630-2-11 12 LF
 632-7-1 1 PI
 633-1-121 40 LF
 633-2-31 12 EA
 633-3-15 1 EA
 639-4-6 1 EA
 660-3-11 *3 EA
 670-5-110 1 AS
 682-1-113 1 EA
 684-1-1 1 EA
 685-1-13 1 EA

*1 CLICK 656 FOR THE MATRIX (4) & ADVANCE DETECTORS (2).
 *2 ARCS FOR THE XP20 DETECTORS (4).

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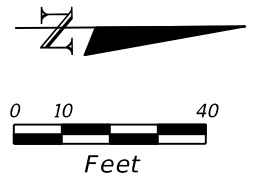
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SIGNALIZATION PLANS (1)

SHEET NO.
T-6

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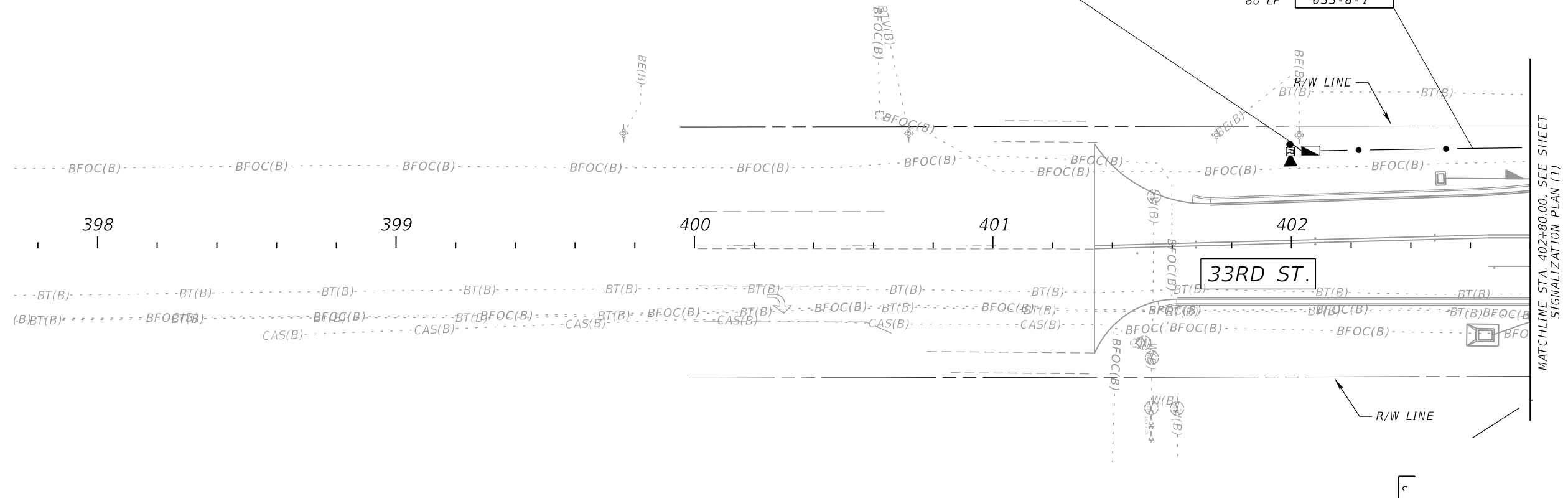


XP20 SENSOR
TRAFFIC MONITORING SITE
2 RUNS AT 25'

10 LF	630-2-11
20 LF	630-2-14
40 LF	633-8-1
1 EA	635-2-12
1 EA	641-2-13
1 EA	660-3-12

2 RUNS AT 80'

80 LF	630-2-11
80 LF	633-8-1



MATCHLINE STA. 402+80.00, SEE SHEET SIGNALIZATION PLAN (1)

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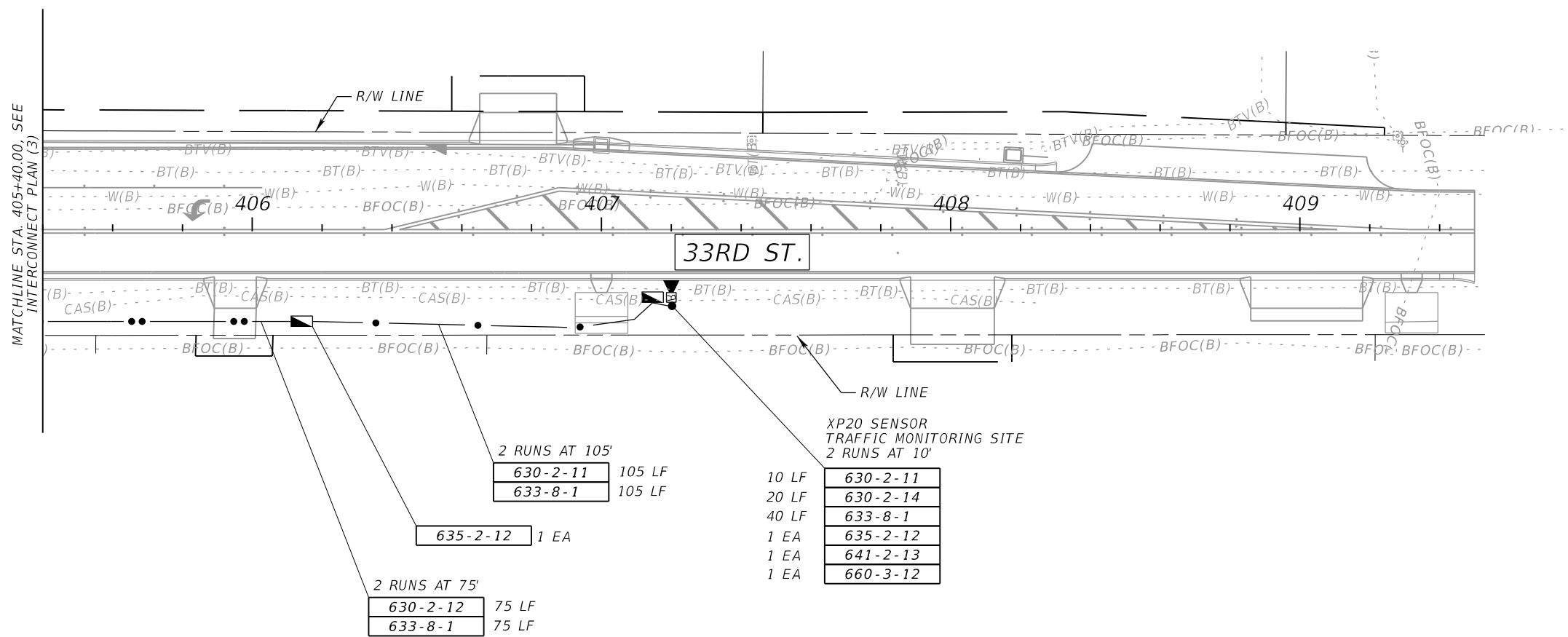
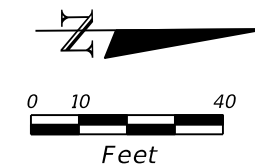
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SIGNALIZATION PLAN (2)

SHEET NO.
T-7

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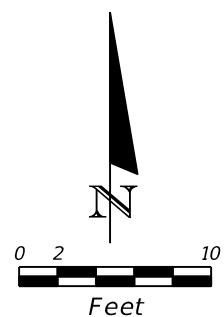
PGA GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVE. SUITE 201
ORLANDO, FL 32801

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ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

SIGNALIZATION PLAN (3)

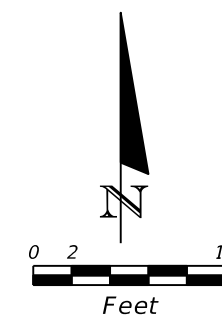
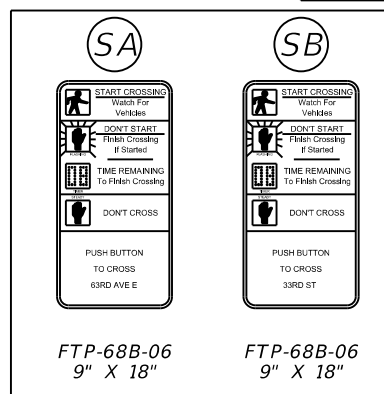
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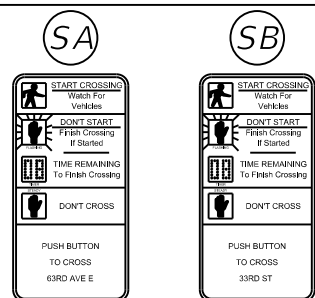
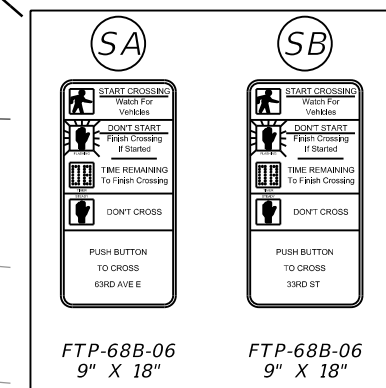
P6 PED POLE
1 EA 646-1-11
1 EA 665-1-12

P4 PED POLE
1 EA 646-1-11
1 EA 665-1-12

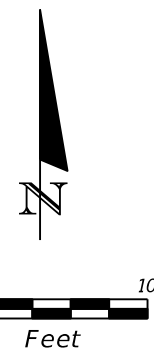


P6 PED POLE
1 EA 646-1-11
1 EA 665-1-12

P8 PED POLE
1 EA 646-1-11
1 EA 665-1-12

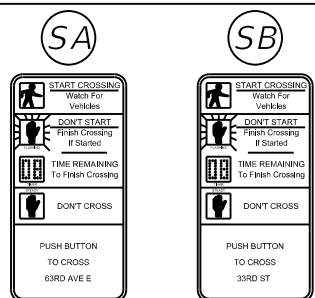


FTP-68B-06 9" X 18" FTP-68B-06 9" X 18"



P4 PED POLE
1 EA 646-1-11
1 EA 665-1-12

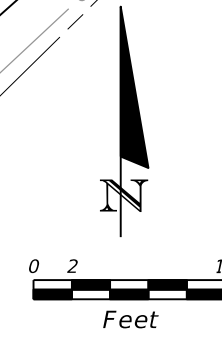
P2 PED POLE
1 EA 646-1-11
1 EA 665-1-12



FTP-68B-06 9" X 18" FTP-68B-06 9" X 18"

P2 PED POLE
1 EA 646-1-11
1 EA 665-1-12

P8 PED POLE
1 EA 646-1-11
1 EA 665-1-12



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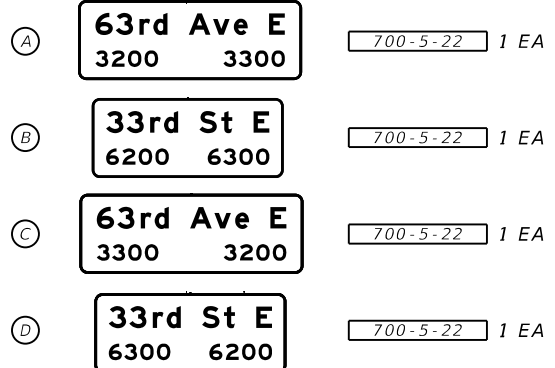
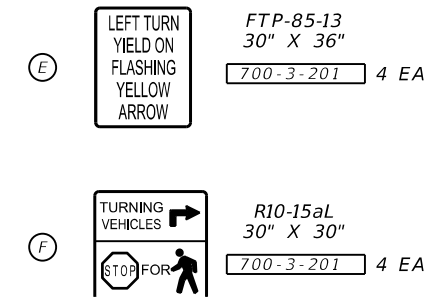
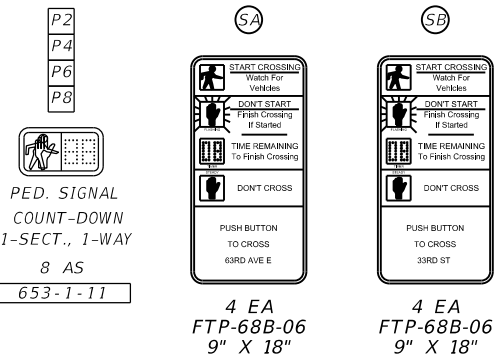
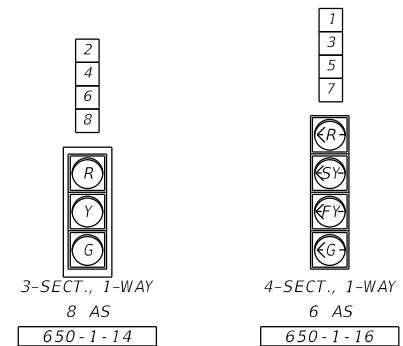
SIGNALIZATION PLAN (4)

SHEET NO.
T-9

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TRAFFIC SIGNAL HEAD DETAILS

PEDESTRIAN SIGNAL HEADS AND SIGN DETAILS



- NOTES:
- THE MAJOR STREET IS 63RD AVE., MOVEMENTS 2 AND 6. THE MINOR STREET IS 33RD ST., MOVEMENTS 4 AND 8.
 - IMPLEMENT PROVIDED SIGNAL AND PEDESTRIAN TIMINGS; MANATEE COUNTY WILL UPDATE THE TIMINGS AS NEEDED. PROVIDE MANATEE COUNTY WITH ALL 'AS-BUILT' INFORMATION NECESSARY TO DEVELOP THE BASIC SIGNAL TIMING PARAMETERS AND ALLOW THREE (3) WEEKS FOLLOWING THE REQUEST FOR MANATEE COUNTY TO DEVELOP THE UPDATED TIMINGS.

MANATEE COUNTY TRAFFIC ENGINEERING DIVISION
VISHAL KAKKAD
BRADENTON, FLORIDA 34203
2101 47TH TERRACE EAST
PHONE: 941-749-3500 EXT. 7812
 - STANDARD SIGNAL OPERATING PLAN 10 AS SHOWN BELOW IS TO BE IMPLEMENTED WITH THE FOLLOWING:
 - A) CONCURRENT/ACTUATED PEDESTRIAN FOR MOVEMENTS 2 (P2), 4 (P4), 6 (P6), 8 (P8)
 - B) WHEN SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 SHALL FLASH YELLOW. ALL OTHER MOVEMENTS SHALL FLASH RED.
 - C) THE CONTROLLER CABINET SHALL BE WIRED FOR SOP 10 REGARDLESS OF THE PROPOSED SIGNAL OPERATION AT THE INTERSECTION. HOWEVER, THE CONTROLLERS SHALL BE PROGRAMMED ACCORDING TO THE PROPOSED SOP AS SHOWN.
 - POSTED SPEEDS:
63RD AVE. E.: 40 MPH
33RD ST. 45 MPH
 - STOP BAR DETECTION ZONES ARE TO BE ESTABLISHED 2 FEET IN FRONT OF THE STOP BAR. DETECTION ZONES ARE TO BE CENTERED IN THEIR ASSOCIATED LANES. DETECTION ZONE DIMENSIONS ARE 6' X 40' FOR THE FOLLOWING DETECTION ZONES:

DZ-1, DZ-2, DZ-3, DZ-4, DZ-5, DZ-6, DZ-7, DZ-8
 - PROVIDE SEPARATE PULL BOXES FOR HIGH AND LOW VOLTAGE CABLE.
 - INTERNALLY ILLUMINATED SIGN SHALL BE RIGID MOUNTED TO THE MAST ARMS.

INITIAL CONTROLLER TIMINGS NOTE:
TIMINGS WILL BE INCLUDED WITH PHASE II SUBMITTAL.

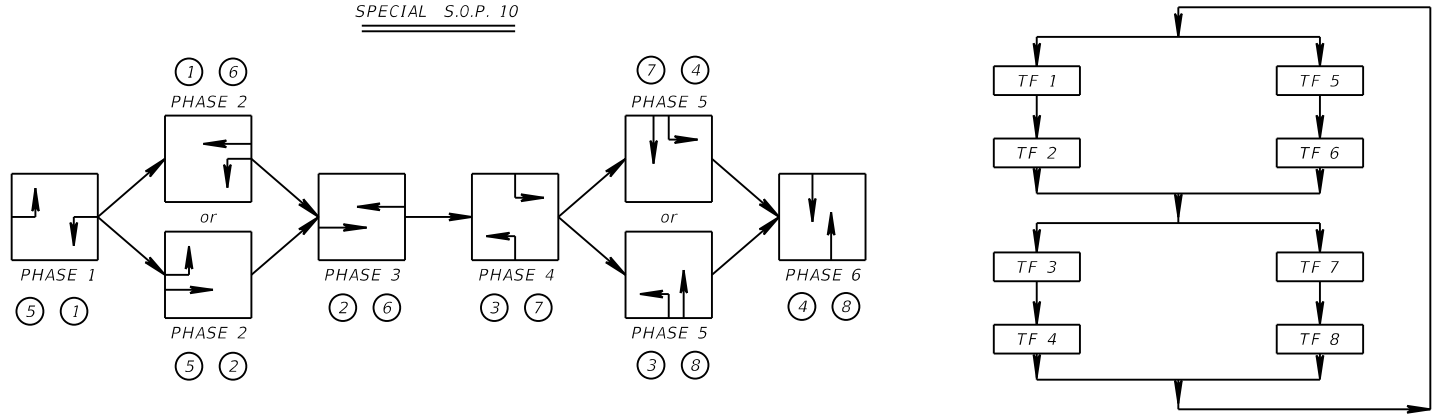
TABLE 1: INITIAL CONTROLLER TIMINGS

MOVEMENT NUMBER	1	2	3	4	5	6	7	8
DIRECTION	WBL	EB	NBL	SB	EBL	WB	SBL	NB
TURN TYPE	Prot. Perm.		Prot. Perm.		Prot. Perm.		Prot. Perm.	
MINIMUM GREEN								
EXTENSION								
YELLOW	4.4	4.4	4.8	4.8	4.4	4.4	4.8	4.8
ALL RED	4.3	2.0	4.6	2.0	4.3	2.0	4.6	2.0
MAX I								
MAX II								
MAX LIMIT								
ADJUST BY								
WALK		7		7		7		7
FLASH DON'T WALK		17		23		18		22
DETECTOR MEMORY								
DET. CROSS SWITCH								
DUAL ENTRY								
RECALL								

TABLE 2: MICROWAVE DETECTOR CHART

MICROWAVE DETECTOR	DETECTION ZONE	DELAY TIME (SEC)
R1	DZ-6	
R2	DZ-8	8
R3	DZ-2	
R4	DZ-4	8
R1	DZ-1	3
R2	DZ-3	3
R3	DZ-5	3
R4	DZ-7	3

DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY PROJECT ENGINEER.



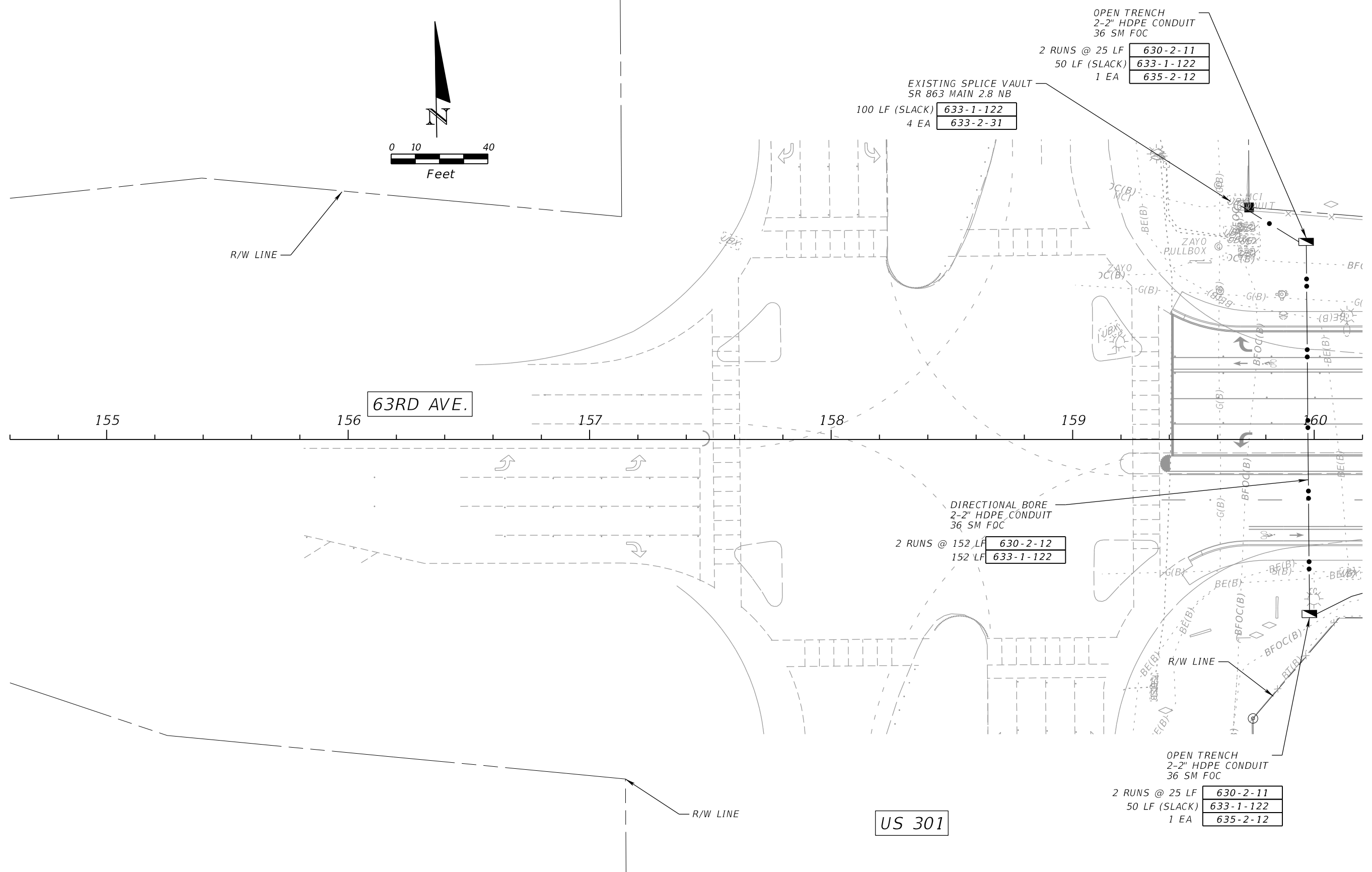
63RD AVE. E. AND 33RD ST.
MANATEE COUNTY

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE		PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	SHEET NO. T-10
			DESIGNED BY	GJS	09/2022			
			DRAWN BY	GJS	PROJECT NO.			
			CHECKED BY	AW	6107860			

SIGNALIZATION PLAN (5)

USER: fabio.osorio 12/11/2023 3:15:55 PM pw:\patelgreene-pw.bentley.com:patelgreene-pw-01\Documents\Design\MANCO\Projects\61

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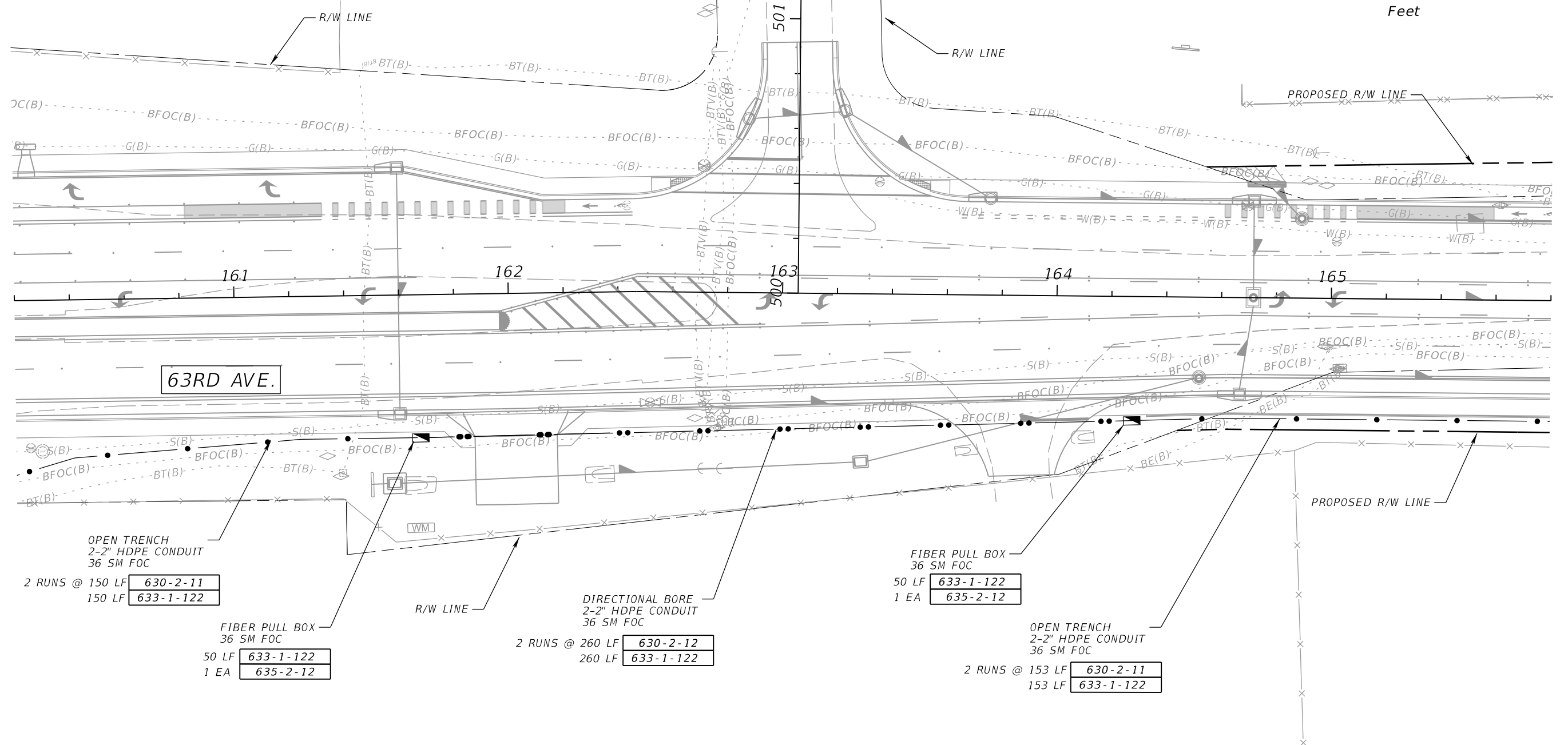
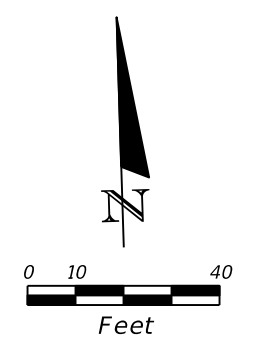
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Manatee County PUBLIC WORKS DEPARTMENT
FLORIDA ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

INTERCONNECT PLAN (1)

SHEET NO.
T-11



OPEN TRENCH
2-2" HDPE CONDUIT
36 SM FOC

2 RUNS @ 150 LF 630-2-11
150 LF 633-1-122

FIBER PULL BOX
36 SM FOC

50 LF 633-1-122
1 EA 635-2-12

DIRECTIONAL BORE
2-2" HDPE CONDUIT
36 SM FOC

2 RUNS @ 260 LF 630-2-12
260 LF 633-1-122

FIBER PULL BOX
36 SM FOC

50 LF 633-1-122
1 EA 635-2-12

OPEN TRENCH
2-2" HDPE CONDUIT
36 SM FOC

2 RUNS @ 153 LF 630-2-11
153 LF 633-1-122

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				GJS	PROJECT NO.
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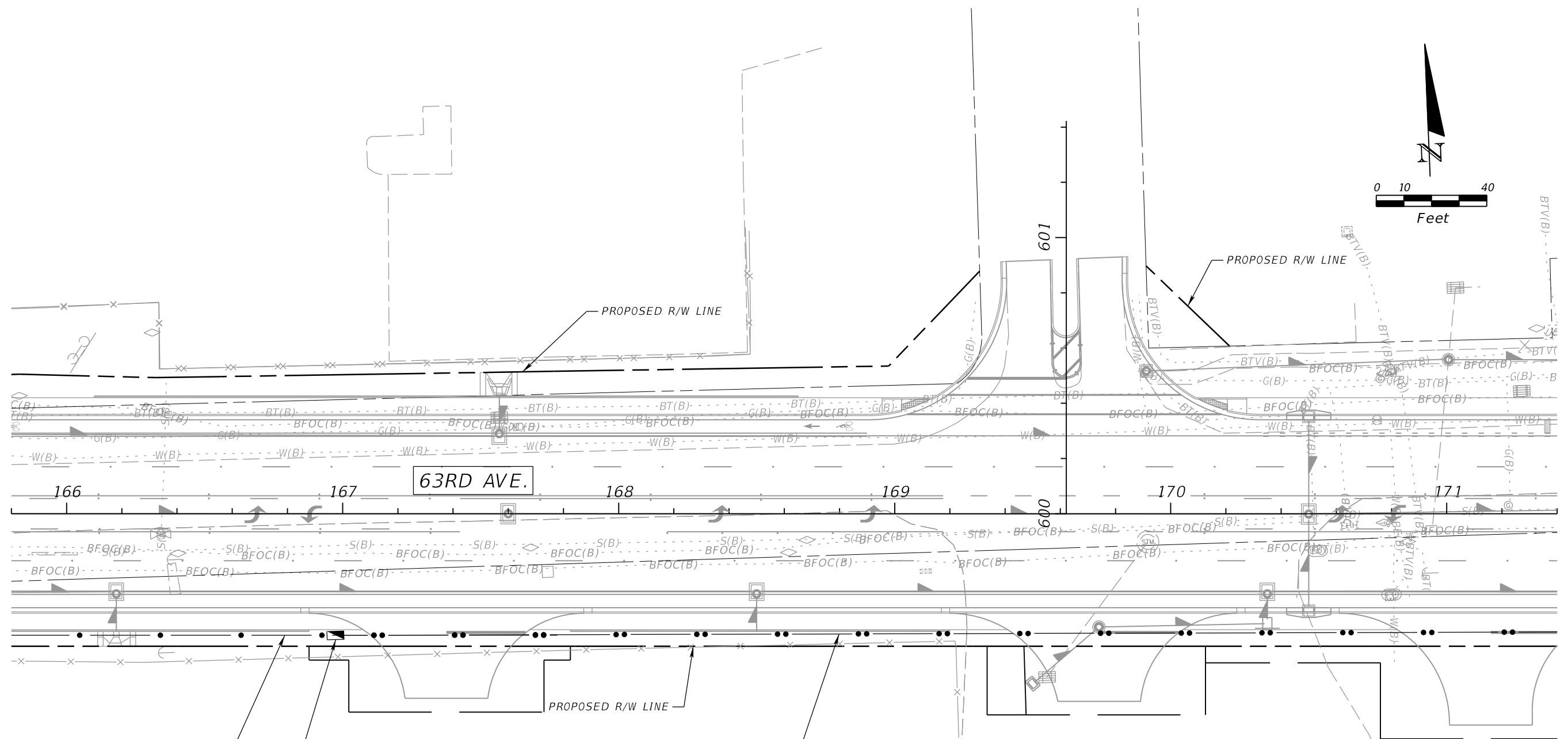
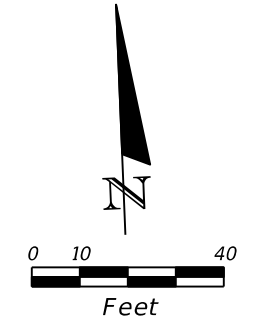
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INTERCONNECT PLAN (2)

SHEET NO.
T-12

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OPEN TRENCH
2-2" HDPE CONDUIT
36 SM FOC

2 RUNS @ 118 LF	630-2-11
118 LF	633-1-122

FIBER PULL BOX
36 SM FOC

50 LF	633-1-122
1 EA	635-2-12

DIRECTIONAL BORE
2-2" HDPE CONDUIT
36 SM FOC

2 RUNS @ 445 LF	630-2-12
445 LF	633-1-122

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
				GJS	09/2022
				GJS	PROJECT NO.
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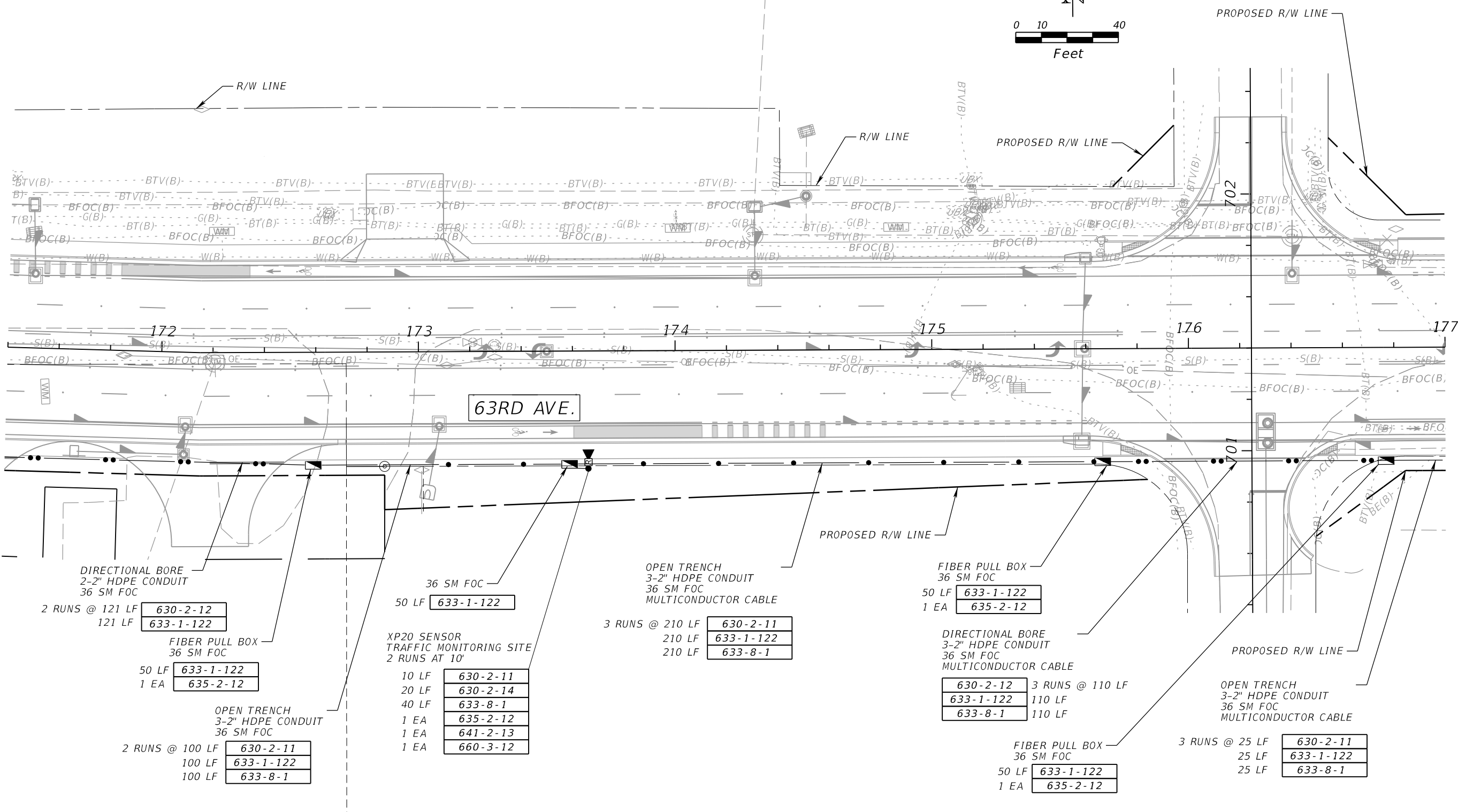
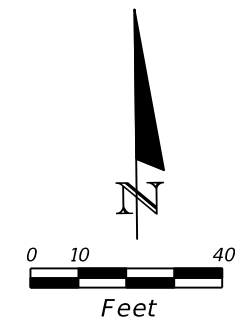
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INTERCONNECT PLAN (3)

SHEET NO.
T-13

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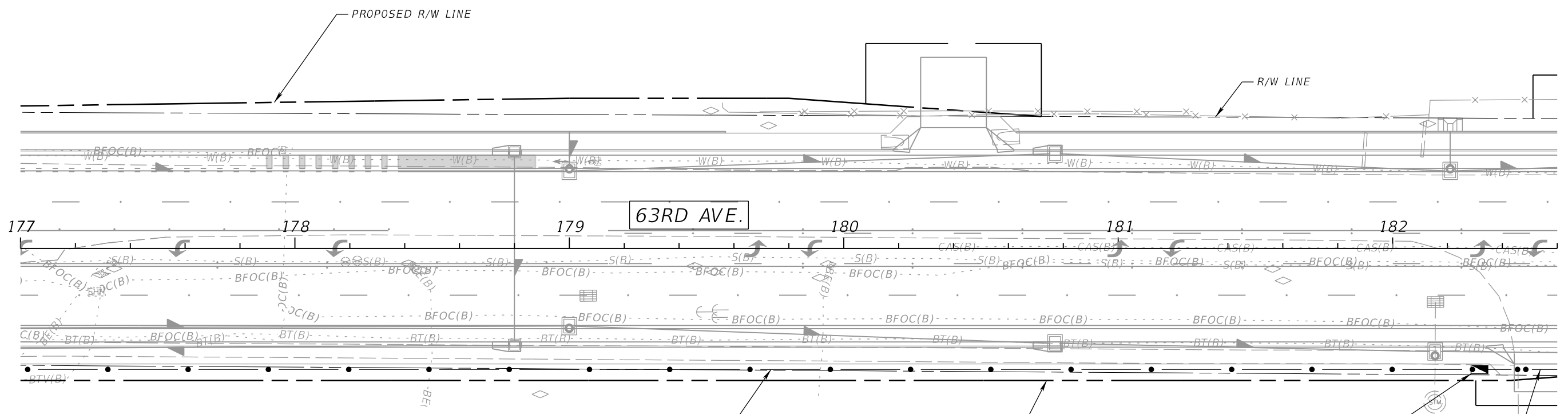
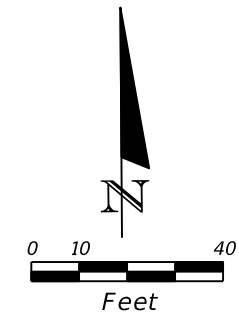
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INTERCONNECT PLAN (4)

SHEET NO.
T-14

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OPEN TRENCH
 3-2" HDPE CONDUIT
 36 SM FOC
 MULTICONDUCTOR CABLE

3 RUNS @ 530 LF	630-2-11
530 LF	633-1-122
530 LF	633-8-1

FIBER PULL BOX
 36 SM FOC

50 LF	633-1-122
1 EA	635-2-12

DIRECTIONAL BORE
 3-2" HDPE CONDUIT
 36 SM FOC
 MULTICONDUCTOR CABLE

630-2-12	3 RUNS @ 30 LF
633-1-122	30 LF
633-8-1	30 LF

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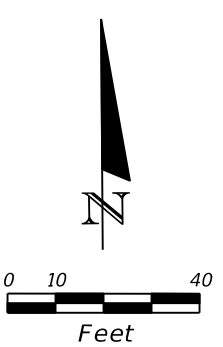
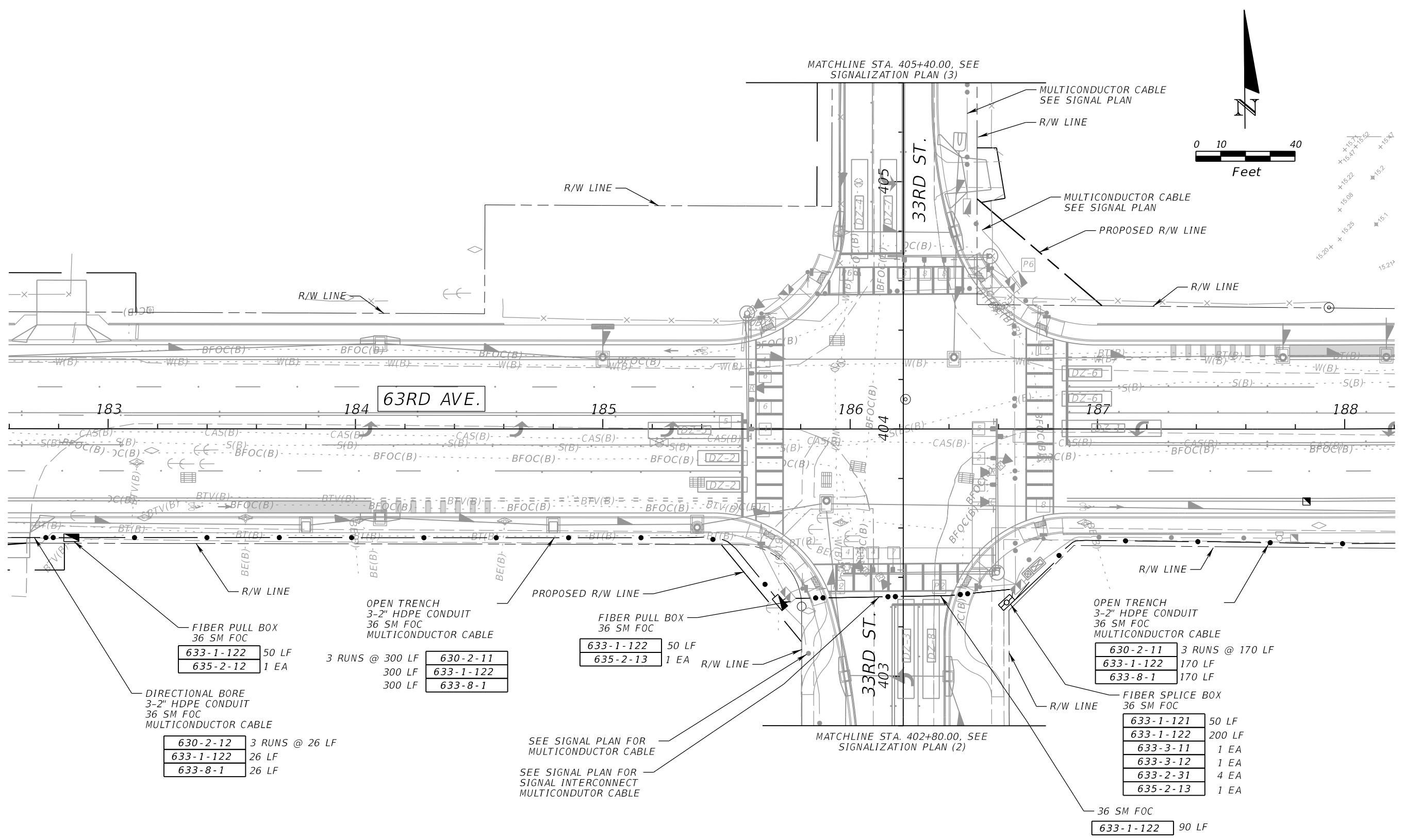
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INTERCONNECT PLAN (5)

SHEET NO.
T-15

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FIBER PULL BOX
36 SM FOC

633-1-122	50 LF
635-2-12	1 EA

DIRECTIONAL BORE
3-2" HDPE CONDUIT
36 SM FOC
MULTICONDUCTOR CABLE

630-2-12	3 RUNS @ 26 LF
633-1-122	26 LF
633-8-1	26 LF

OPEN TRENCH
3-2" HDPE CONDUIT
36 SM FOC
MULTICONDUCTOR CABLE

3 RUNS @ 300 LF	630-2-11
300 LF	633-1-122
300 LF	633-8-1

FIBER PULL BOX
36 SM FOC

633-1-122	50 LF
635-2-13	1 EA

OPEN TRENCH
3-2" HDPE CONDUIT
36 SM FOC
MULTICONDUCTOR CABLE

630-2-11	3 RUNS @ 170 LF
633-1-122	170 LF
633-8-1	170 LF

FIBER SPLICE BOX
36 SM FOC

633-1-121	50 LF
633-1-122	200 LF
633-3-11	1 EA
633-3-12	1 EA
633-2-31	4 EA
635-2-13	1 EA

36 SM FOC

633-1-122	90 LF
-----------	-------

SEE SIGNAL PLAN FOR
MULTICONDUCTOR CABLE

SEE SIGNAL PLAN FOR
SIGNAL INTERCONNECT
MULTICONDUCTOR CABLE

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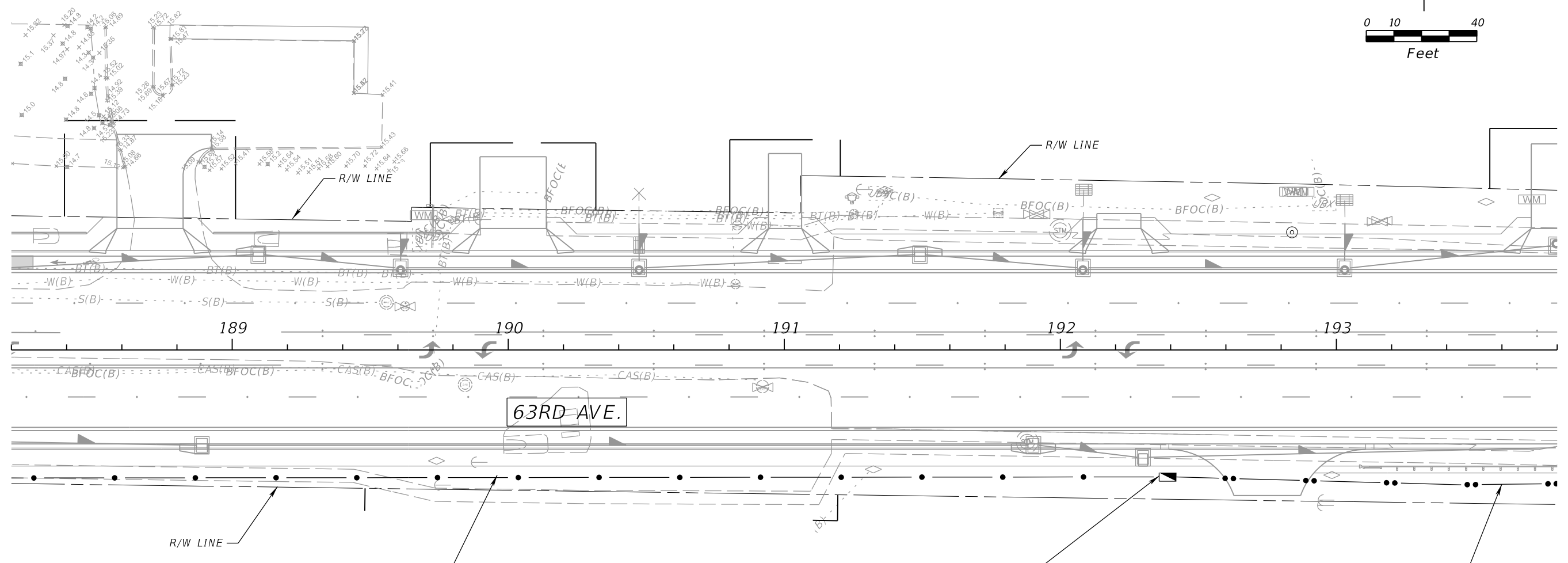
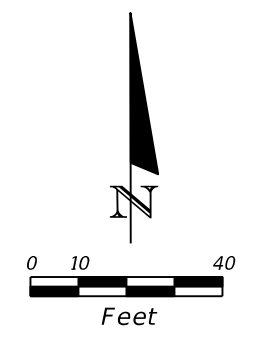
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INTERCONNECT PLAN (6)

SHEET NO.
T-16

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OPEN TRENCH
 3-2" HDPE CONDUIT
 36 SM FOC
 MULTICONDUCTOR CABLE

3 RUNS @ 420 LF	630-2-11
420 LF	633-1-122
420 LF	633-8-1

FIBER PULL BOX
 36 SM FOC

50 LF	633-1-122
1 EA	635-2-12

DIRECTIONAL BORE
 3-2" HDPE CONDUIT
 36 SM FOC
 MULTICONDUCTOR CABLE

3 RUNS @ 140 LF	630-2-12
140 LF	633-1-122
140 LF	633-8-1

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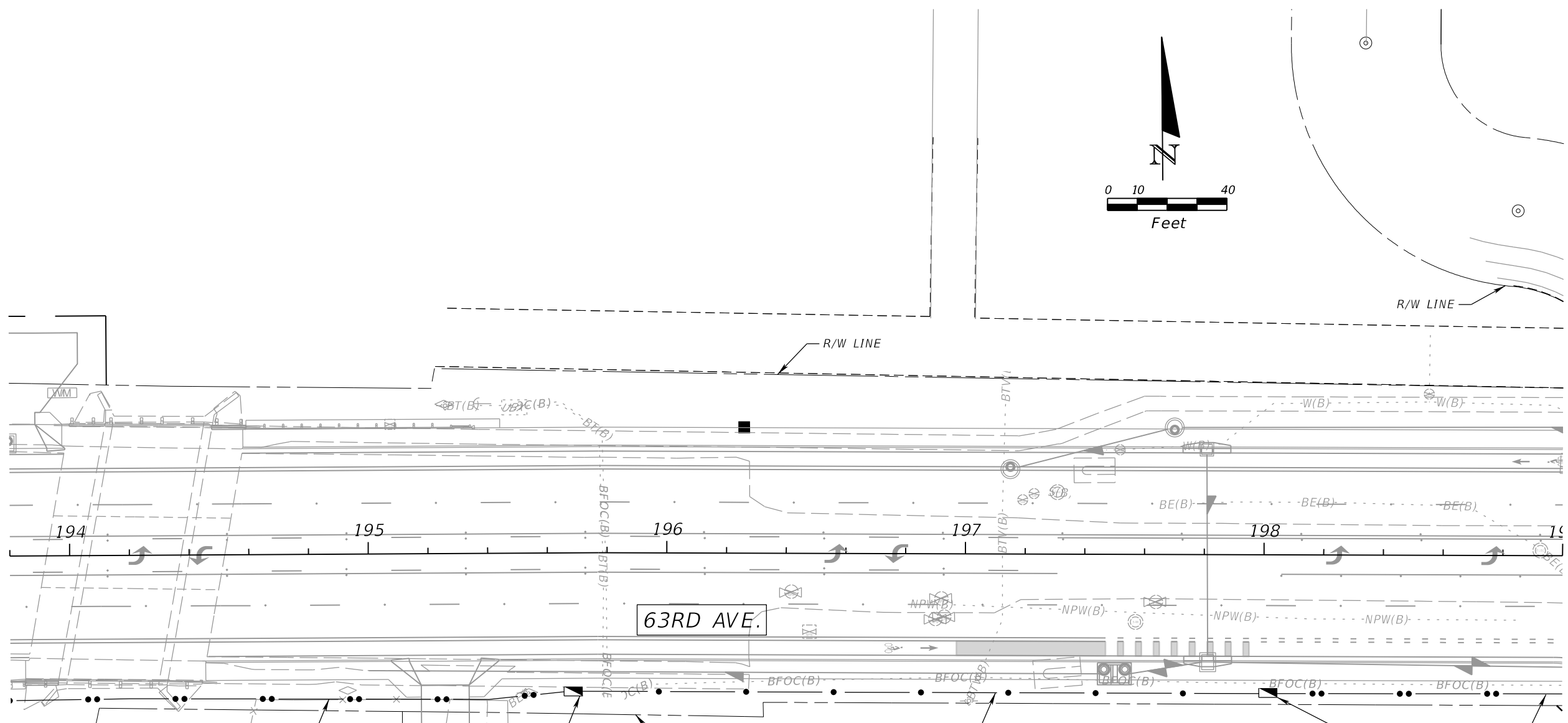
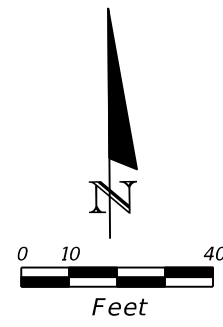
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INTERCONNECT PLAN (7)

SHEET NO.
T-17

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FIBER PULL BOX
36 SM FOC

633-1-122	50 LF
635-2-12	1 EA

DIRECTIONAL BORE
3-2" HDPE CONDUIT
36 SM FOC
MULTICONDUCTOR CABLE

3 RUNS @ 190 LF	630-2-12
190 LF	633-1-122
190 LF	633-8-1

FIBER PULL BOX
36 SM FOC

633-1-122	50 LF
635-2-12	1 EA

OPEN TRENCH
3-2" HDPE CONDUIT
36 SM FOC
MULTICONDUCTOR CABLE

3 RUNS @ 240 LF	630-2-11
240 LF	633-1-122
240 LF	633-8-1

DIRECTIONAL BORE
2-2" HDPE CONDUIT
36 SM FOC

3 RUNS @ 95 LF	630-2-12
95 LF	633-1-122
95 LF	633-8-1

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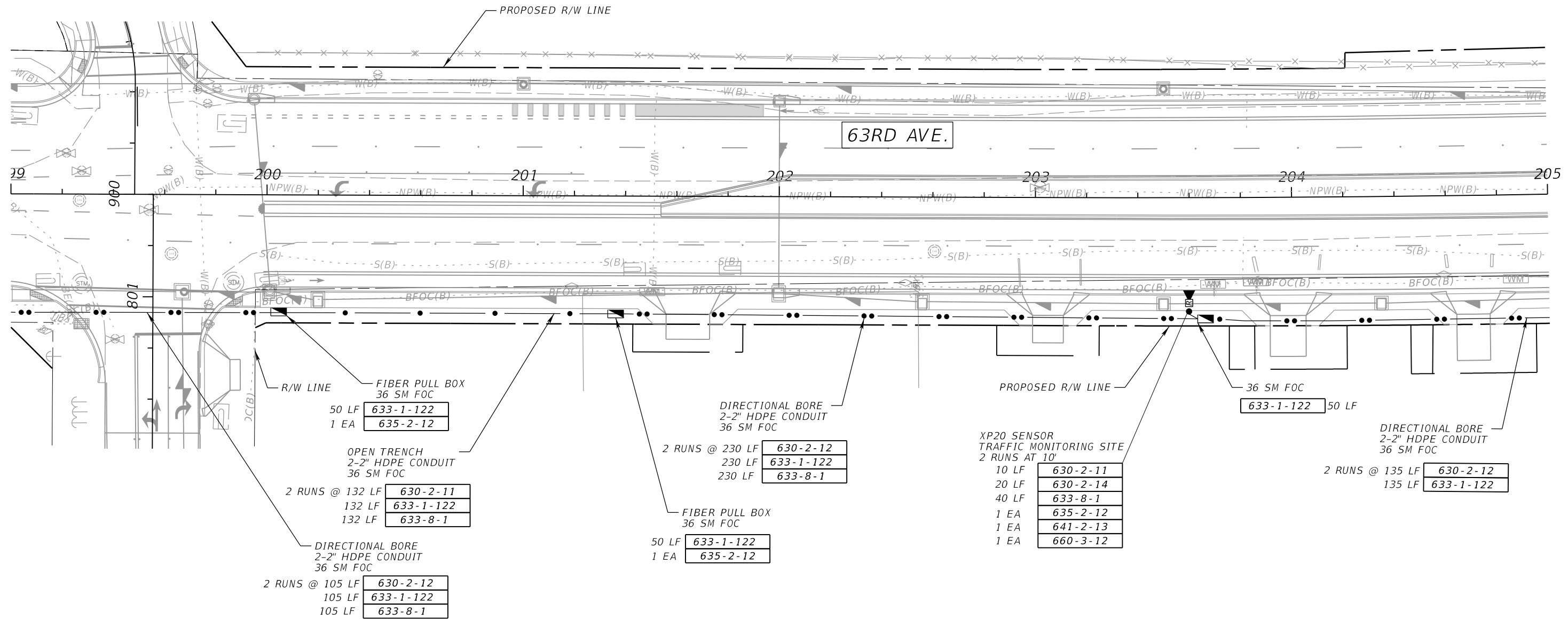
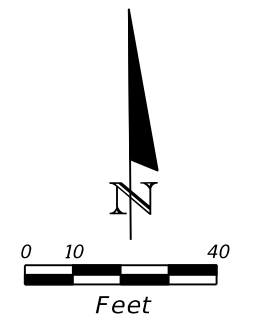
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INTERCONNECT PLAN (8)

SHEET NO.
T-18

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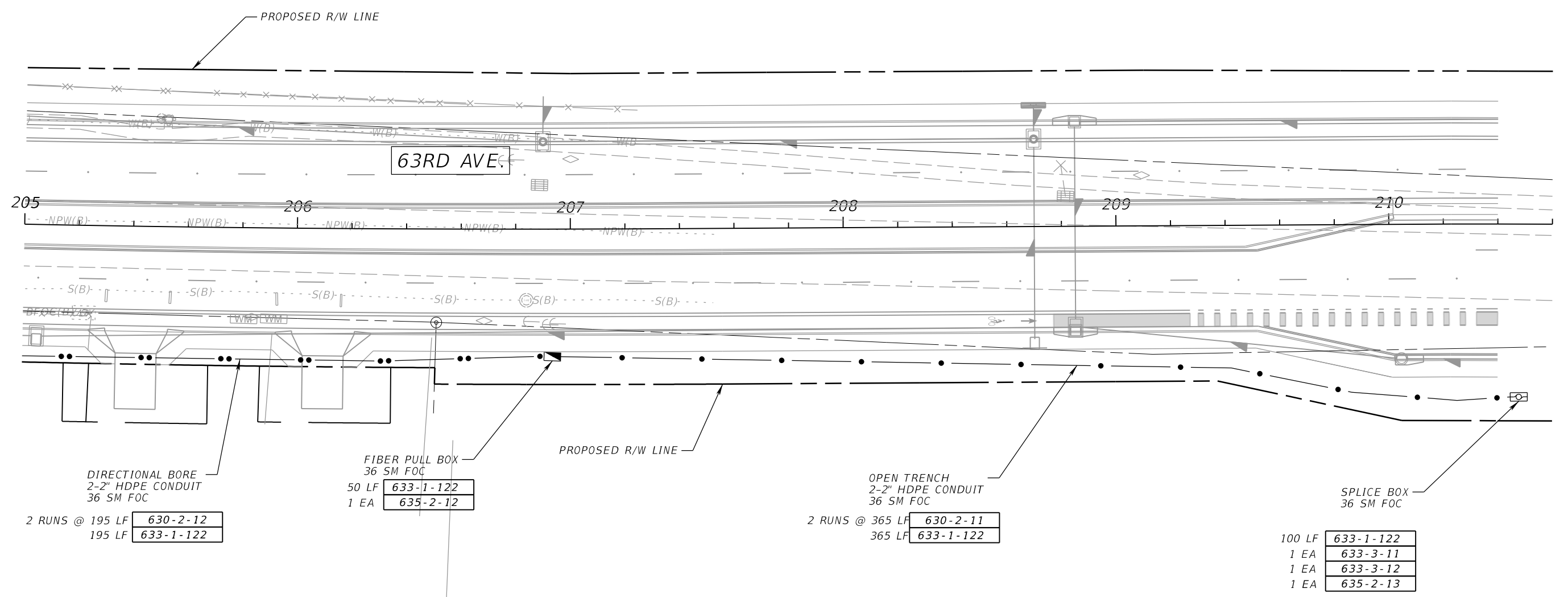
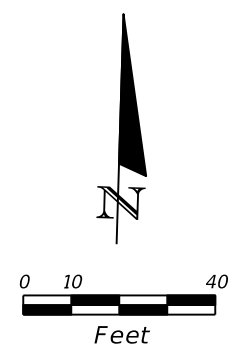
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INTERCONNECT PLAN (9)

SHEET NO.
T-19

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REMAINING WORK TO CONNECT PROPOSED SIGNAL AT TUTTLE AVE.
TO BE COMPLETED UNDER PROJECT CIP 6065961

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	09/2022
			DRAWN BY	GJS	PROJECT NO.
			CHECKED BY	AW	6107860

PGA GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVE. SUITE 201
ORLANDO, FL 32801

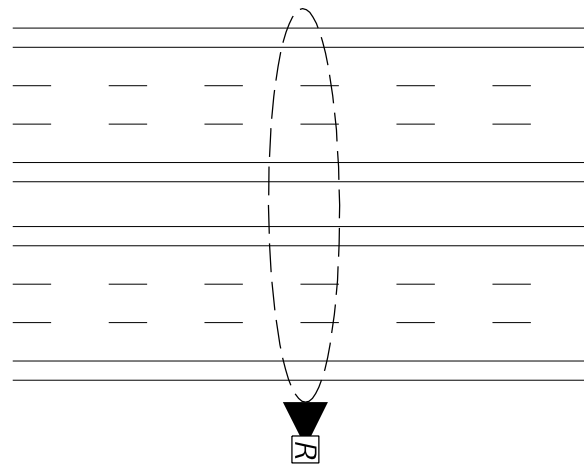
Manatee County PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

INTERCONNECT PLAN (10)

SHEET NO.	T-20
-----------	------

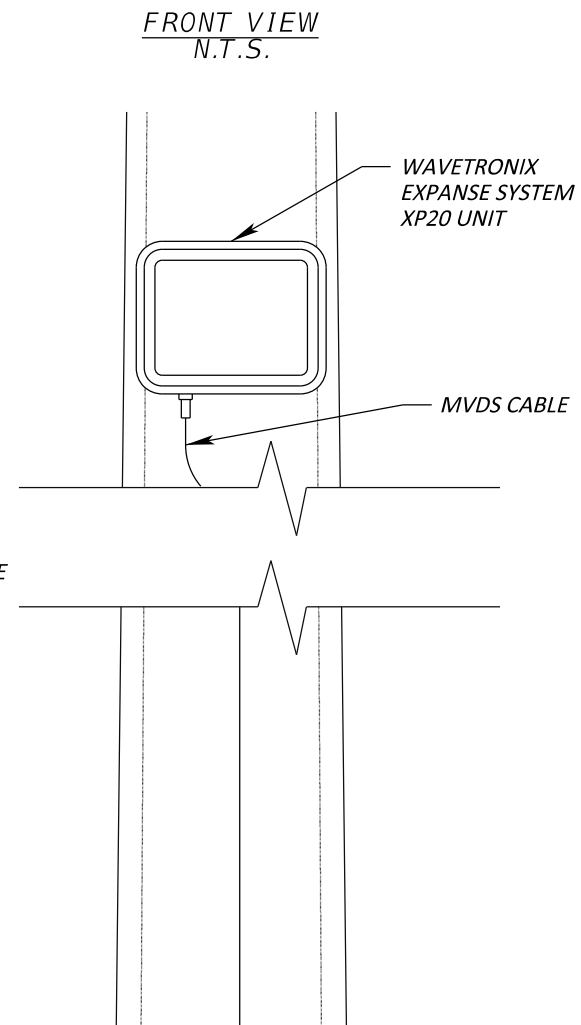
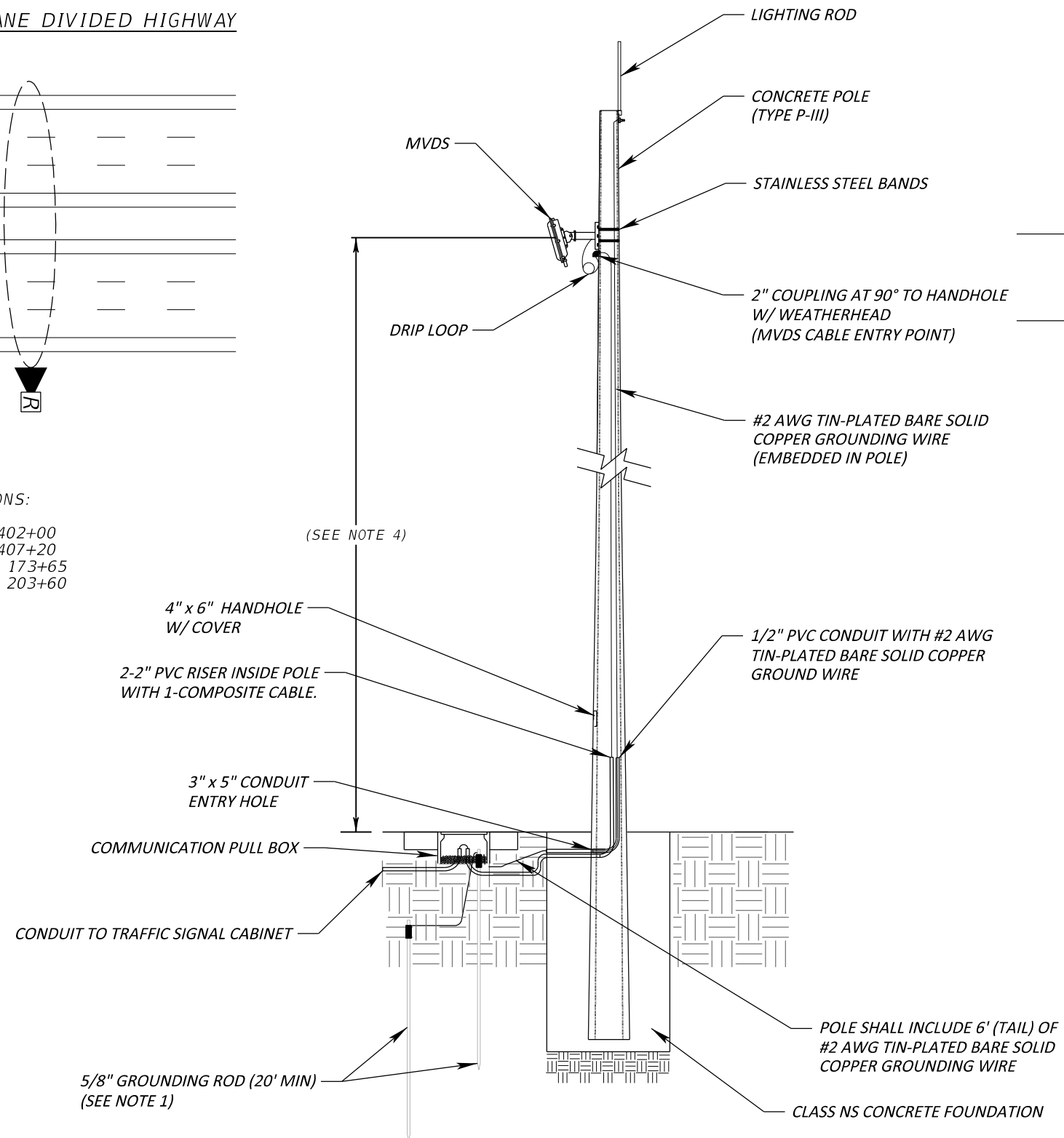
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

TYPICAL 4 & 6 LANE DIVIDED HIGHWAY



MVDS SITE LOCATIONS:

- 33RD ST. STATION 402+00
- 33RD ST. STATION 407+20
- 63RD AVE. STATION 173+65
- 63RD aVE. STATION 203+60



NOTE:

1. GROUNDING SHALL BE PER INDEX 641-020 SHEET 5 OF 5.
2. CONFIRM MANUFACTURER RECOMMENDATIONS FOR ALL EQUIPMENT AND MOUNTING HEIGHT DIMENSIONS PRIOR TO INSTALLATION.
3. INTEGRATE THE MVDS INTO THE COUNTY'S EXISTING ATMS SYSTEM AND CALIBRATE THE MVDS UNITS IN THE PRESENCE OF COUNTY STAFF.
4. PER MANUFACTURER RECOMMENDATIONS.

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	09/2022
			DRAWN BY	GJS	PROJECT NO.
			CHECKED BY	AW	6107860

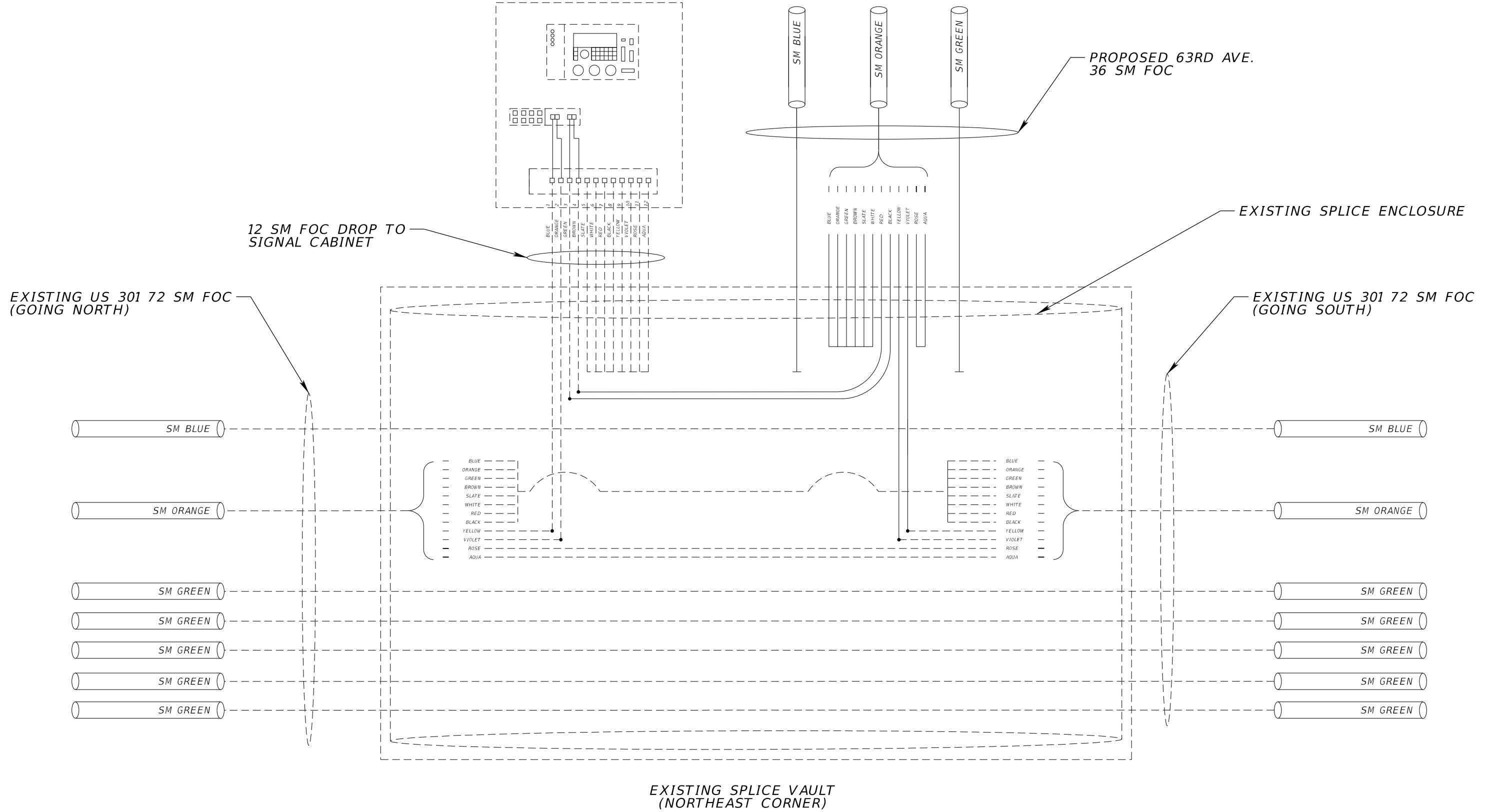
PGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVE. SUITE 201
 ORLANDO, FL 32801

Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

MVDS MOUNTING DETAIL

SHEET NO.
 T-21

EXISTING SIGNAL CABINET
(US 301 / 63RD AVE.)



NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	09/2022
			DRAWN BY	GJS	PROJECT NO.
			CHECKED BY	AW	6107860



GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVE. SUITE 201
ORLANDO, FL 32801



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

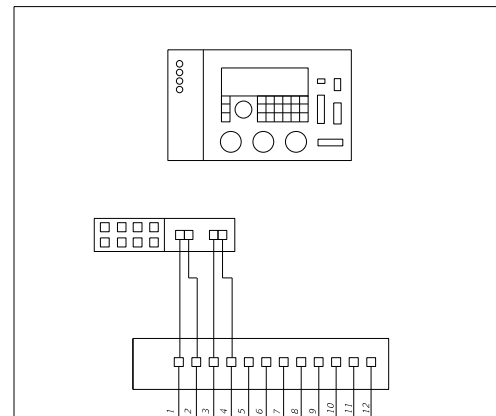
SPLICING DIAGRAM (1)

SHEET NO.

T-22

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

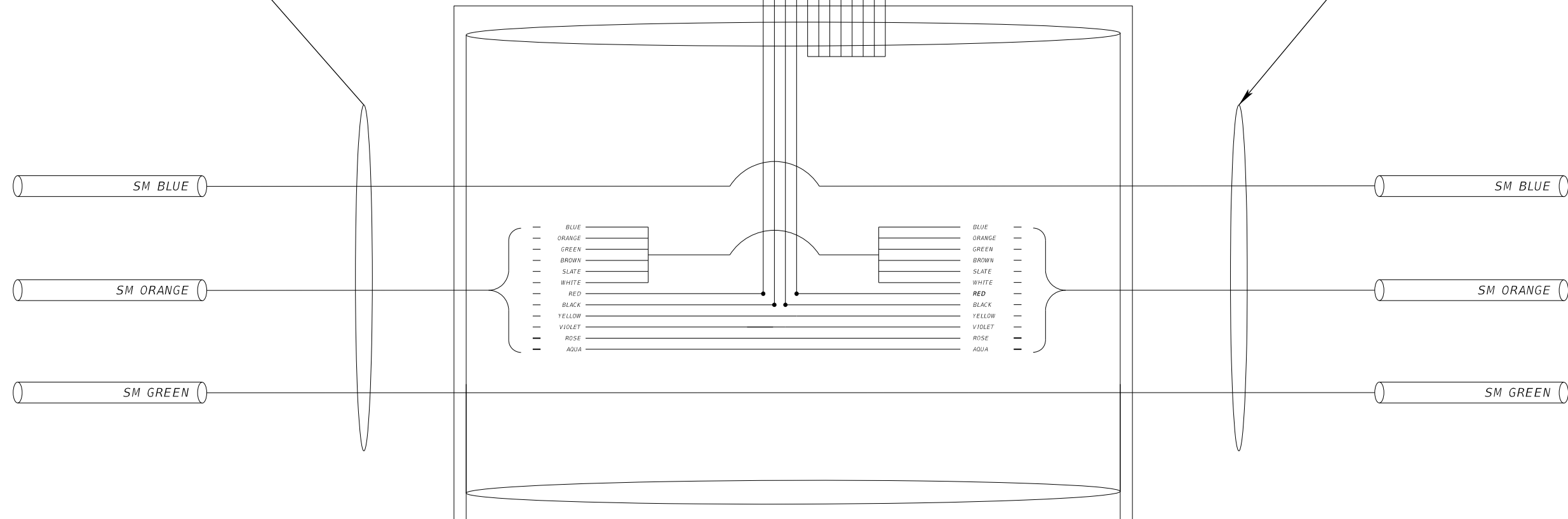
PROPOSED SIGNAL CABINET
(63RD AVE. / 33RD ST.)



12 SM FOC DROP TO SIGNAL CABINET

63 AVE. 36 SM FOC
(GOING WEST TO US 301)

63 AVE. 36 SM FOC
(GOING EAST TO TUTTLE AVE.)



SPLICE VAULT
(SOUTHEAST CORNER)

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	09/2022
			DRAWN BY	GJS	PROJECT NO.
			CHECKED BY	AW	6107860



GERALDO J. SANCHEZ, P.E.
LICENSE NUMBER 74538
PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVE. SUITE 201
ORLANDO, FL 32801



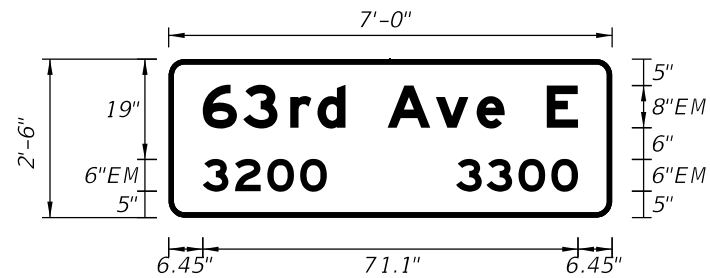
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East
Bradenton, FL 34208

SPLICING DIAGRAM (2)

SHEET NO.

T-23

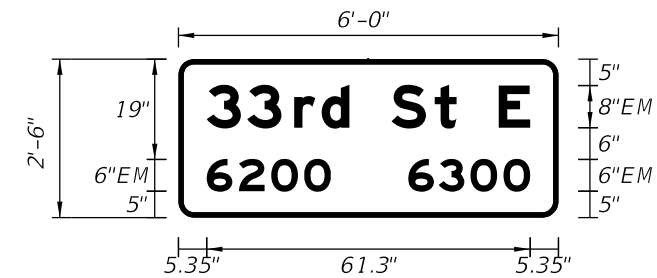
SIGN NAME A		QTY 1	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH 7'-0"	WIDTH 1"			
HEIGHT 2'-6"	RADII 3"			
LEGEND White	COLOR White			
COLOR Green				
SYMBOL(S)	ANGLE	X	Y	WID HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	6	3	r	d	A	v	e	E	L				
SPACE	6.4	7.7	8.9	5.2	5.3	8	9.1	7.8	5.3	8	5.9	6.4	71.1
COPY	3	2	0	0	L								
SPACE	6.4	6.1	6.1	6.2	5	54	23.5						
COPY	3	3	0	0	L								
SPACE	54.5	5.8	6.1	6.2	5	6.4	23.1						
COPY													
SPACE													
COPY													
SPACE													
COPY													
SPACE													
COPY													
SPACE													

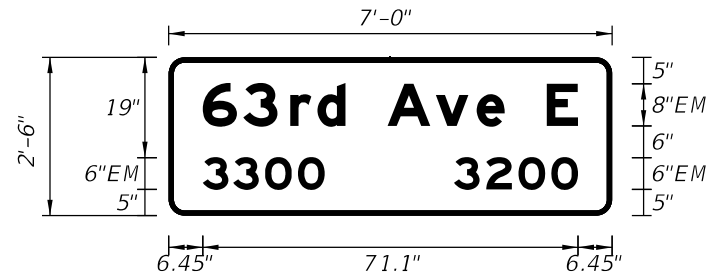
SIGN NAME B		QTY 1	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH 6'-0"	WIDTH 1"			
HEIGHT 2'-6"	RADII 3"			
LEGEND White	COLOR White			
COLOR Green				
SYMBOL(S)	ANGLE	X	Y	WID HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	3	3	r	d	S	t	E	L				
SPACE	5.4	7.7	8.9	5.2	5.3	8	8.2	4.2	8	5.9	5.4	61.3
COPY	6	2	0	0	L							
SPACE	5.4	6.1	6.1	6.2	5	43.1	23.5					
COPY	6	3	0	0	L							
SPACE	43.5	5.8	6.1	6.2	5	5.4	23.1					
COPY												
SPACE												
COPY												
SPACE												
COPY												
SPACE												
COPY												
SPACE												

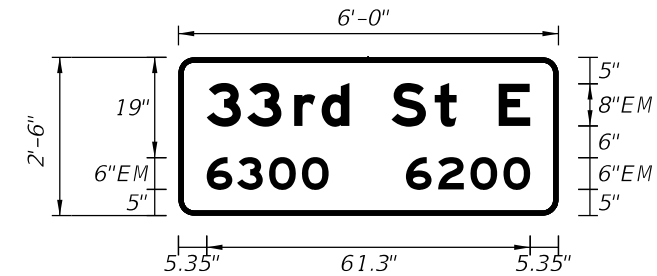
SIGN NAME C		QTY 1	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH 7'-0"	WIDTH 1"			
HEIGHT 2'-6"	RADII 3"			
LEGEND White	COLOR White			
COLOR Green				
SYMBOL(S)	ANGLE	X	Y	WID HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	6	3	r	d	A	v	e	E	L				
SPACE	6.4	7.7	8.9	5.2	5.3	8	9.1	7.8	5.3	8	5.9	6.4	71.1
COPY	3	3	0	0	L								
SPACE	6.4	5.8	6.1	6.2	5	54.5	23.1						
COPY	3	2	0	0	L								
SPACE	54	6.1	6.1	6.2	5	6.4	23.5						
COPY													
SPACE													
COPY													
SPACE													
COPY													
SPACE													

SIGN NAME D		QTY 1	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH 6'-0"	WIDTH 1"			
HEIGHT 2'-6"	RADII 3"			
LEGEND White	COLOR White			
COLOR Green				
SYMBOL(S)	ANGLE	X	Y	WID HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	3	3	r	d	S	t	E	L				
SPACE	5.4	7.7	8.9	5.2	5.3	8	8.2	4.2	8	5.9	5.4	61.3
COPY	6	3	0	0	L							
SPACE	5.4	5.8	6.1	6.2	5	43.5	23.1					
COPY	6	2	0	0	L							
SPACE	43.1	6.1	6.1	6.2	5	5.4	23.5					
COPY												
SPACE												
COPY												
SPACE												
COPY												
SPACE												

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
				GJS	09/2022
				GJS	PROJECT NO.
				AW	6107860



GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVE. SUITE 201
 ORLANDO, FL 32801

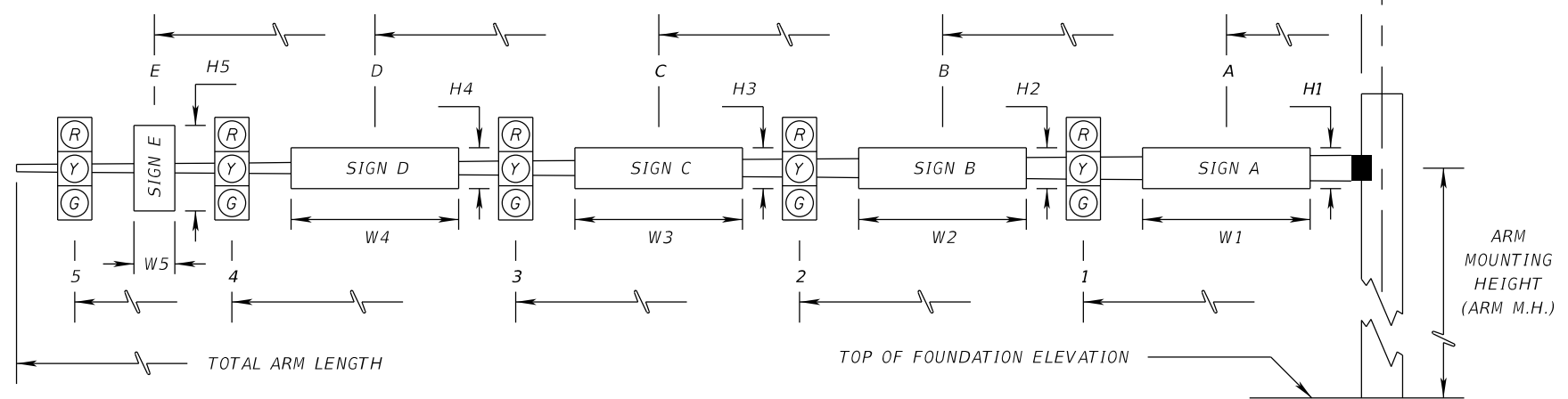
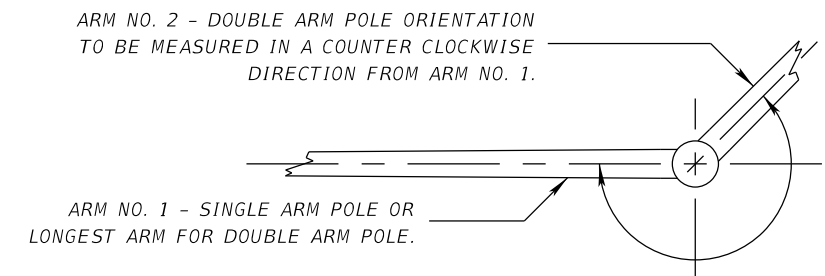


PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

GUIDE SIGN WORKSHEET

SHEET NO.
 T-24

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



* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY
 'R' DENOTES A RADAR DETECTOR; 'C' DENOTES A CCTV

ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUND. ELEVATION	RDWY. ARM NO.	CROWN ELEV.	LUMI-NAIRE Y/N	TERM. COMP. Y/N	SIGNAL DATA													TOTAL ARM LENGTH	ARM M.H.	ANGLE BETWEEN DUAL ARMS 90/270	SIGN DATA								PAINT COLOR					
								SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE													DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN													
											1	*	2	*	3	*	4	*	5	*				6	*	7	*	A	H1	W1	B		H2	W2	C	H3	W3
1	T-6	185+58, 46.76' LT.	17.56	1	17.48	N	Y	V	Y	N	0.0	R	22.0	3	28.5	R	33.5	3	42.0	4	45.0	4	50	21.0		5.0	2.5	6.0	19.0	2.5	2.5	48.0	3.0	2.5			
2	T-6	186+57, 69.90' LT	17.19	1	16.48	N	Y	V	Y	N	17.0	3	25.0	3	33.0	4							40	21.0		5.0	2.5	7.0	13.25	2.5	2.5	36.0	3.0	2.5			
3	T-6	186+60, 58.08' RT	17.39	1	17.81	N	Y	V	Y	N	26.5	C	33.5	3	38.5	R	40.0	R	44.0	3	53.0	4	56.0	4	60	21.0		5.0	2.5	6.0	23.5	2.5	2.5	59.0	3.0	2.5	
---	---	-----	-----	2	16.61	N	N	V	Y	N	40.0	4	46.0	R	48.0	3	50.0	R	56.0	3			60	21.0	90	5.0	2.5	7.0	37.0	3.0	2.5	53.0	2.5	2.5			

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	GJS	09/2022
			DRAWN BY	GJS	PROJECT NO.
			CHECKED BY	AW	6107860

PGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVE. SUITE 201
 ORLANDO, FL 32801

Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

MAST ARM TABULATION

SHEET NO.
 T-25

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

STANDARD MAST ARM ASSEMBLIES DATA TABLE											Table Date 11-01-16	
STRUCTURE ID NUMBERS	POLE NUMBER	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
			ARM ID	FAA (ft.)	ARM ID	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
	1	A50/S/H-P3/S	A50/S/H	N/A	N/A	N/A	N/A	N/A	P3/S	24	21	DS/25/5.0
	2	A40/S-P2/S	A40/S	N/A	N/A	N/A	N/A	N/A	P2/S	24	21	DS/25/5.0
	3	A60/D/H-A60/D-P5/D	A60/D/H	N/A	A60/D	N/A	90	N/A	P5/D	24	21	DS/25/5.0



NOTES [NOTES DATE 11-01-16]:

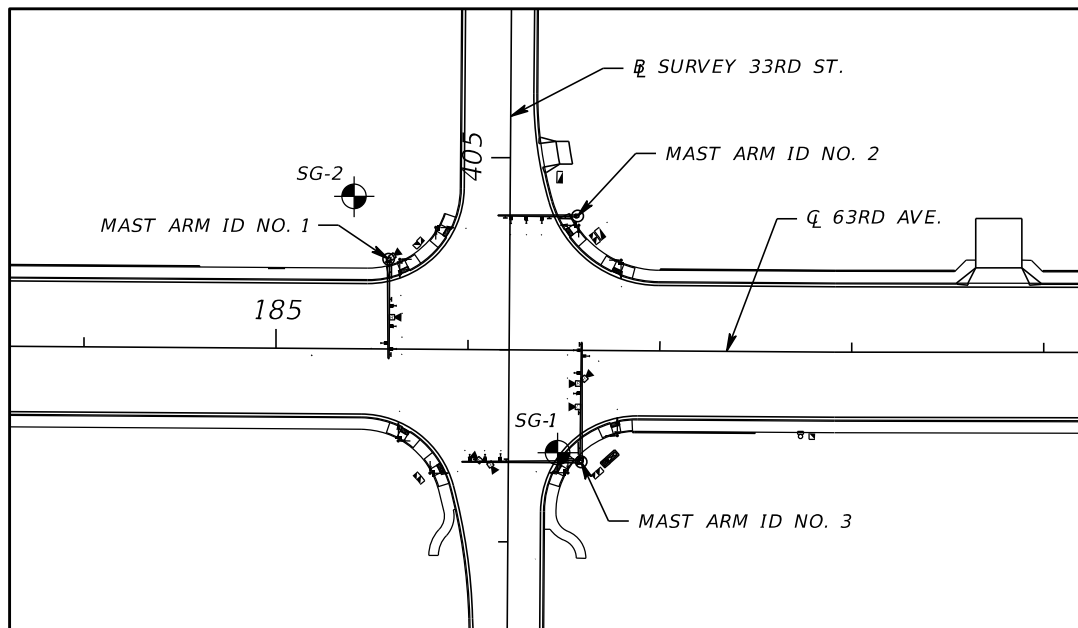
- IF AN ENTRY APPEARS IN COLUMN FAA, A SHORTER ARM IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE ARM TIP AND THE ARM LENGTH SHORTENED FROM FA TO FAA. SAA SIMILAR.
- IF AN ENTRY APPEARS IN COLUMN UAA, A SHORTER POLE IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE POLE TIP AND THE POLE HEIGHT SHORTENED FROM UA TO UAA.
- WORK THIS SHEET WITH THE SIGNAL DESIGNER'S "MAST ARM TABULATION". SEE "MAST ARM TABULATION" FOR SPECIAL INSTRUCTIONS THAT INCLUDE NON-STANDARD HANDHOLE LOCATION, PAINT COLOR, TERMINAL COMPARTMENT REQUIREMENT, AND PEDESTRIAN FEATURES.
- WORK WITH INDEX 649-030 AND 649-031.

FOUNDATION DATA TABLE					
STRUCTURE ID NUMBER	POLE NUMBER	SOIL TYPE	EFFECTIVE SOIL WEIGHT (PCF)	SOIL FRICTION ANGLE (DEGREES)	AVERAGE SPT N-VALUE
	1	SAND	43.0	29	9
	2	SAND	43.0	29	7
	3	SAND	43.0	29	7

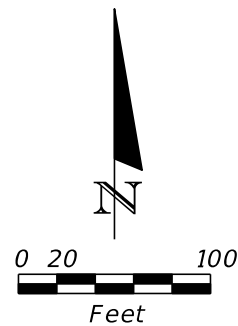
FOUNDATION NOTES:

- FOUNDATION DESIGN BASED ON DATA CONTAINED IN THE SIGNAL POLE BORINGS PREPARED BY TIERRA, INC., AND SIGNED AND SEALED BY MARC NOVAK, P.E..
- FOR SOIL ASSUMPTIONS AND VALUES USED IN DESIGN, SEE FOUNDATION DATA TABLE. WATER TABLE IS ASSUMED TO BE AT THE SOIL SURFACE.

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	 JOHNNY FUNG, P.E. LICENSE NUMBER 64669 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FL 33637	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	MAST ARM ASSEMBLIES DATA TABLES	SHEET NO.	
			DESIGNED BY	TC	06/2023					
			DRAWN BY	JML	PROJECT NO.					
			CHECKED BY	JSR	6107860					
									T-26	



BORING LOCATION PLAN



NOTES:

1. THE BORINGS WERE LOCATED IN THE FIELD USING A HAND-HELD GARMIN ETREX NON-SURVEY GRADE GLOBAL POSITIONING SYSTEM GPS DEVICE WITH A REPORTED ACCURACY OF ± 10 FEET AND SHOULD BE CONSIDERED APPROXIMATE.
2. BASED ON THE REVIEW OF THE "UPPER FLORIDAN AQUIFER POTENTIOMETRIC SURFACE" MAPS PUBLISHED BY THE USGS, THE POTENTIOMETRIC SURFACE ELEVATION IN THE PROJECT VICINITY IS REPORTED UP TO APPROXIMATELY +25 FEET, NGVD 29. ARTESIAN FLOW CONDITIONS WERE NOT ENCOUNTERED WITHIN THE BORINGS PERFORMED AT THE TIME OF THE FIELD ACTIVITIES; HOWEVER, THE CONTRACTOR SHOULD BE PREPARED TO ADDRESS ARTESIAN LEVELS UP TO A HEAD OF +25 FEET, NGVD 29, AT NO ADDITIONAL COST TO THE COUNTY.
3. TEMPORARY CASING METHODS BEYOND WHAT IS REQUIRED IN THE PROJECT SPECIFICATIONS FOR THE SHAFT INSTALLATION MAY BE REQUIRED IN ORDER TO PREVENT THE COLLAPSE OF THE SANDY SOILS AND/OR GROUNDWATER INTRUSION DURING THE SHAFT INSTALLATION.

RECOMMENDED ENVIRONMENTAL CLASSIFICATION:

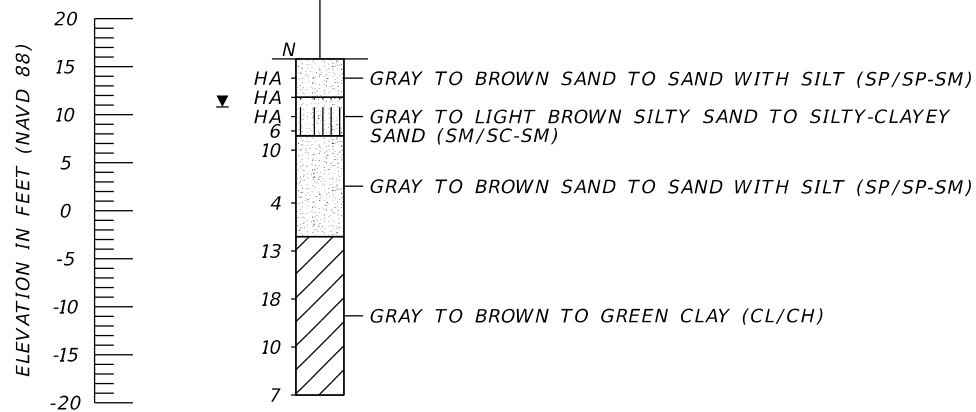
SUBSTRUCTURE CONCRETE: EXTREMELY AGGRESSIVE
 SUBSTRUCTURE STEEL: EXTREMELY AGGRESSIVE
 SUPERSTRUCTURE SLIGHTLY AGGRESSIVE

LEGEND

- GRAY TO BROWN SAND TO SAND WITH SILT (SP/SP-SM)
- GRAY TO LIGHT BROWN SILTY SAND TO SILTY-CLAYEY SAND (SM/SC-SM)
- GRAY TO BROWN CLAYEY SAND (SC)
- GRAY TO BROWN TO GREEN CLAY (CL/CH)
- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
- N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED).
- HA HAND AUGERED TO VERIFY UTILITY CLEARANCE
- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- LL LIQUID LIMIT (%)
- PI PLASTICITY INDEX (%)
- NP NON-PLASTIC
- NAVD 88 NORTH AMERICAN VERTICAL DATUM OF 1988
- APPROXIMATE SPT BORING LOCATION
- GROUNDWATER LEVEL ENCOUNTERED DURING FIELD EXPLORATIONS

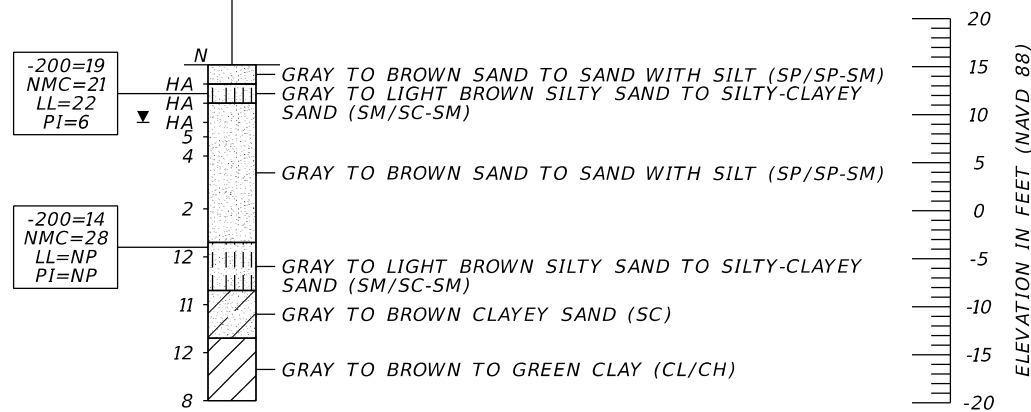
BOR # SG-2
 STA. 185+40
 REF. Q 63RD AVE.
 OFF. 79' LT.
 ELEV. 15.8
 DATE 5/1/2023
 DRILLER C. VIRGEN
 HAMMER AUTOMATIC
 RIG D-25

BOR # SG-1
 STA. 186+47
 REF. Q 63RD AVE.
 OFF. 53' RT.
 ELEV. 15.2
 DATE 2/9/2023
 DRILLER J. SHAW
 HAMMER AUTOMATIC
 RIG D-25



BORING TERMINATED AT ELEVATION -19.2 FT (NAVD 88)

LATITUDE: N 27.42924
 LONGITUDE: W 82.52213



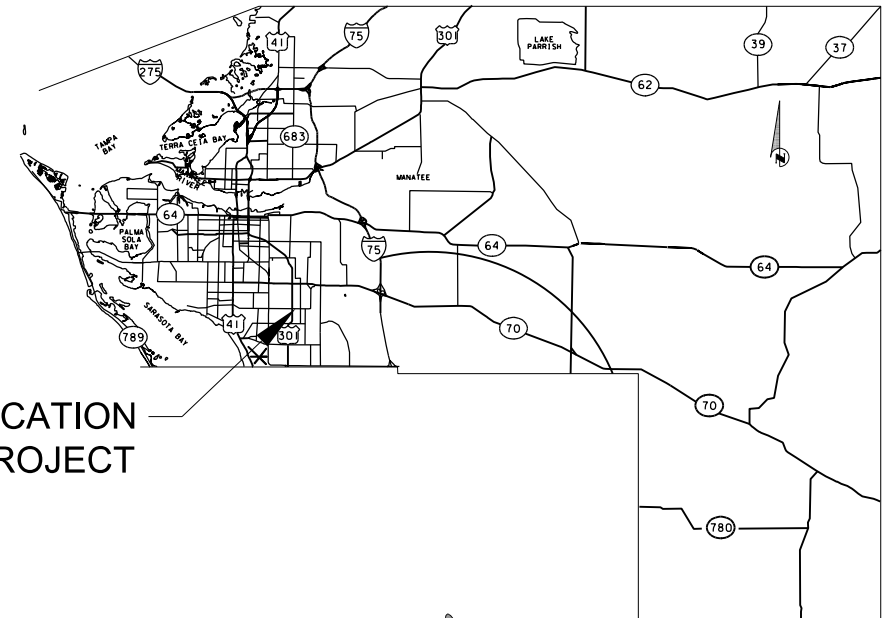
BORING TERMINATED AT ELEVATION -19.8 FT (NAVD 88)

LATITUDE: N 27.42888
 LONGITUDE: W 82.52180

	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS-RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	MARC E. NOVAK, Ph.D., P.E. P.E. LICENSE NUMBER 67431 TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637	PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	REPORT OF CORE BORINGS	SHEET NO.
			DESIGNED BY	BMG	05/2023				
			DRAWN BY	BMG	PROJECT NO.				
			CHECKED BY	MEN	6107860				
									T-27

STATE OF FLORIDA
MANATEE COUNTY



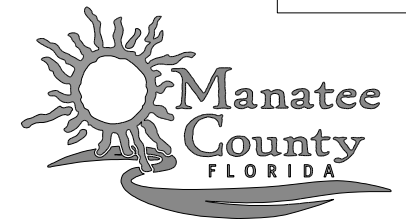
INDEX OF LIGHTING PLANS

SHEET NO.	DESCRIPTION
L-1	KEY SHEET
L-2 - L-3	TABULATION OF QUANTITIES
L-4	GENERAL NOTES
L-5	LIGHTING DATA TABLE AND LEGEND
L-6 - L-16	LIGHTING PLANS
L-17	SERVICE POINT DETAILS

LIGHTING PLANS FOR
63RD AVENUE EAST
FROM US 301 TO TUTTLE AVE.
BRADENTON, FLORIDA

MANATEE COUNTY PROJECT No: 6107860

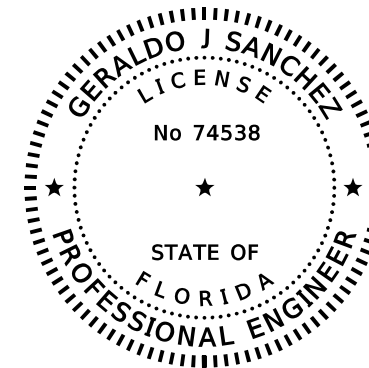
PHASE III SUBMITTAL
DECEMBER, 2023



ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ENLARGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

MANATEE COUNTY PROJECT MANAGER:
ANTHONY RUSSO, P.E.

THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY



ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

LIGHTING PLANS
PROFESSIONAL OF RECORD: GERALDO J. SANCHEZ, P.E.

FLORIDA P.E. # 74538

PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801
(407) 720-7420

SHEET
NO.

L-1

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS												TOTAL THIS SHEET		GRAND TOTAL			
			L-6		L-7		L-8		L-9		L-10		L-11		L-12		PLAN	FINAL	PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL						
0630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	47		470		324		422		551		899		223		2936			
0630 2 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF			594		788		685		560		365		886		3878			
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	1		5		6		5		5		12		5		39			
0639 1121	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER FURNISHED BY POWER COMPANY	AS											1				1			
0715 1 12	LIGHTING CONDUCTORS, F&I, INSULATED, NO.8 - 6	LF	165		3408		3768		3681		3693		5126		3687		23528			
0715 1 13	LIGHTING CONDUCTORS, F&I, INSULATED, NO 4 TO NO 2	LF											18				18			
0715 7 11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA											1				1			
0715 61111	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 30' MOUNTING HEIGHT, 8' ARM LENGTH	EA											2				2			
0715 61211	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 35' MOUNTING HEIGHT, 8' ARM LENGTH	EA			2		2		1				6		4		15			
0715 65266	LIGHT POLE COMPLETE, F&I, UTILITY CONFLICT POLE STANDARD FOUNDATION, 35' MOUNTING HEIGHT, 16' ARM LENGTH	EA	1		3		4		4		5		3		1		21			
0715500 1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA	1		5		6		5		5		12		5		39			

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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	 GERALDO J. SANCHEZ, P.E. LICENSE NUMBER 74538 PATEL, GREENE & ASSOCIATES, LLC 101 S. GARLAND AVENUE, SUITE 201 ORLANDO, FL 32801	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	TABULATION OF QUANTITIES (1)	SHEET NO.
					11/2022				
					PROJECT NO.				
					6107860				

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			L-13		L-14		L-15		L-16											
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
0630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	417		452		776		119								1764		4700	
0630 2 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	615		734		309										1658		5536	
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	5		6		5		2								18		57	
0639 1121	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER FURNISHED BY POWER COMPANY	AS																	1	
0715 1 12	LIGHTING CONDUCTORS, F&I, INSULATED, NO.8 - 6	LF	3456		3990		3615		477								11538		35066	
0715 1 13	LIGHTING CONDUCTORS, F&I, INSULATED, NO 4 TO NO 2	LF																	18	
0715 7 11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA																	1	
0715 61111	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 30' MOUNTING HEIGHT, 8' ARM LENGTH	EA																	2	
0715 61211	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 35' MOUNTING HEIGHT, 8' ARM LENGTH	EA	3		3		2		1								9		24	
0715 65266	LIGHT POLE COMPLETE, F&I, UTILITY CONFLICT POLE STANDARD FOUNDATION, 35' MOUNTING HEIGHT, 16' ARM LENGTH	EA	2		3		3		1								9		30	
0715500 1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA	5		6		5		2								18		57	

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
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				MJF	PROJECT NO.
				AW	6107860

PGA GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
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TABULATION OF QUANTITIES (2)

SHEET NO.
L-3

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

GENERAL NOTES:


1. FOR ALL NEW POWER SERVICES, ALL NEW SERVICES SHALL BE FED UNDERGROUND, NO RISERS PERMITTED ON FPL POLES.
2. SEE ROADWAY PLANS FOR UTILITY OWNERS.
3. PRIOR TO ANY EQUIPMENT ORDER, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT, INCLUDING BUT NOT LIMITED TO:
 - A) POLE STRENGTH CALCULATIONS
 - B) POLE FRANGIBILITY TEST
 - C) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER
 - D) POLE SHOP DRAWINGS
 - E) LOAD CENTER ELECTRICAL EQUIPMENT, INCLUDING WIRING SCHEMATICS
4. THE LOCATIONS OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE AND BASED ON THE INFORMATION FURNISHED TO THE ENGINEER BY THE UTILITY OWNER(S) AND ARE SHOWN AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. BEFORE EXCAVATING STAKE ALL POLE LOCATIONS AND TAKE RESPONSIBILITY FOR NOTIFYING THE UTILITY COMPANY OWNER(S) AND REQUEST THEM TO LOCATE AND STAKE THEIR UNDERGROUND FACILITIES.
5. PROVIDE NOTICE TO THE UTILITY OWNER(S) PER FLORIDA STATUTE 556 (2012). THIS STATUTE REQUIRES THAT BEFORE EXCAVATION, NOTICE BE GIVEN TO THE SUNSHINE STATE ONE-CALL ANY EXCAVATION OR DEMOLITION, EXCLUDING SATURDAY, SUNDAY, AND LEGAL HOLIDAYS. NOT ALL UTILITY COMPANIES ARE MEMBERS OF SSOCOF 1-800-432-4770.
6. THE LOCATION OF THE CONDUCTORS, CONDUITS AND JUNCTION BOXES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE ENGINEER TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.
7. ELECTRICAL WORK SHALL MEET REQUIREMENTS OF THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, THE NATIONAL ELECTRICAL SAFETY CODE AND THE STATE OF FLORIDA D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. IN ACCORDANCE WITH N.E.C., IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL IDENTIFYING CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE.
9. GEOTECH SHEETS TO BE SUBMITTED UNDER SEPARATE REPORT COVER.

NOTE TO REVIEWER:


1. DESIGNER WILL COORDINATE WITH UTILITY AGENCIES ABOUT THE LOCATION OF THE NEW PROPOSED UTILITIES AND ADJUST PLANS ACCORDING TO ANY CONFLICTS WITH PROPOSED UTILITIES FOR PHASE IV SUBMITTAL.

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GERALDO J. SANCHEZ, P.E.
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 ORLANDO, FL 32801



PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

GENERAL NOTES

SHEET NO.
L-4

POLE DATA

POLE NO.	CIRCUIT	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	MOUNTING HEIGHT	POLE SETBACK	PAY ITEM
1	A-1	159+68	16'	102	35'	52.83' RT	715-65-266
2	A-2	160+63	8'	102	35'	54.10' LT	715-61-211
3	A-1	161+74	16'	102	35'	51.41' RT	715-65-266
4	A-2	162+62	8'	102	35'	46.87' LT	715-61-211
5	A-1	163+55	16'	102	35'	47.31' RT	715-65-266
6	A-2	164+62	16'	102	35'	43.99' LT	715-65-266
7	A-1	165+81	16'	102	35'	44.11' RT	715-65-266
8	A-2	166+83	16'	102	35'	43.92' LT	715-65-266
9	A-1	168+08	16'	102	35'	44.32' RT	715-65-266
10	A-2	169+02	8'	102	35'	44.26' LT	715-61-211
11	A-1	170+30	16'	102	35'	46.22' RT	715-65-266
12	A-2	171+26	8'	102	35'	43.25' LT	715-61-211
13	A-1	172+50	16'	102	35'	46.59' RT	715-65-266
14	A-2	173+48	8'	102	35'	43.37' LT	715-61-211
15	A-1	174+50	16'	102	35'	43.33' RT	715-65-266
16	A-2	175+32	16'	102	35'	44.91' LT	715-65-266
17	A-1	176+52	16'	102	35'	44.40' RT	715-65-266
18	A-2	177+43	16'	102	35'	44.00' LT	715-65-266
19	A-1	178+52	16'	102	35'	43.27' RT	715-65-266
20	A-2	179+39	16'	102	35'	45.52' LT	715-65-266
21	A-1	180+56	16'	102	35'	43.31' RT	715-65-266
22	A-2	181+45	16'	102	35'	44.05' LT	715-65-266
23	A-1	182+76	16'	102	35'	47.08' RT	715-65-266
24	A-2	183+53	16'	102	35'	44.02' LT	715-65-266
25	A-1	185+06	16'	102	35'	43.22' RT	715-65-266
26	A-2	185+06	8'	102	35'	43.27' LT	715-61-211
27	A-1	185+73	8'	102	35'	55.17' RT	715-61-211
28	A-2	185+75	8'	102	35'	53.73' LT	715-61-211
29	A-2	185+89	8'	102	30'	92.97' LT	715-61-111
30	A-1	186+48	8'	102	30'	82.80' RT	715-61-111
31	A-1	186+64	8'	102	35'	51.47' RT	715-61-211
32	A-2	186+67	8'	102	35'	55.38' LT	715-61-211
33	A-2	187+22	8'	102	35'	43.94' LT	715-61-211
34	A-4	188+34	8'	102	35'	43.43' RT	715-61-211
35	A-3	189+45	8'	102	35'	44.00' LT	715-61-211
36	A-4	190+57	8'	102	35'	43.29' RT	715-61-211
37	A-3	191+69	8'	102	35'	43.52' LT	715-61-211
38	A-4	192+53	16'	102	35'	44.75' RT	715-65-266
39	A-3	193+98	8'	102	35'	46.11' LT	715-61-211
40	A-4	194+76	16'	102	35'	45.32' RT	715-65-266
41	A-3	196+21	8'	102	35'	43.19' LT	715-61-211
42	A-4	196+99	16'	102	35'	43.33' RT	715-65-266
43	A-3	198+44	8'	102	35'	43.81' LT	715-61-211
44	A-4	199+13	16'	102	35'	44.80' RT	715-65-266
45	A-3	200+49	8'	102	35'	45.15' LT	715-61-211
46	A-4	201+39	16'	102	35'	48.61' RT	715-65-266
47	A-3	202+60	8'	102	35'	45.18' LT	715-61-211
48	A-4	203+65	16'	102	35'	47.73' RT	715-65-266

POLE NO.	CIRCUIT	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	MOUNTING HEIGHT	POLE SETBACK	PAY ITEM
49	A-3	204+80	8'	102	35'	47.11' LT	715-61-211
50	A-4	205+80	16'	102	35'	48.43' RT	715-65-266
51	A-3	207+03	8'	102	35'	46.22' LT	715-61-211
52	A-4	208+10	16'	102	35'	47.50' RT	715-65-266
53	A-3	209+02	8'	102	35'	46.25' LT	715-61-211
54	A-4	210+32	16'	102	35'	57.34' RT	715-65-266
55	A-3	210+87	8'	102	35'	46.49' LT	715-61-211
56	A-3	211+84	16'	102	35'	46.81' LT	715-65-266

ROADWAY LIGHTING DESIGN CRITERIA

Average Initial Intensity 1.0 Foot Candles
 Uniformity Ratio Avg./Min. 4:1 Or Less
 Max./Min. 10:1 Or Less










SIGNALIZED INTERSECTION LIGHTING DESIGN CRITERIA

Average Initial Horizontal Intensity 3.0 Foot Candles (Standard)
 1.5 Foot Candles (Minimum)
 Average Initial Vertical Intensity 1.5 Foot Candles (Standard)
 1.2 Foot Candles (Minimum)
 Uniformity Ratio Avg./Min. 4:1 Or Less
 Max./Min. 10:1 Or Less

LEGEND

SYMBOLS

DESCRIPTION

-  L1 Single arm conventional LED luminaire. Designed for Type III distribution. Luminaire wired for 240 volt operation. Arm distance 8'. Pole mounting height 35'. Use curve ERL1_13E530.IES.
-  L1 Single arm conventional LED luminaire. Designed for Type III distribution. Luminaire wired for 240 volt operation. Arm distance 16'. Pole mounting height 35'. Utility conflict pole. Use curve ERL1_13E530.IES.
-  L2 Single arm conventional LED luminaire. Designed for Type IV distribution. Luminaire wired for 240 volt operation. Arm length 8'. Pole mounting height 35 ft. Use curve ERL1_13D530.IES.
-  L2 Single arm conventional LED luminaire. Designed for Type IV distribution. Luminaire wired for 240 volt operation. Arm length 16'. Pole mounting height 35 ft. Utility conflict pole. Use curve ERL1_13D530.IES.
-  L2 Single arm conventional LED luminaire. Designed for Type IV distribution. Luminaire wired for 240 volt operation. Arm length 8'. Pole mounting height 30 ft. Use curve ERL1_13D530.IES.
-  Schedule 40 PVC conduit with THW or THWN conductors inside (conduit and conductor size as shown on plan sheets). Run one (1) 6 AWG copper bond conductor (TW green insulation) inside conduit with other conductors.
-  High Density Polyethylene conduit, directional bored under pavement with THW or THWN conductors inside (conduit and conductor size as shown on plan sheets).
-  Pull box with MOW pad. For specifications see Section 635 of Standard Specifications For Road And Bridge Construction.
-  Distribution point. For requirements see Index No. 17504 of Design Standards.

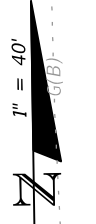
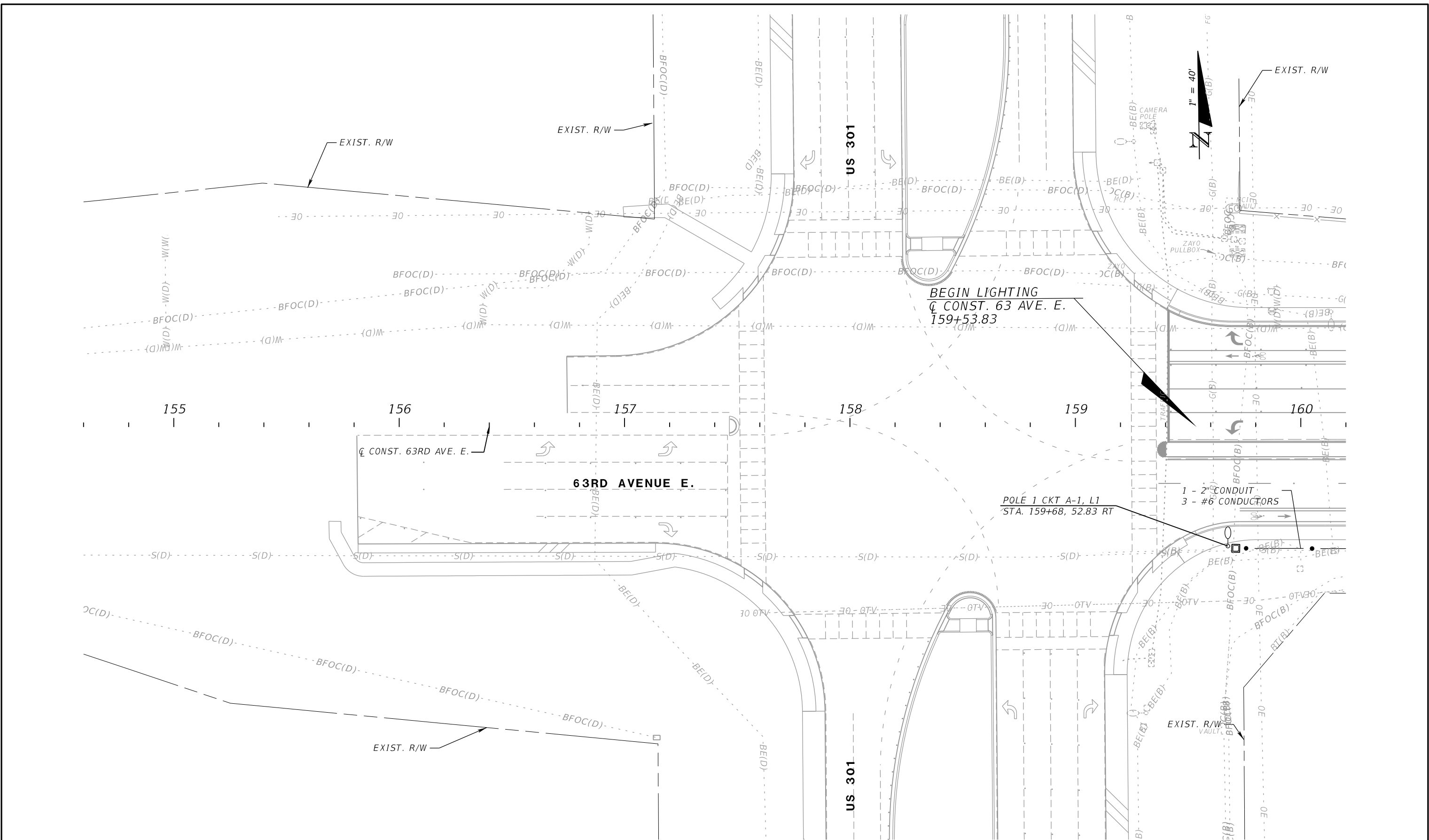
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			CHECKED BY	AW	6107860

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LIGHTING DATA TABLE AND LEGEND

SHEET NO.
L-5



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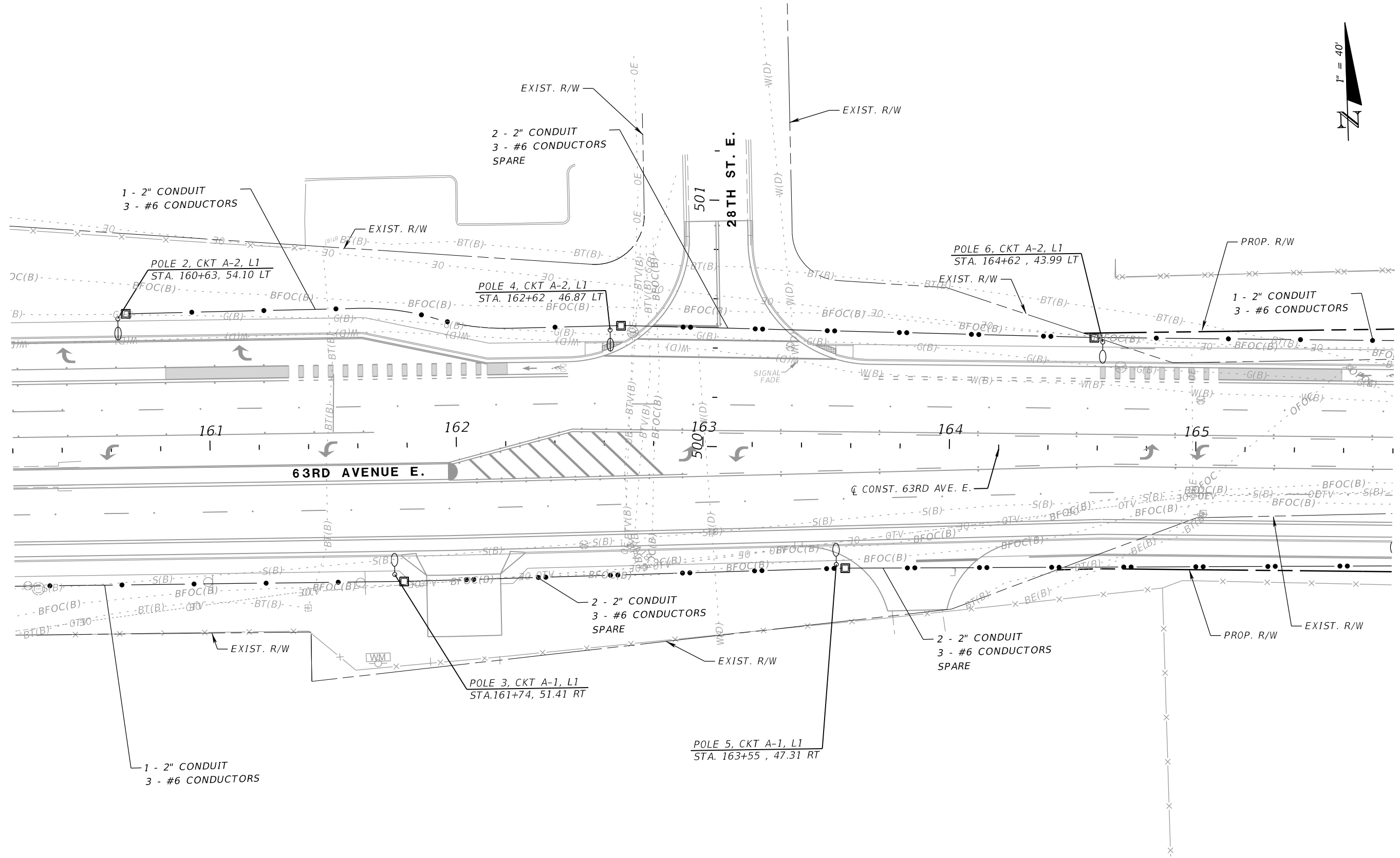
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LIGHTING PLAN (1)

SHEET NO.
L-6

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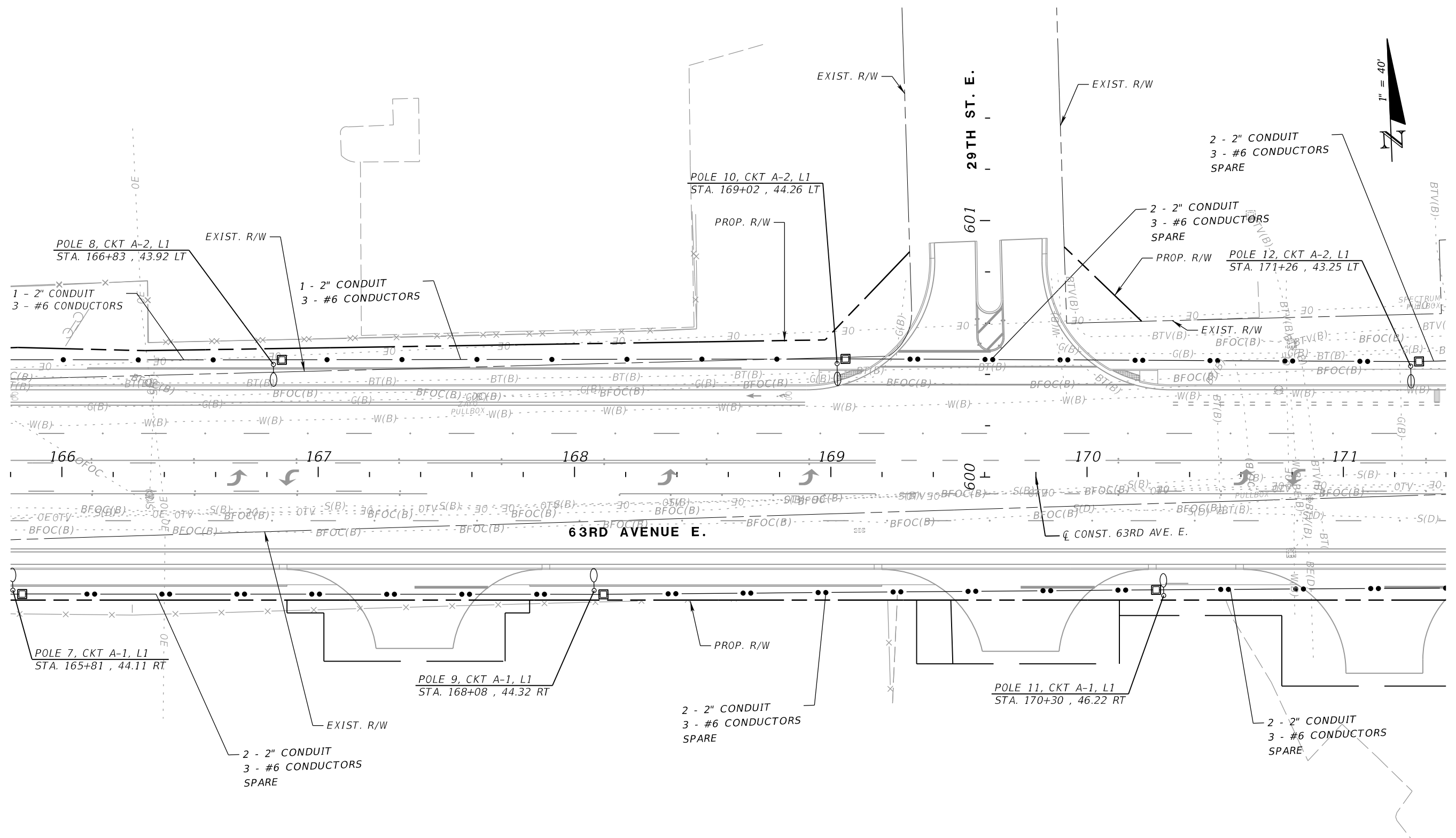
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LIGHTING PLAN (2)

SHEET NO.
 L-7

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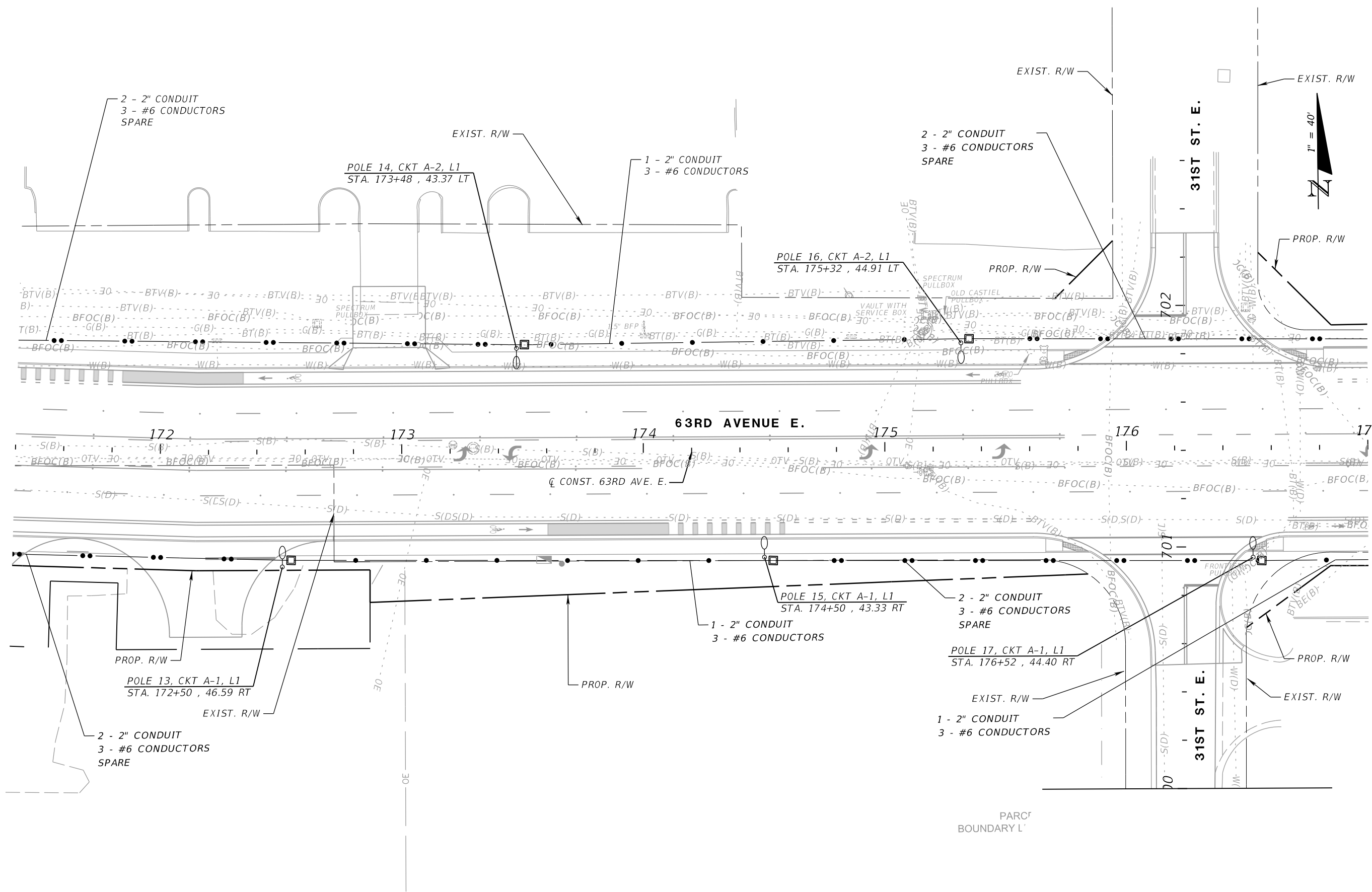
PGA
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LIGHTING PLAN (3)

SHEET NO.
 L-8

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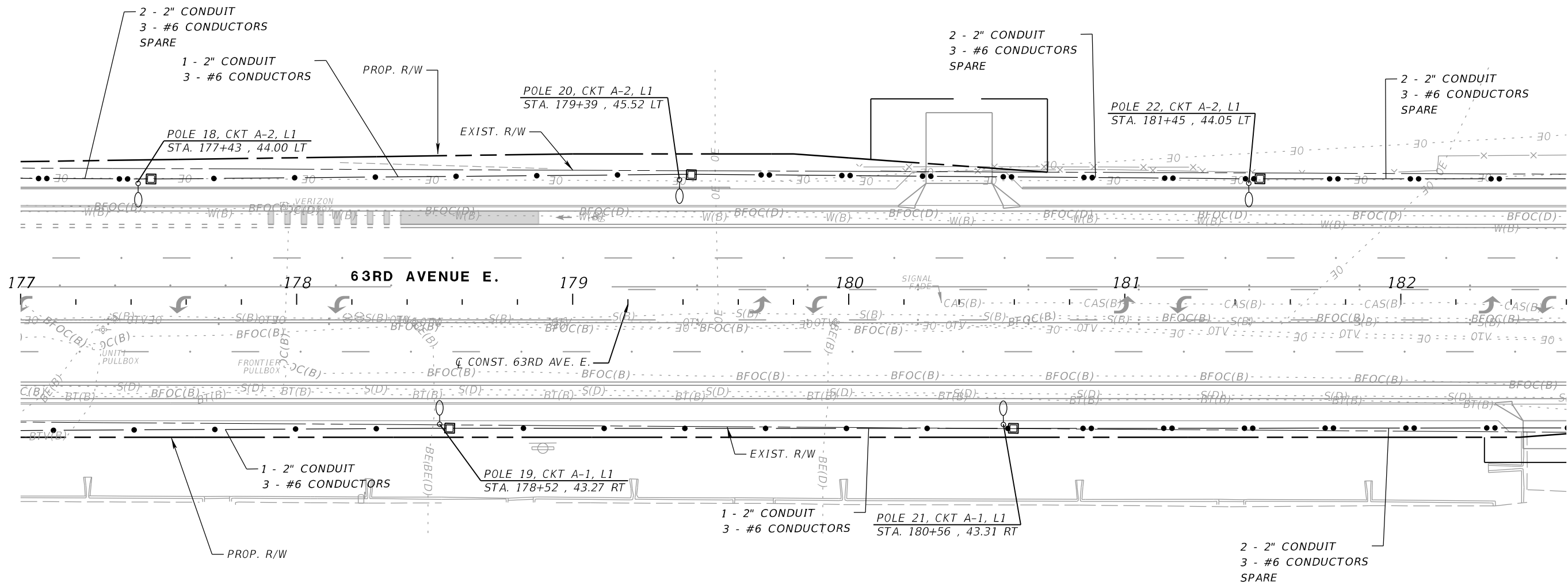
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LIGHTING PLAN (4)

SHEET NO.
 L-9



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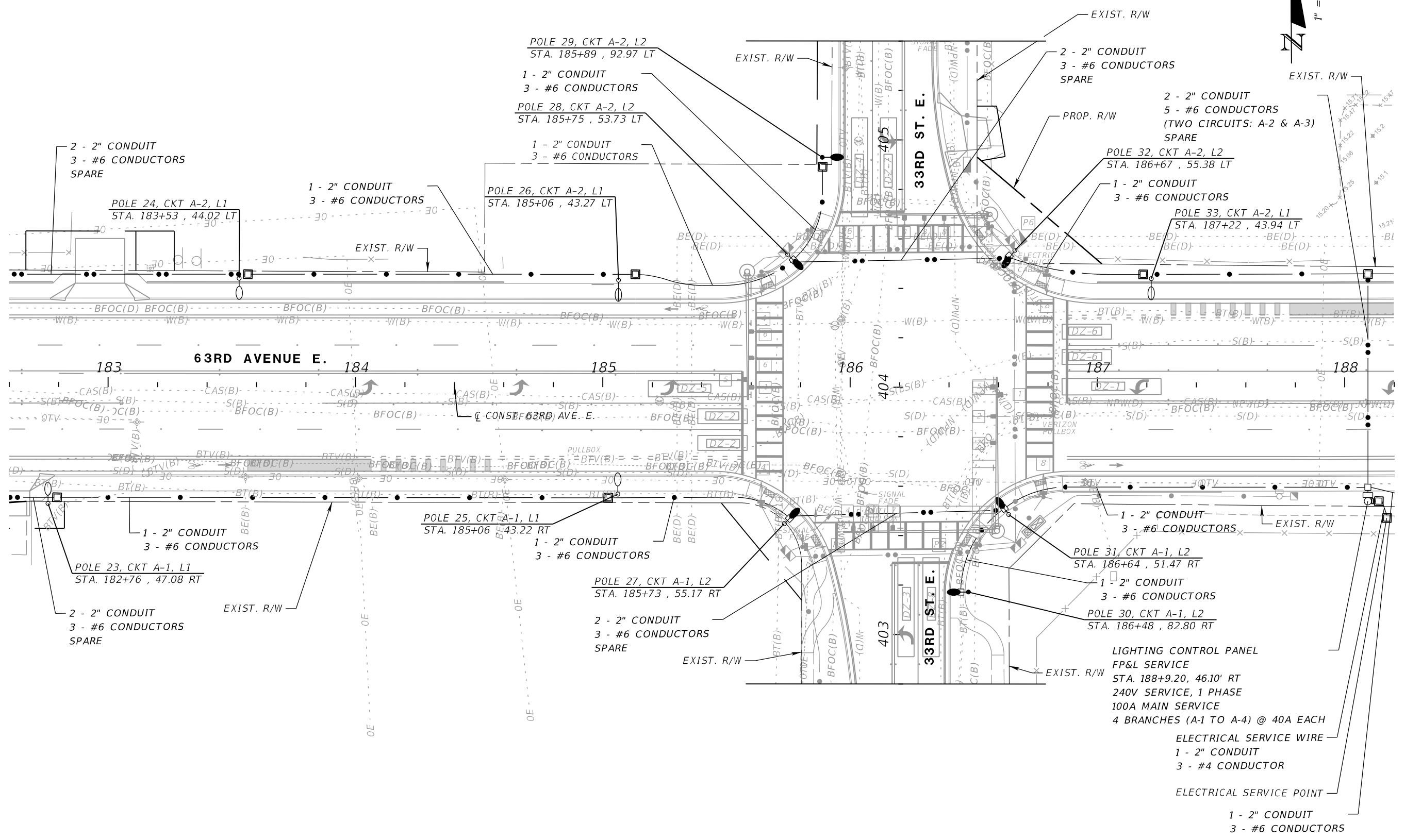
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LIGHTING PLAN (5)

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 L-10

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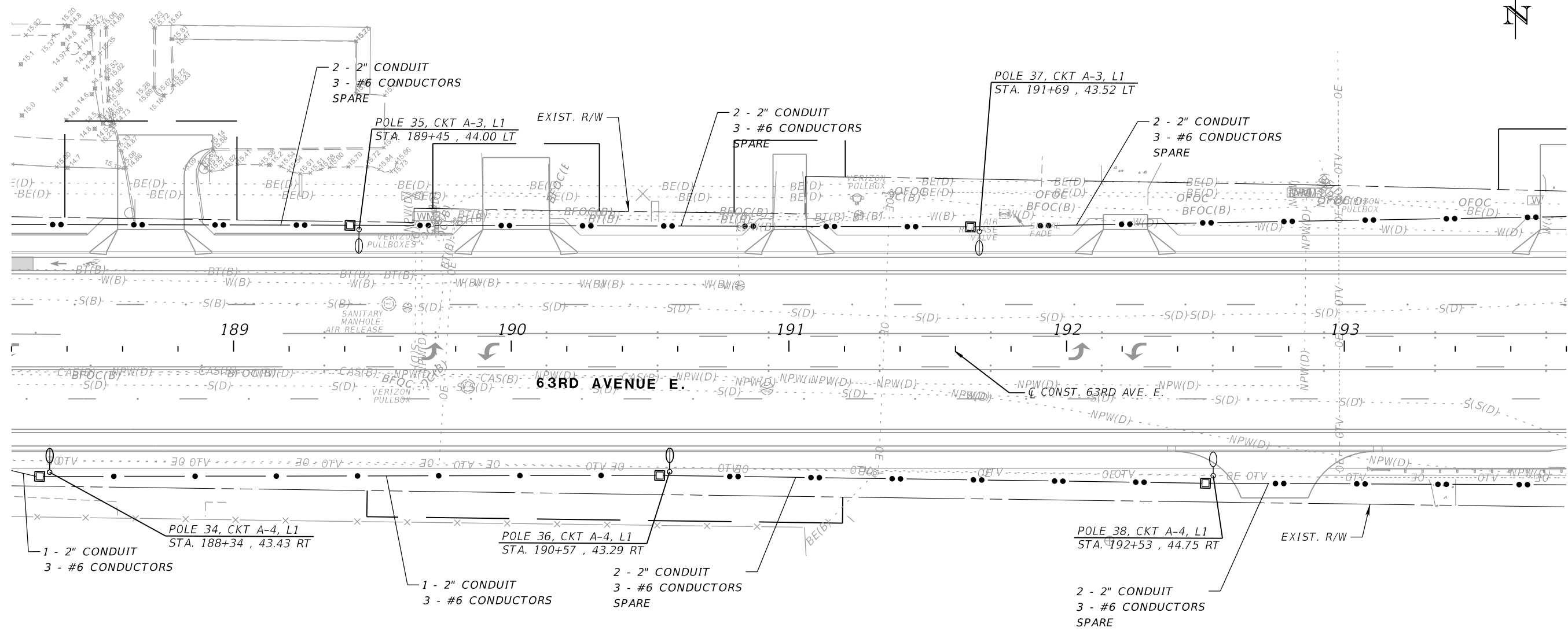
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LIGHTING PLAN (6)

SHEET NO.
L-11

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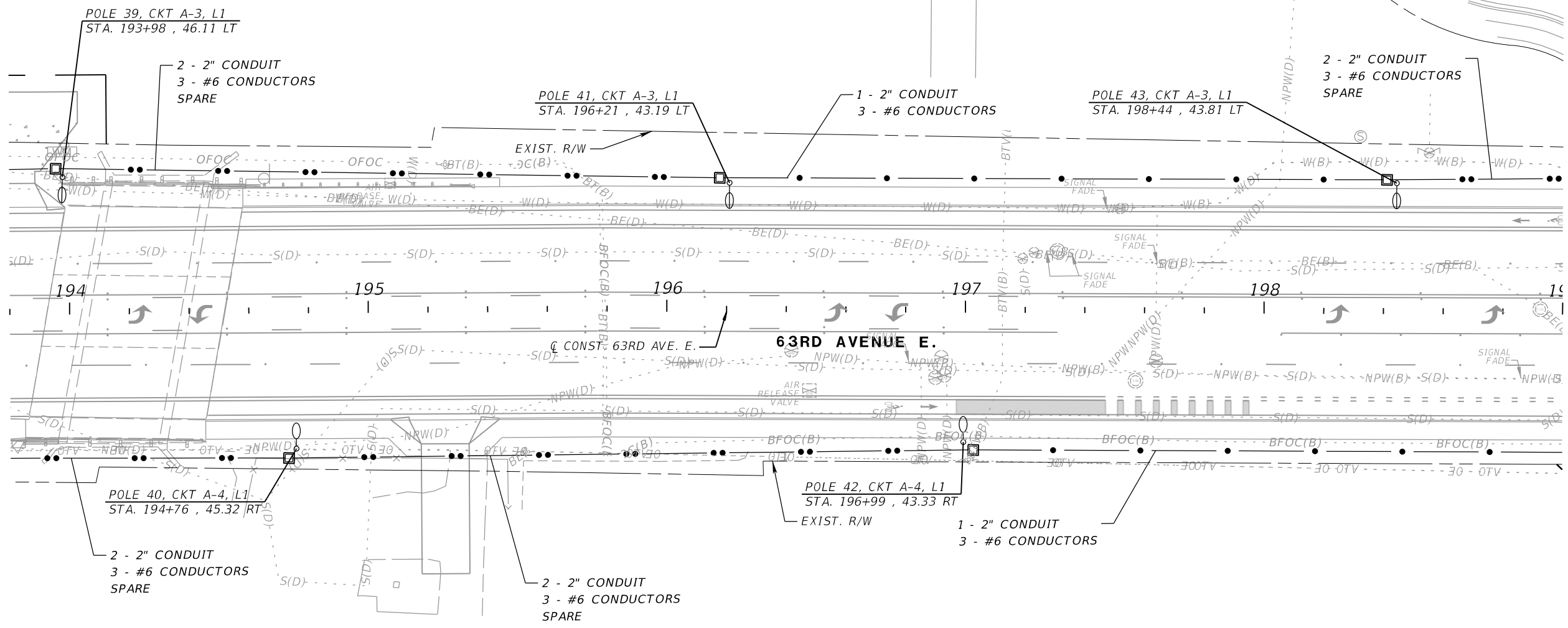
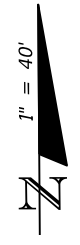
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LIGHTING PLAN (7)

NUMBER SHEET NO.
L-12

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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	MJF	11/2022
			DRAWN BY	MJF	PROJECT NO.
			CHECKED BY	AW	6107860

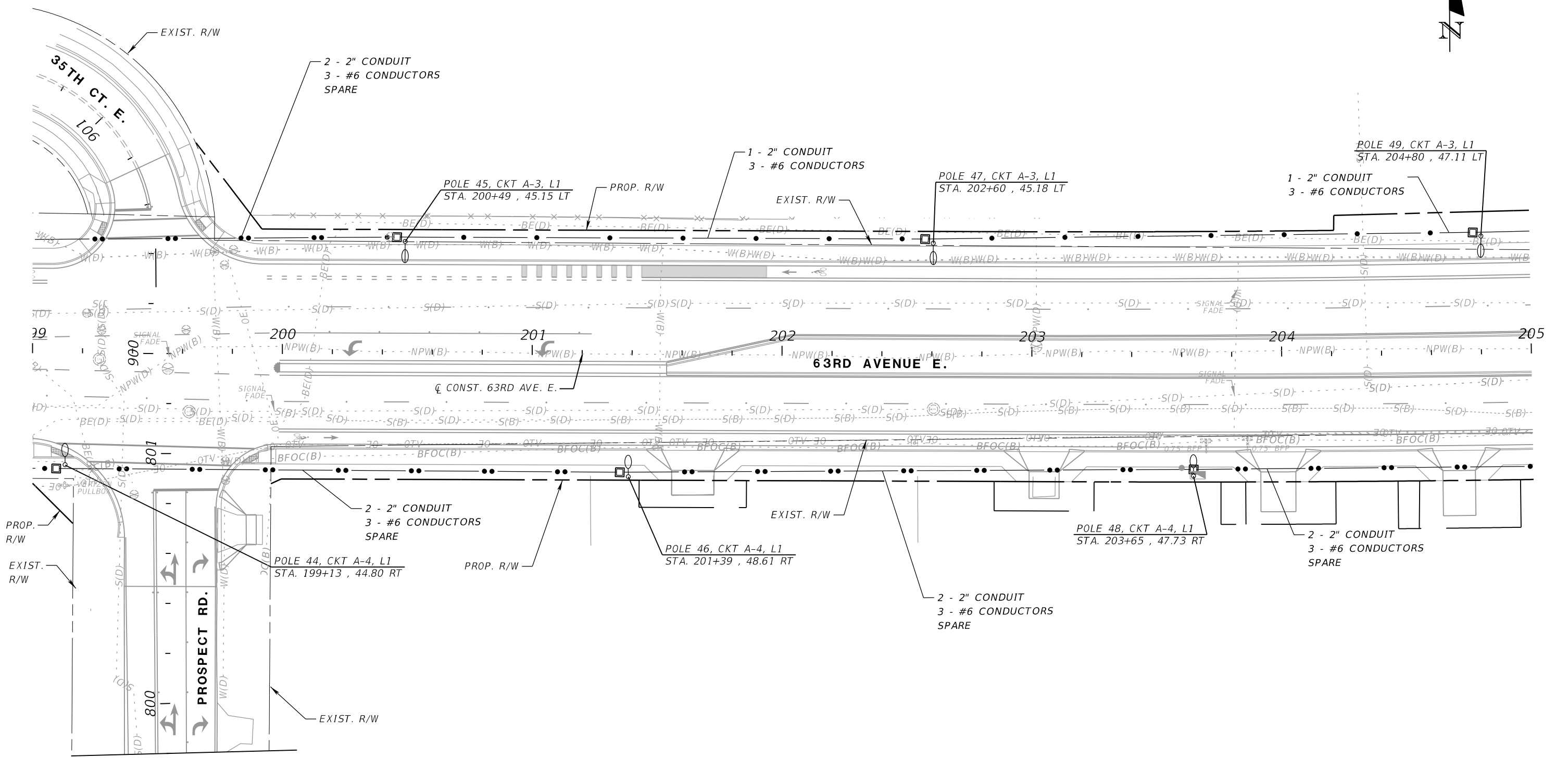
PGA GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

LIGHTING PLAN (8)

SHEET NO.
L-13

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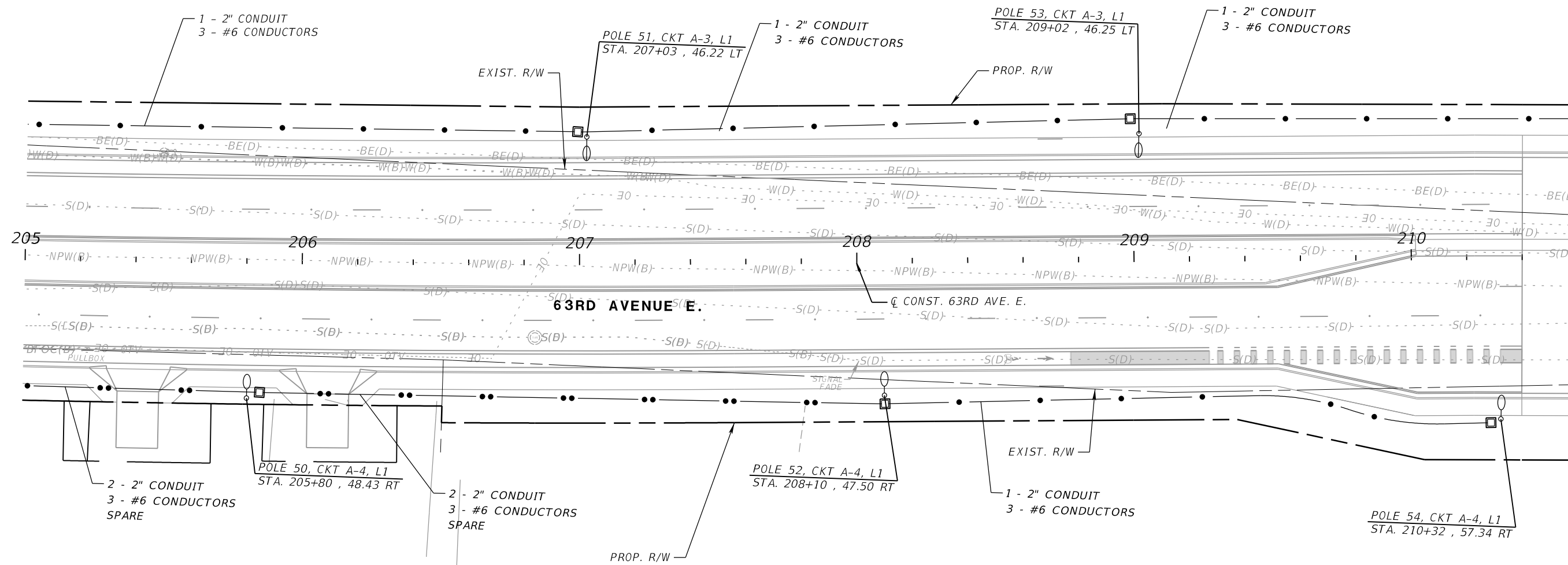
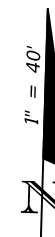
PGA GERALDO J. SANCHEZ, P.E.
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PATEL, GREENE & ASSOCIATES, LLC
101 S. GARLAND AVENUE, SUITE 201
ORLANDO, FL 32801

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LIGHTING PLAN (9)

SHEET NO.
L-14

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			DESIGNED BY	MJF	11/2022
			DRAWN BY	MJF	PROJECT NO.
			CHECKED BY	AW	6107860



GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

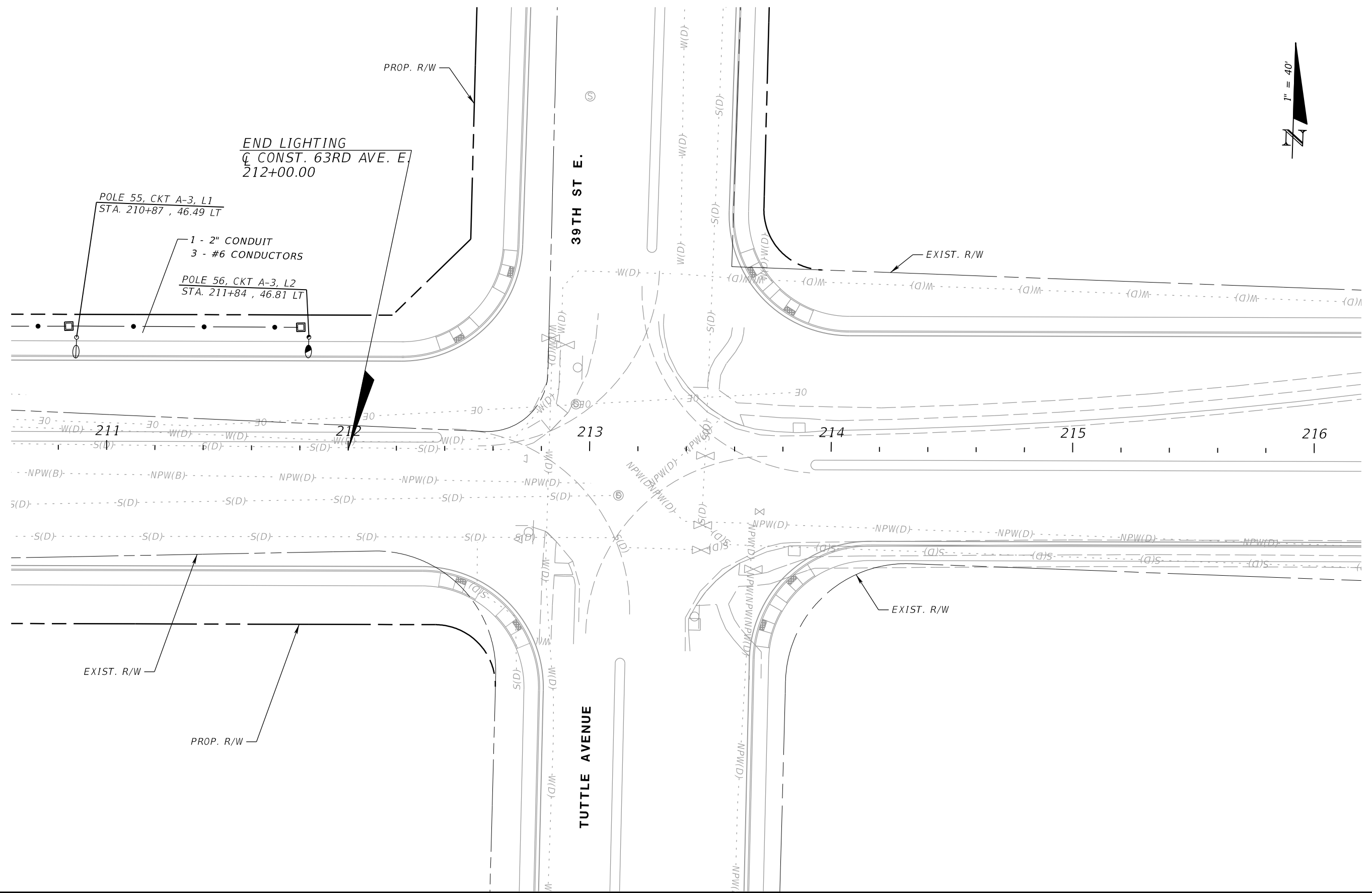


PUBLIC WORKS DEPARTMENT
 ENGINEERING SERVICES
 1022 26th Avenue East
 Bradenton, FL 34208

LIGHTING PLAN (10)

SHEET NO.
 L-15

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END LIGHTING
 Q CONST. 63RD AVE. E.
 212+00.00

POLE 55, CKT A-3, L1
 STA. 210+87 , 46.49 LT

1 - 2" CONDUIT
 3 - #6 CONDUCTORS

POLE 56, CKT A-3, L2
 STA. 211+84 , 46.81 LT

39TH ST E.

TUTTLE AVENUE

EXIST. R/W

PROP. R/W

EXIST. R/W

EXIST. R/W

NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE
			DESIGNED BY	MJF	11/2022
			DRAWN BY	MJF	PROJECT NO.
			CHECKED BY	AW	6107860

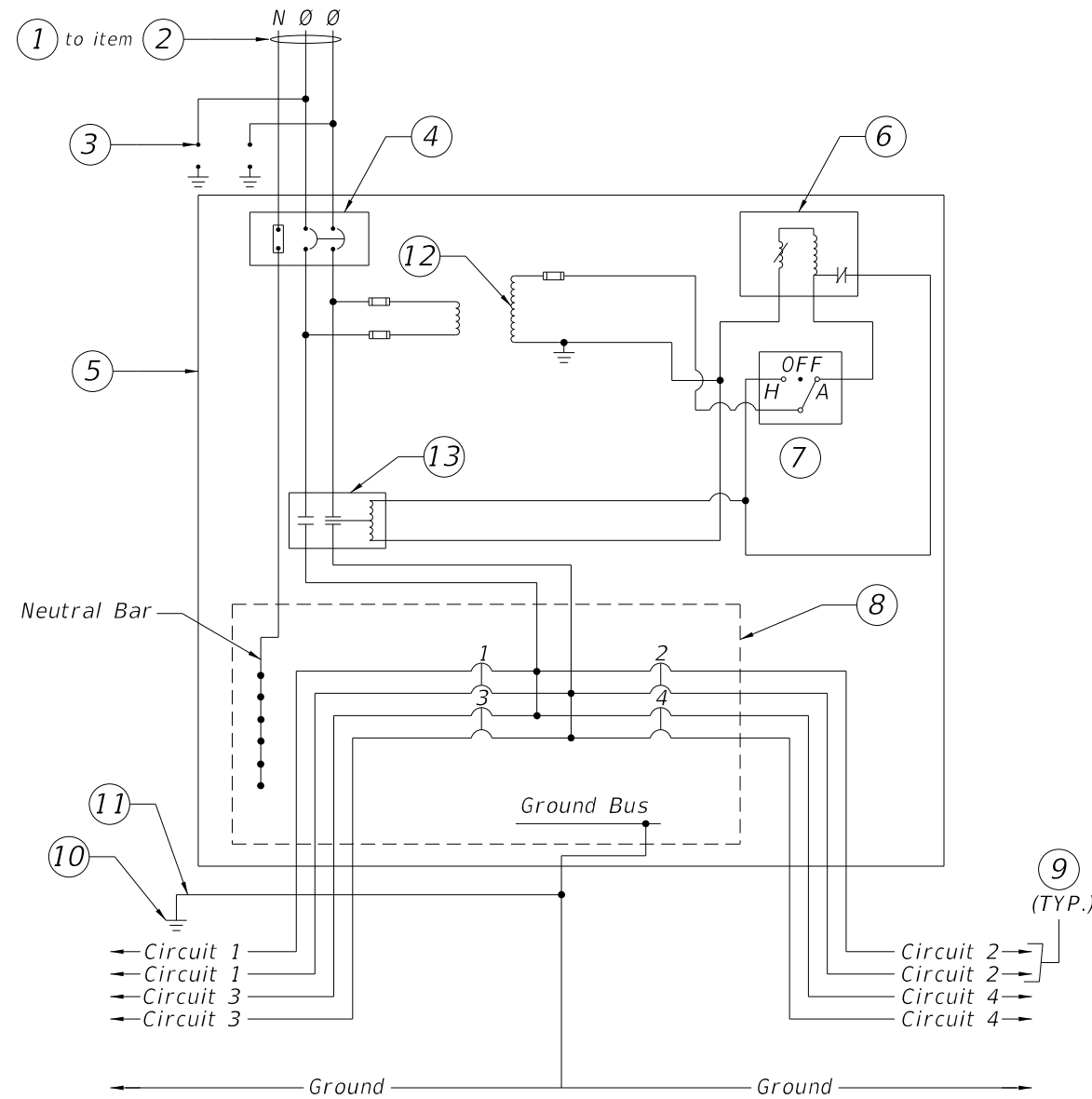
RGA
 GERALDO J. SANCHEZ, P.E.
 LICENSE NUMBER 74538
 PATEL, GREENE & ASSOCIATES, LLC
 101 S. GARLAND AVENUE, SUITE 201
 ORLANDO, FL 32801

Manatee County
 FLORIDA
 PUBLIC WORKS DEPARTMENT
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LIGHTING PLAN (11)

SHEET NO.
 L-16

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KEYED NOTES

1. UNDERGROUND FEEDER CONDUIT
2. SERVICE MAIN DISCONNECT
3. LIGHTING ARRESTOR MOUNTED ON OUTSIDE OF ENCLOSURE
4. LIGHTING CONTROL PANEL MAIN BREAKER
5. LIGHTING CONTROL PANEL ENCLOSURE. DIMENSIONS AS NECESSARY FOR EQUIPMENT INSIDE. GROUND MOUNTED CABINET PER INDEX 639-002.
6. 240V PHOTOELECTRIC CELL, WITH 2000V PEAK SURGE PROTECTION
7. HAND-OFF AUTOMATIC SELECTOR SWITCH
8. ELECTRICAL PANEL.
9. BRANCH CIRCUIT TO ROADWAY LUMINAIRES
10. COPPER CLAD GROUND ROD. 40' LONG
11. #6 INSULATED COPPER GROUND WIRE
12. FUSED CONTROL POWER TRANSFORMER
13. 2 POLE ELECTRICAL LIGHTING CONTACTOR

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NUMBER	DESCRIPTION	DATE	SCALE	AS NOTED	DATE	GERALDO J. SANCHEZ, P.E. LICENSE NUMBER 74538 PATEL, GREENE & ASSOCIATES, LLC 101 S. GARLAND AVENUE, SUITE 201 ORLANDO, FL 32801	PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East Bradenton, FL 34208	SERVICE POINT	SHEET NO.		
				MJF	11/2022					DETAILS	
				MJF	PROJECT NO.						
				AW	6107860						L-17